PORT OF OAKLAND

RECEIVED
By Alameda County Environmental Health 2:06 pm, Aug 21, 2015

August 7, 2015

Mr. Keith Nowell
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6540

Subject: **ACEH SCP Case File RO470**
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Berths 60-63 Redevelopment Project
1395 Middle Harbor Road, Oakland, CA

Dear Mr. Nowell:

Attached please find the *Post-Construction Field Investigation Report* (Report) prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. on behalf of the Port of Oakland (Port). The purpose of this Report is to describe the performance of the post-construction groundwater and soil field investigation at the Former APL Terminal, Port of Oakland. The field investigation was performed in accordance with the Alameda County Department of Environmental Health (ACEH) approved *Post-Construction Field Investigation Work Plan* dated November 7, 2014 and the *Addendum to the Post-Construction Work Plan* dated April 23, 2015.

I declare under penalty of perjury, that the information contained in the attached document is true and correct to the best of my knowledge.

Sincerely yours,

John Prall, PG
Port Associate Environmental Scientist
Port Environmental Programs & Planning Division

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone: (510) 627-1100 ■ Facsimile: (510) 627-1826 ■ Web Page: www.portofoakland.com

Post-Construction Field Investigation Report

Former APL Terminal, Port of Oakland
Oakland, California

Prepared for:

Port of Oakland
Oakland, California

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
180 Grand Avenue, Suite 1100
Oakland, California 94612

August 2015

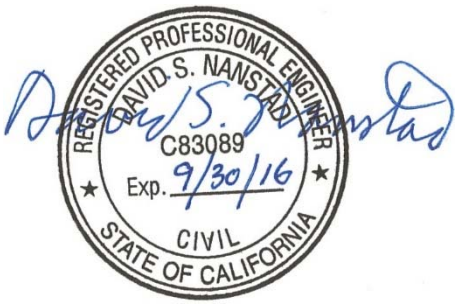
Project No. OD14170810.04

POST-CONSTRUCTION FIELD INVESTIGATION REPORT
Former APL Terminal, Port of Oakland
Berths 60-63 Redevelopment Project
1395 Middle Harbor Road
Oakland, California

August 7, 2015
Project OD14170810.04

This report was prepared by the staff of Amec Foster Wheeler under the supervision of the Engineer whose seal and signature appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.



David S. Nanstad, PE # C83089
Senior Engineer

Mary Jo Hessler, PG
Associate Geologist

Kenneth Conner, PE, PMP, QSD/QSP
Technical Reviewer

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

2.0 BACKGROUND 1
- 2.1 PAST AND PRESENT SITE USE 1
- 2.2 PREVIOUS SAMPLING AND SITE REDEVELOPMENT 2
- 2.3 ENVIRONMENTAL SCREENING LEVELS 3
- 2.4 INVESTIGATION AREAS 3

3.0 FIELD INVESTIGATION 4
- 3.1 PURPOSE AND APPROACH 4
- 3.2 BOREHOLE CLEARANCE AND PERMITTING 4
- 3.3 SOIL BORING, SOIL SAMPLING, INSTALLATION OF TEMPORARY WELLS, GROUNDWATER SAMPLING, AND BOREHOLE ABANDONMENT 4
  - 3.3.1 Drilling and Soil Sampling Methods 5
  - 3.3.2 Temporary Groundwater Well Installation and Sampling Methods 6
  - 3.3.3 Borehole Abandonment Methods 7
  - 3.3.4 Sampling Summary and Observations by Case Area 7
    - 3.3.4.1 Case Area 002 Borings 7
    - 3.3.4.2 Case Area 004 Borings 7
    - 3.3.4.3 Case Area 005 Borings 7
    - 3.3.4.4 Case Area 009 Borings 8
    - 3.3.4.5 Case Area 010 Borings 8
- 3.4 DRILLING, SOIL SAMPLING, MONITORING WELL INSTALLATION, DEVELOPMENT, AND GROUNDWATER SAMPLING AT FORMER BUILDING E-221 8
  - 3.4.1 Drilling and Soil Sampling 9
  - 3.4.2 Monitoring Well Installation 9
  - 3.4.3 Monitoring Well Development and Sampling 9
    - 3.4.3.1 Monitoring Well Development 9
    - 3.4.3.2 Monitoring Well Sampling 10
- 3.5 EQUIPMENT DECONTAMINATION 10
- 3.6 SURVEYING 10
- 3.7 INVESTIGATION-DERIVED WASTE MANAGEMENT 11
- 3.8 DEVIATIONS FROM WORK PLAN 11

4.0 LABORATORY ANALYSES, DATA MANAGEMENT, AND DATA VALIDATION 12

5.0 FINDINGS 14
- 5.1 SITE LITHOLOGY 14
- 5.2 SITE GROUNDWATER 14
- 5.3 ANALYTICAL RESULTS 15
  - 5.3.1 Case Area 002 16
    - 5.3.1.1 Soil 16
    - 5.3.1.2 Groundwater 17
  - 5.3.2 Case Area 004 17
    - 5.3.2.1 Soil 18
    - 5.3.2.2 Groundwater 18
  - 5.3.3 Case Area 005 19
    - 5.3.3.1 Soil 19

TABLE OF CONTENTS
(Continued)

5.3.3.2 Groundwater 20
5.3.4 Case Area 009 20
5.3.4.1 Soil 20
5.3.4.2 Groundwater 21
5.3.5 Case Area 010 22
5.3.5.1 Soil 22
5.3.5.2 Groundwater 23
5.3.6 Former Building E-221 Area 24
5.3.6.1 Soil 24
5.3.6.2 Groundwater 25

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 26
6.1 SUMMARY AND CONCLUSIONS 26
6.1.1 Case Area 002 26
6.1.2 Case Area 004 27
6.1.3 Case Area 005 27
6.1.4 Case Area 009 27
6.1.5 Case Area 010 28
6.1.6 Former Building E-221 29
6.2 RECOMMENDATIONS 29

7.0 REFERENCES 30

TABLES

Table 1 Sampling and Analytical Summary
Table 2 Groundwater Monitoring Parameters
Table 3 Soil Sample Analytical Results
Table 4 Groundwater Sample Analytical Results

FIGURES

Figure 1 Site Location Map
Figure 2 Case Locations
Figure 3A Case 002 Boring Locations and ESL Exceedances – Soil
Figure 3B Case 002 Boring Locations and ESL Exceedances – Groundwater
Figure 4A Case 004 Boring Locations and ESL Exceedances – Soil
Figure 4B Case 004 Boring Locations and ESL Exceedances – Groundwater
Figure 5A Case 005 Boring Locations and ESL Exceedances – Soil
Figure 5B Case 005 Boring Locations and ESL Exceedances – Groundwater
Figure 6A Case 009 Boring Locations and ESL Exceedances – Soil
Figure 6B Case 009 Boring Locations and ESL Exceedances – Groundwater
Figure 7A Case 010 Boring Locations and ESL Exceedances – Soil
Figure 7B Case 010 Boring Locations and ESL Exceedances – Groundwater
Figure 8A Building E-221 Well Locations and ESL Exceedances – Soil
Figure 8B Building E-221 Well Locations and ESL Exceedances – Groundwater

TABLE OF CONTENTS
(Continued)

APPENDICES

Appendix A Drilling Permits
Appendix B Boring Logs
Appendix C Groundwater Development and Sampling Forms
Appendix D Survey Data
Appendix E Laboratory Analytical Reports and Chain-of-Custody Forms
Appendix F Data Validation Report

POST-CONSTRUCTION FIELD INVESTIGATION REPORT
Former APL Terminal, Port of Oakland
Oakland, California

1.0 INTRODUCTION

On behalf of the Port of Oakland ("the Port"), Amec Foster Wheeler Environment & Infrastructure, Inc. ("Amec Foster Wheeler"), has prepared this *Post-Construction Field Investigation Report* ("Report") to present results of an investigation to assess the extent of soil and groundwater contamination identified during previous construction work at the former American Presidents Line (APL) Terminal at Berths 60–63 at 1395 Middle Harbor Road, Port of Oakland, Oakland, California ("the Site"; Figure 1). The investigation was performed in accordance with the *Post-Construction Field Investigation Work Plan* ("Work Plan") dated November 7, 2014 (AMEC Environment * Infrastructure, Inc., 2014), and the *Addendum to the Post-Construction Work Plan* ("Work Plan Addendum") dated April 23, 2015 (Amec Foster Wheeler, 2015).

The scope of work for the field investigation presented in the Work Plan was based on recommendations proposed in the *Post-Construction Closure Report* (PCCR; Baseline Environmental Consulting, 2013) and Alameda County Department of Environmental Health (ACEH) comments on the PCCR (ACEH, 2014). Modifications to the scope of work described in the Work Plan Addendum were developed in response to ACEH comments on the Work Plan ("Approval Letter"; ACEH, 2015).

2.0 BACKGROUND

The Site is located in the Oakland Inner Harbor as shown on Figure 1. Research conducted as part of environmental planning prior to Site redevelopment indicated that the Site had more than 100 years of industrial activity that resulted in successive filling of the estuary to its current configuration. Industrial uses included lumberyards, rail yards, shipbuilding, ship repair, and garbage handling operations. The Site is paved and groundwater is not used for drinking water.

2.1 PAST AND PRESENT SITE USE

In 2006, the Site was proposed for redevelopment to enlarge the area of the terminal and to improve the existing terminal by constructing new facilities, including new subsurface utilities and pavement, combined with a more efficient layout for daily cargo handling operations. The areas proposed for redevelopment included portions of land to the east that were previously used by Union Pacific Railroad Company ("UP") as a locomotive maintenance facility; lands to the west, previously used by UP as a motor freight facility; and an additional strip of land along Middle Harbor Road, previously used by UP for main-line tracks. The central portion of the

terminal partially occupies land previously used successively by the Moore and Scott Iron Works, Moore Dry Dock Company, and Oakland Dock and Warehouse for heavy industrial uses, including shipbuilding from about 1909 to 1968. Soil and groundwater investigations previously conducted at the Site indicated that these past land uses had resulted in releases of organic and inorganic contaminants to soil and groundwater.

2.2 PREVIOUS SAMPLING AND SITE REDEVELOPMENT

The PCCR indicated the Site had been subject to an extensive environmental planning effort prior to redevelopment. The planning effort included investigation of historic land uses (IRIS/CAMBRIA, 2002) and collection of soil and groundwater samples throughout the redevelopment area (GAIA Consulting, Inc., 2003; Treadwell and Rollo, 2005). The objectives of the environmental investigations were to assess the Site for contaminants of potential concern (COPCs); evaluate potential health risks to construction workers and nearby tenants (ETIC Engineering, Inc. [ETIC], 2005), and evaluate whether COPCs were impacting water quality in the San Francisco Bay (ETIC, 2007).

According to the PCCR, the construction worker risk assessment prepared by ETIC (2005) indicated that there would be no significant risk to construction and nearby terminal workers during redevelopment activities if construction and nearby terminal workers use appropriate health and safety plan measures. Similarly, no adverse risks were identified from leaching COPCs or from COPC transport by groundwater into the San Francisco Bay (ETIC, 2007).

In 2006, the Site was redeveloped to enlarge the terminal area and to construct new facilities, including new subsurface utilities and pavement. Redevelopment was performed as described in the Revised Soil Management and Contingency Plan APL Terminal Redevelopment Project, Port of Oakland, Oakland, California (“SMCP”) (ETIC, 2006). The PCCR was prepared to document compliance with the SMCP during site redevelopment activities including the associated environmental monitoring. Environmental monitoring included documenting excavation activities, soil handling, soil and groundwater sampling, observations during earthwork, and discoveries of locations with soil and groundwater contamination encountered during redevelopment. These locations were identified as “Cases” or “Other Samples” in the PCCR.

The PCCR included descriptions of samples collected from each of these case areas or other sample areas during redevelopment. The samples were collected from open trenches or stockpiles, or from groundwater discovered during demolition. The PCCR included recommendations that four of these locations (Case Areas 002, 004, and 009 and the Former Building E-221 Area) be further investigated due to soil concentrations exceeding commercial environmental screening limits (ESLs) and the presence of oily water in the case of the Former Building E-221 Area. In addition, Case Areas 005 and 010 were identified as requiring further investigation in ACEH’s comment letter on the PCCR, dated June 14, 2014 (ACEH, 2014) due

to the presence of a film of free phase product and elevated total petroleum hydrocarbon (TPH) and polynuclear aromatic hydrocarbon (PAH) concentrations in soil, respectively.

2.3 ENVIRONMENTAL SCREENING LEVELS

As described above, case areas or other sample areas were identified in the PCCR and by the ACEH for further investigation due to soil and groundwater contamination encountered during redevelopment based on observations and confirmation soil sample analytical results showing chemicals at concentrations exceeding commercial soil ESLs. ESLs for both soil and groundwater were developed by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and are presented on look up tables dated December 2013 that are published on the California EPA SFBRWQCB website http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml. The soil ESLs presented on Table B-2 – Shallow Soils (<3 meters) for Commercial/Industrial Land Use (where groundwater is not a current or potential drinking water resource) were used for screening site data. Groundwater ESLs considered applicable to the site are presented on Table F-1b (where groundwater is not a current or potential drinking water resource).

Each table includes several screening levels for chemicals based on potential environmental concerns for specific scenarios; e.g., depth within the soil profile, potential receptors, and use of groundwater as a source of drinking water. The lowest of the individual screening levels were selected by the SFBRWQCB as the chemical-specific ESL. Screening levels for soil include ceiling values (odors, etc.), urban area ecotoxity criteria, human health, endpoint and protection of groundwater. Screening levels for groundwater include gross contamination/ceiling value (odor etc.), vapor intrusion, and aquatic habitat goal. Screening levels are further explained in the *User's Guide: Derivation and Application of Environmental Screening Levels*, *Interim Final* prepared by the SFBRWQCB dated December 2013 (Cal/EPA SFBRWQCB, 2013a).

2.4 INVESTIGATION AREAS

Case Areas 002, 004, 005, 009, and 010 and the Former Building E-221 Area were identified in the PCCR and by the ACEH for further investigation.

Each of these areas is described below. The Case Areas are shown on Figure 2:

- **Case Area 002** – Solvent-like odor was detected during excavation of a trench for a fire water line in the upper middle portion of the Site. Volatile organic compounds (VOCs) were detected in soil samples collected from the associated stockpiled soil and an adjacent fire water line trench at concentrations exceeding commercial/industrial ESLs.
- **Case Area 004** – Staining was observed and petroleum odor was detected in a trench excavated near queuing lanes in the northeastern portion of the Site. TPH quantified as diesel (TPHd) and PAHs were detected at concentrations exceeding commercial/industrial ESLs.

- **Case Area 005** – Staining was observed and odors were detected in stockpiled soil excavated near Building E-224.
- **Case Area 009** – Soil excavated from an area west of former boring B-20 contained TPH quantified as motor oil (TPHmo) at a concentration that exceeded the commercial/industrial ESL.
- **Case Area 010** – Stockpiled soil from a trench excavated for a water line in the northern central portion of the Site contained elevated levels of TPH and PAHs.
- Former Building E-221 Area – Oily water was encountered and removed from a sump within the floor of Former Building E-221 (shown on Figures 2, 8a, and 8b), and stained soil was removed from beneath the former building footprint. TPHd and TPHmo were detected in soil samples collected from below the foundation and/or the sump at concentrations exceeding commercial/industrial ESLs. The foundation of former Building E-221 was supported on concrete piles tied together by reinforced concrete grade beams. Groundwater underlying the building was just below the grade beams which made it difficult to pump out the floating petroleum product beneath the building.

3.0 FIELD INVESTIGATION

This section describes post-construction field investigation activities performed for each of the case areas described above. The field investigation was performed in accordance with the Work Plan and Work Plan Addendum.

3.1 PURPOSE AND APPROACH

The purpose of the post-construction field investigation was to assess the extent of groundwater and soil contamination identified during previous construction work at the Site. As described in the Work Plan, boring locations and the associated sample depths were selected to characterize the lateral and vertical extent of COPCs in soil and groundwater at each of the five case areas and the Former Building E-221 Area.

3.2 BOREHOLE CLEARANCE AND PERMITTING

Before drilling began, Amec Foster Wheeler obtained a well permit from the Alameda County Public Works Agency (ACPWA), Water Resources Section; a copy of the permit is provided in Appendix A. All drilling locations were marked in the field after Port-provided utility drawings were reviewed. Each location was then checked for subsurface utilities on April 17, 2015, using the geophysical methods of Advanced Geological Services of Moraga, California. Underground Service Alert (USA) was notified of the planned work on April 21, 2015, under USA Ticket Number 0179966. All drilling activities were completed before the USA ticket expiration date of May 19, 2015.

3.3 SOIL BORING, SOIL SAMPLING, INSTALLATION OF TEMPORARY WELLS, GROUNDWATER SAMPLING, AND BOREHOLE ABANDONMENT

Between April 27 and May 1, 2015, a total of 21 soil borings were drilled at Case Areas 002, 004, 005, 009, and 010. Boring advancement included logging the soil, collecting soil samples,

installing temporary wells, and collecting groundwater samples. Drilling was temporarily halted on the morning of April 28, 2015, at the request of Port personnel because of safety concerns associated with heavy Port traffic and other Port operations. Drilling resumed on Thursday, April 30, 2015, after Port personnel limited future work at the Site to Thursday, Friday, and weekends.

3.3.1 Drilling and Soil Sampling Methods

Borings were drilled and sampled using a direct-push drill rig operated by personnel from National Exploration Wells and Pumps of Richmond, California. Each boring was advanced to a minimum of 4 feet below the soil/groundwater interface. Boring depths ranged from approximately 10 to 15 feet below ground surface (bgs). The upper 2 to 5 feet of borings APLB-5, APLB-7 through APLB-11, and APLB-15 were hand augered to avoid potential damage to nearby subsurface utilities.

The borings were lithologically logged in accordance with the American Society for Testing and Materials Standard D2487-06 by a field geologist working under the supervision of a California-licensed Professional Geologist. Soil collected during drilling and the breathing space around the drill rig was monitored for the presence of VOCs using a photoionization detector (PID). PID readings are noted on the boring logs provided in Appendix B.

Three soil samples were collected from each boring at depths ranging from approximately 2 to 5 feet bgs and at the soil/groundwater interface (typically encountered between approximately 5 and 8.5 feet bgs). Soil samples were collected from hand-augered intervals using one of the two method described below, as follows:

- Pushing Terracore samplers directly into the hand auger for analysis for VOCs, TPH quantified as gasoline (TPHg), BTEX,[1] and methyl tertiary butyl ether (MTBE).
- Transferring soil directly from the hand auger into 8-ounce glass jars for analysis for PAHs, semivolatile organic compounds (SVOCs), or metals.

Soil was continuously collected in 5-foot-long acetate sleeves that lined the direct-push corers. To collect soil samples for analysis, the acetate liner was removed from the corer, the depth measured along the liner with a measuring tape, and a section of the liner corresponding to the targeted sample depth interval was cut off from the liner. Soil samples were retrieved from the cut liner by pushing a Terracore sampler directly into the soil within the liner and/or transferring soil from the liner into sample jars. The remaining soil not submitted for laboratory analysis was placed in a labeled 55-gallon Department of Transportation (DOT) approved drum.

[1] BTEX is benzene, toluene, ethylbenzene, and xylenes, collectively.

Sampling gloves were replaced after collection of each sample. All soil samples were labeled, placed in re-closable zipper-top plastic bags, and stored in a cooler with ice for subsequent transport to the analytical laboratory.

3.3.2 Temporary Groundwater Well Installation and Sampling Methods

After the boreholes were advanced to approximately 4 feet below groundwater and the soil samples collected, temporary wells consisting of 5 feet of slotted 1-inch-diameter polyvinyl chloride ("PVC") casing and blank 1-inch-diameter PVC casing were inserted into each borehole.

Groundwater samples were collected from 17 of the 21 temporary wells using low-flow sampling methods (e.g., placing new clean, polyethylene tubing near the bottom of each temporary well and purging the well at an approximate rate of 200 milliliters per minute (mL/min) using a peristaltic pump). A flow-through cell attached to the peristaltic pump tubing was used to measure and monitor water quality parameters (pH, temperature, and specific conductance) of the purged water. Turbidity was measured using a separate turbidity meter by filling a small glass vial from the flow-through cell effluent each time parameters were recorded. Once the water quality parameter measurements stabilized, the flow-through cell was removed from the polyethylene tubing, and groundwater samples were collected by filling laboratory-provided containers directly from the tubing. Groundwater samples collected for dissolved metal analyses were field-filtered using a 0.45-micron filter attached to the sample tubing. After the sample containers were filled, the containers were labeled, placed into reclosable zipper-top plastic bags[2], and stored in a cooler with ice.

As previously discussed, low-flow sampling was successful in 17 of the 21 temporary wells sampled. The following sections describe how samples were collected from the other four temporary wells that could not be sampled using low-flow sampling methods.

- **APLB-5 and APLB-15** – Temporary wells APLB-5 and APLB-15 were purged dry after three minutes and so it was not practicable to purge until parameter measurements had stabilized. For these two temporary wells, samples were collected using the peristaltic pump once groundwater in the wells had recovered to 80% of the originally observed volume.
- APLB-7 and APLB-9 – Low-flow sampling methods were not used to sample temporary wells APLB-7 and APLB-9 because there was insufficient groundwater in the wells to purge before sampling (e.g., only 3 feet of water was present in the APLB-7 well casing, and there was no measurable water in APLB-9). To maximize the volume of groundwater available for chemical analysis, the well casings were left in those borings overnight and grab groundwater samples were collected from each temporary well using a peristaltic pump the following day. Because there was insufficient volume of groundwater in the temporary wells, not all required sample

[2] Sample containers for VOC, TPHg, and BTEX/MTBE analysis were placed in zipper-top plastic bags.

containers could be filled for the proposed list of analyses (see Section 3.8, Deviations from the Work Plan).

3.3.3 Borehole Abandonment Methods

After the groundwater samples had been collected, the temporary well casings were removed from the boreholes, and the boreholes were backfilled with cement grout using a tremie pipe. In areas where asphalt pavement was present, the top of the grout was dyed black to match the surrounding asphalt. Grouting was performed following methods approved by ACPWA Water Resources. An ACPWA representative was on site to observe grouting of the first two borings (APLB-5 and APLB-6). Once grouting of APLB-5 and APLB-6 was completed, the ACPWA inspector indicated that he would not need to observe grouting of the remaining soil borings but would like to be on site to observe grouting of the monitoring wells.

3.3.4 Sampling Summary and Observations by Case Area

The following sections describe field activities and observations for each of the case areas.

3.3.4.1 Case Area 002 Borings

On May 1, 2015, four borings, APLB-1 through APLB-4, were drilled around previous sample location P1A-007-E5 (Figures 3A and 3B). Degraded, friable, gravel-sized asphalt fragments were observed within the upper 5 feet of all Case Area 002 borings. Creosote-saturated wood, elevated PID readings, and strong odors were observed in soil collected from approximately 5 feet bgs in borings APLB-3 and APLB-4, located south and west, respectively, of previous sample location P1A-007-E5. Elevated PID readings or odors were not observed in soil collected from borings APLB-1 and APLB-2, located north and east, respectively, of previous sample location P1A-007-E5. A petroleum product odor was noted when sampling temporary wells APLB-1, APLB-2, and APLB-3, and a sheen was observed on groundwater collected from APLB-1.

3.3.4.2 Case Area 004 Borings

On April 27, 2015, three borings, APLB-5 thru APLB-7, were drilled to the north, south, and west of previous sample location P1A-004-N4 (Figures 4A and 4B). A petroleum product odor and a slightly elevated PID reading were detected in soil collected at the groundwater interface in boring APLB-5. Odors or elevated PID readings were not detected when drilling and sampling borings APLB-6 and APLB-7.

3.3.4.3 Case Area 005 Borings

On April 27 and 30, 2015, four borings, APLB-8 through APLB-11, were drilled to the north, south, east, and west of previous sample location P1A-005-E4 (Figures 5A and 5B). Elevated PID readings were detected in soil collected at the groundwater interface in boring APLB-8, located north of sample location P1A-005-E4. A sheen was also observed on groundwater collected from boring APLB-8. No elevated PID readings, odors, or sheens were detected or

observed from soil or groundwater collected from the three other Case Area 005 borings. A sulfur odor (presumably associated with the Bay mud) was noted groundwater collected from boring APLB-11.

3.3.4.4 Case Area 009 Borings

On April 28 and May 1, 2015, five borings (APLB-12 through APLB-14, APLB-20, and APLB-21) were drilled at locations surrounding the former Case Area 009 trench location (Figures 6A and 6B). A slightly elevated PID reading (29.2 parts per million) was measured in soil collected from the soil/groundwater interface in boring APLB-14. No odor or elevated PID readings were detected from soil collected from the other Case Area 009 borings. Layers of degraded and friable asphalt were observed in boring APLB-12 from approximately 2 to 4 feet bgs and in APLB-20 from approximately 2 to 3 feet bgs. A 2-inch layer of asphalt was observed in APLB-21 at approximately 2 feet bgs. Degraded gravel-sized asphalt fragments were also observed within fill collected from APLB-14 from approximately 5.5 to 6.5 bgs. A sulfur odor (presumably associated with the Bay mud) was noted in groundwater collected from boring APLB-20.

3.3.4.5 Case Area 010 Borings

On April 30, 2015, five borings, APLB-15 through APLB-18, were drilled at locations surrounding the former Case Area 010 trench location (Figures 7A and 7B). A strong product odor and sheen were detected in groundwater samples collected from APLB-19. No elevated PID readings or odors were detected in soil or groundwater collected from the other Case Area 010 borings. A layer of old asphalt approximately 2 inches thick was encountered between 2 and 2.5 feet bgs in borings APLB-15, APLB-16, and APLB-18. A friable, degraded asphalt layer was observed in APLB-18 between 3.6 and 4.3 feet bgs. A sulfur odor (presumably associated with the Bay mud) was noted in groundwater collected from borings APLB-16 and APLB-18.

3.4 DRILLING, SOIL SAMPLING, MONITORING WELL INSTALLATION, DEVELOPMENT, AND GROUNDWATER SAMPLING AT FORMER BUILDING E-221

Three monitoring wells, APLMW-1 through APLMW-3, were installed adjacent to the former Building E-221 location (Figures 8A and 8B). Monitoring well installation included soil boring, logging the soil, collecting soil samples, installing monitoring wells, developing the monitoring wells and collecting groundwater samples. The permanent monitoring wells were installed in the borings on May 14 and 15, 2015, using a combined direct-push and hollow-stem-auger drill rig. The borings were drilled to depths ranging between 15.5 to 16.3 feet bgs. The wells were installed to replace three wells that were destroyed during site redevelopment. The original wells were installed and monitored to assess groundwater impacts from former underground storage tanks at Building E-221.

3.4.1 Drilling and Soil Sampling

Each well was advanced to a depth of 8 feet below the soil/groundwater interface. The soil/groundwater interface was encountered at depths ranging between approximately 7 and 8.2 feet bgs. The boreholes were initially drilled, sampled, and logged to depths of 15 feet bgs using the direct-push sampling methods described in Section 3.3.1. Two soil samples were collected from each boring at depths of approximately 4 feet bgs and at the soil/groundwater interface. During drilling and sampling, soil samples and the breathing space around the drill rig were monitored for VOCs using a PID.

Upon completion of drilling and sampling using the direct-push corers, a 12-inch-diameter core was cut through the asphalt around the borehole. The direct-push rig was then converted to a drill rig using 8-inch-diameter hollow-stem augers. The boreholes were then widened to a diameter of 8 inches and drilled to depths ranging between approximately 15.5 to 16.3 feet bgs (e.g., 8 feet below groundwater). Waste soil from the acetate sleeves and drill cuttings from augering the boreholes were placed into three labeled 55-gallon DOT drums.

3.4.2 Monitoring Well Installation

The monitoring wells were constructed using 2-inch-diameter Schedule 40 PVC casing consisting of 0.010-inch slotted screen and blank casing with the screen extending from approximately 2 feet above the soil/groundwater interface to 8 feet below the soil/groundwater interface. Annular materials consisted of #2/12 sand filter pack that extended from approximately 4.5 feet bgs to the total depth of each well, hydrated bentonite chips extending from approximately 3 to 4.5 feet bgs, and grout from the top of the hydrated bentonite chips to approximately 0.5 feet bgs. The wells were completed within a watertight utility box installed flush with the surrounding grade. Each well was fitted with a locking cap. Appendix B provides well construction details. An ACPWA representative was on site to observe the placement of the seal for wells APLMW-1 and APLMW-3.

3.4.3 Monitoring Well Development and Sampling

The following sections describe monitoring well development and sampling activities performed as part of the post-construction field investigation.

3.4.3.1 Monitoring Well Development

On May 21, 2015, the three monitoring wells (APLMW-1, APLMW-2, and APLMW-3) were developed by surging, bailing, and pumping. A 2-inch-diameter surge block was initially used to mobilize sediment in the well casing and surrounding filter pack. The suspended sediment was then removed from the well using a 2-inch-diameter PVC bailer. The wells were each surged 15 times, and 7 gallons of sediment and water were removed from each well before the wells were pumped to draw water from the formation through the filter pack. A Geosquirt™ 12-volt pump was used to develop the wells until water quality parameters (pH, temperature,

specific conductance, and turbidity) had stabilized. The wells were pumped at a rate of 450–1,400 mL/min; water was pumped from each well using clean polyethethylene tubing that was placed near the bottom of the well. A flow-through cell was used to measure water quality parameters during development. Turbidity was measured using a separate meter. The associated field measurements were recorded on Well Development Forms, which are provided in Appendix C. Purge water was pumped into 55-gallon DOT drums. The following well volumes of purge water were removed from each well during development activities:

- APLMW-1: 11.9 well volumes.
- APLMW-2: 12 well volumes; the well was purged dry twice during development.
- APLMW-3: 13.7 well volumes; the well was purged dry twice during development.

3.4.3.2 Monitoring Well Sampling

On May 23, 2015, the three wells were sampled using low-flow sampling methods. Geosquirt™ 12-volt pumps and clean polyethylene tubing were used to purge the wells until water quality parameters had stabilized or three casing volumes had been removed from the wells. The pump intake was placed at the approximate midpoint of the screened intervals for both APLMW-2 and APLMW-3. The pump intake was placed approximately 3 feet below the groundwater water level measured in APMW-1 (depth of 11 feet below top of casing).

The wells were purged at a rate of approximately 300–400 mL/min. A flow-through cell was used to measure water quality parameters during purging. Turbidity was measured using a separate meter. Field parameters were recorded on Groundwater Development and Sampling Forms, which are provided in Appendix C. The water quality parameters stabilized after 2.5 gallons of groundwater had been purged from well APLMW-2. Water quality parameters did not stabilize while purging APLMW-1 and APLMW-3; therefore, APLMW-1 and APLMW-3 were purged until three casing volumes had been removed (4 and 4.6 gallons, respectively). After purging, groundwater samples were collected from each well using procedures described in Section 3.3.2.

3.5 EQUIPMENT DECONTAMINATION

All downhole drilling equipment was steam-cleaned after drilling each boring and before demobilizing from the Site. All other reusable equipment was cleaned using a low-phosphate soap solution and clean water rinse. The equipment rinsate was containerized in 55-gallon DOT drums for disposal.

3.6 SURVEYING

The horizontal and vertical coordinates of the 21 soil borings and three monitoring wells were surveyed on May 28, 2015, by Chaudhary & Associates, Inc., of Napa, California, a California-licensed surveyor. The horizontal position was surveyed to an accuracy of 0.1 foot relative to the North American Datum of 1983 and the vertical position to an accuracy of 0.01 foot relative

to the North American Vertical Datum of 1988. The survey data are provided in a table in Appendix D. Surveyed elevations were based on the North American vertical datum of 1988 (NAVD 88). Surveyed elevations were adjusted to reference the Port of Oakland vertical datum (which is 3.20 feet below mean sea level according to the Port). Adjusted elevations in accordance with the Port of Oakland vertical datum are shown in the table in Appendix D.

3.7 INVESTIGATION-DERIVED WASTE MANAGEMENT

Investigation-derived waste (IDW) that was generated during the field investigation and well installation was contained as follows:

- One 55-gallon DOT drum of soil cores generated during advancement of the direct-push soil borings.
- Three 55-gallon DOT drums of soil cores and soil cuttings generated during drilling the three monitoring well borings.
- Four 55-gallon DOT drums of combined decontamination rinsate and well purge water.

All drums were distinctly labeled including the contents and date of generation. During drilling, well development, and sampling; the IDW drums were temporarily staged near the associated boring or monitoring well location. At the end of drilling and well installation, the IDW drums were transferred to a temporary staging area located near the site entrance, just south of a guard shack.

A composite sample of the four water drums was collected and submitted to the analytical laboratory on May 23, 2015. Analytical results from soil boring samples were used to characterize waste in the soil drums. Because of elevated lead concentrations in soil samples collected from three of the soil borings, a four-point composite sample was collected from the drum containing soil from the direct-push soil borings on June 19, 2015. The composite sample was analyzed for lead using the Toxicity Characteristic Leaching Procedure (TCLP) and Waste Extraction Test (WET).

The IDW was removed from the site on July 17, 2015. IDW waste profile and disposal information will be provided by the Port under separate cover upon receipt. Waste characterization analytical reports are provided under Appendix E.

3.8 DEVIATIONS FROM WORK PLAN

The following summarize deviations from the Work Plan and Work Plan Addendum that were implemented in the field based on field conditions. These deviations were within the scope of the proposed investigation and are not considered to affect the adequacy of the program or decisions that will be made based on results of soil and groundwater sampling analyses.

- Nine proposed boring locations were moved between approximately 2 and 13 feet because of the presence of an identified subsurface utility or there was limited access by the drill rig.
- Soil samples APLB-7(2), APLB-8(2), APLB-8(4.5), APLB-9(2), APLB-9(4.5), APLB-10(2), APLB-10(4.5), and APLB-11(2) were collected directly from a hand auger rather than from a direct-push corer because the upper 5 feet of the borings were initially hand augered to avoid potential damage to identified subsurface utilities in proximity to the boring locations.
- The monitoring wells were sampled using direct-push techniques (rather than driving split-spoon samplers) so that continuous cores could be collected to 15 feet bgs.
- Because of the shallow depth to groundwater, the design thickness of the annular materials installed in each groundwater monitoring well had be adjusted so that a finished grout thickness of 2 feet could be installed. Instead of the specified 2 feet of sand, 0.5, 1.5, and 1 foot of sand was installed above the top of the screen intervals in monitoring wells APLMW-1, APLMW-2, and APLMW-3, respectively. In addition, the design thickness of the bentonite chips was modified from 2 feet to 1.5 feet for each well.
- Because of insufficient groundwater in temporary well APLB-7, samples could not be collected for SVOCs, TPHd, and TPHmo analyses at that location.
- Because of insufficient groundwater in temporary well APLB-9, a sample could not be collected for SVOC analysis at that location.

4.0 LABORATORY ANALYSES, DATA MANAGEMENT, AND DATA VALIDATION

Soil and groundwater samples collected as part of this investigation were transported and submitted under chain-of-custody control to Curtis & Tompkins Laboratories, a California state-certified ISO/IEC 17025:2005– and NELAC 2003–accredited environmental testing laboratory. Soil and groundwater samples from each of the case locations were analyzed for the following COPCs using the indicated U.S. Environmental Protection Agency (EPA) test method:

- **Case Area 002** – VOCs (EPA 8260B) and SVOCs (EPA 8270C).
- **Case Area 004** – TPHd and TPHmo (EPA 8015M); VOCs (EPA 8260B); and SVOCs (8270SIM).
- **Case Area 005** – TPHg, TPHd, and TPHmo (EPA 8015M); VOCs (EPA 8260B); and SVOCs (EPA 8270SIM).
- **Case Area 009** – TPHd and TPHmo (EPA 8015M); and CAM 17 metals (EPA 6000-7000 Series).
- **Case Area 010** – TPHg, TPHd, and TPHmo (EPA 8015M); VOCs (EPA 8260B); and SVOCs (EPA 8270SIM).
- **Former Building E-221 Area** – TPHg, TPHd, and TPHmo (EPA 8015M); BTEX/MTBE (EPA 8021B); and PAHs (EPA 8270SIM).

IDW wastewater samples were analyzed for COPCs identified for all case areas, including TPHg, TPHd, and TPHmo (EPA 8015M); VOCs (EPA 8260B); and SVOCs (EPA 8270SIM) and CAM 17 Metals (EPA 6000-7000 Series). In addition, a composite soil sample was collected from a drum of soil cores and cuttings generated during drilling and soil sampling. The composite soil sample was analyzed for lead (EPA 601A) using TCLP leachate procedure (EPA 3010A) and WET procedure. Table 1 presents a sampling and analytical summary for all soil and groundwater samples collected.

The laboratory-generated eight Level III data packages (laboratory job numbers 266374, 266392, 266511, 266525, 266803, 266820, 267026, 267609) consistent with Level III laboratory deliverable requirements described in *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA, 2009). Electronic copies of the chain-of-custody forms and analytical reports are presented in Appendix E.

Amec Foster Wheeler performed the equivalent of a Level II cursory data review according to the principles presented in the EPA's *National Functional Guidelines for Inorganic Superfund Data Review* (EPA, 2010) and *National Functional Guidelines for Superfund Organic Methods Data Review* (EPA, 2008), and in individual analytical methods. The Level II data review included reviewing the following information:

- holding times and sample preservation
- surrogate recoveries
- method blanks
- laboratory control samples and laboratory control sample duplicates
- matrix spike and matrix spike duplicate samples
- field quality control samples
- laboratory reporting limits
- report completeness
- sample representativeness

A Data Review Summary Report is provided in Appendix F.

Based on results of the Level II data review, data qualifiers were applied to the analytical data as follows:

- J – The result is an estimated concentration.
- U – The analyte was analyzed for, but was not detected at the reporting limit shown (laboratory applied qualifier).
- UJ – The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate.

The conclusion of the Level II data review is that the analytical results, with applied data qualifiers, are considered valid and usable for project purposes.

5.0 FINDINGS

The following section presents an evaluation of the findings of the field investigation including a summary of soil types encountered during drilling, depths to groundwater, and an assessment of whether the extent of COPCs in soil and groundwater have been effectively characterized with respect to ESLs. Refer to Section 2.3 Environmental Screening Levels for a discussion of the ESLs used to evaluate data collected as part of this investigation.

5.1 SITE LITHOLOGY

Appendix B includes logs of borings drilled as part of this investigation. It should be noted that borings not converted to monitoring wells are identified as APLB-1, etc. and borings converted to monitoring wells are referenced as APLMW-1, etc.

Soils encountered during post-construction field investigation drilling activities were comprised primarily of fill material overlying Bay mud deposits. The fill was encountered from just beneath the asphalt pavement to depths ranging from approximately 5 to 15 feet bgs. The fill consisted primarily of imported material comprised of silty sand, silty sand with gravel, poorly graded sand, poorly graded sand with gravel, silty gravel with sand, lean clay, and Bay mud dredge spoils.

Layers of wood were encountered in Case Area 002 borings APLB-3 and APLB-4, Case Area 009 boring APLB-12, and Case Area 010 boring APLB-17. Layers of intact or degraded/friable asphalt were encountered in Case Area 009 borings APLB-12, APLB-20, and APLB-21, and Case Area 010 borings APLB-15, APLB-16, and APLB-18. Trace to small percentages of asphalt, wood, or brick debris were also observed within fill units in borings APLB-1 through APLB-4, APLB-8, APLB-11 through APLB-15, APLB-17, APLB-20, and APLB-21. No asphalt, wood, or brick layers or debris was observed in any Case Area 004 borings.

The Bay mud deposits underlying the fill consisted of interbedded layers of poorly graded sand, silty sand, clayey sand, fat clay, elastic silt, and silt. Shell fragments were occasionally observed within sand units and peat or plant debris were common within the fat Bay mud clay. The upper contacts of the fat clay were generally dark and organic-rich, and had a strong sulfur odor.

5.2 SITE GROUNDWATER

Groundwater was first encountered in the borings at depths ranging from 5 to 8.5 feet bgs and was measured prior to purging at depths ranging from 5.7 to 12.1 feet bgs. Turbidity, pH, conductivity, and temperature measurements of groundwater within the borings prior to sample collection were as follows:

- Turbidity - 3.14 to >1,000 nephelometric turbidity units (NTUs)
- pH - 6.37 to 7.95
- Specific conductance - 2,042 to 17,937 micromhos per centimeter (µmhos/cm) (corresponding to TDS ranging from 1368 to 12,018 parts per million [ppm])
- Temperature - 20 to 23.8 ^{o}C.

Table 2 presents groundwater parameters measured prior to groundwater sample collection. Specific conductance measurements confirm the presence of elevated total dissolved solids (TDS) in groundwater at the Site. Thirteen of the twenty-two groundwater sample locations where specific conductance was measured exceeded a TDS value of 3000 mg/L. The average TDS value of the twenty-two groundwater sample locations was 5354 mg/L. Because the TDS values generally exceed 3,000 mg/L in this area, groundwater is not likely to be considered suitable, or potentially suitable, for municipal or domestic supply according to the Water Quality Control Plan for the San Francisco Bay (Basin Plan), Section 4.25.2.1 State Water Board Policies for Groundwater Cleanup subsection Sources of Drinking Water Policy prepared by the SFBRWQCB (http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#amendments).

Groundwater monitoring wells APLMW-1 through APLMW-3 were installed to the east of the Former Building E-221 footprint as part of this area's investigation. Groundwater and top of casing elevations for these wells are presented below.

Well ID	Elevation top of casing (ft MSL(1))	Elevation top of casing (ft above Port of Oakland Datum (2))	Measured Depth to Groundwater (ft below top of casing)	Calculated groundwater Elevation (ft MSL(1)	Calculated groundwater elevation (above Port of Oakland Datum)
APL MW-1	13.32	10.12	8.00	5.32	2.12
APL MW-2	12.64	9.44	7.32	5.32	2.12
APL MW-3	12.52	9.32	7.32	5.20	2.00

ft = feet
MSL = mean sea level
1. North American vertical datum 1988 (NAVD 88)
2. Port of Oakland Datum is 3.20 feet below mean sea level.

5.3 ANALYTICAL RESULTS

Tables 3 and 4 summarize results for detected chemicals in soil and groundwater samples, respectively, and compare the analytical results to each analyte's associated ESLs (Cal/EPA SFRWQCB, 2013b).

The following sub-sections discuss analytical results for soil and groundwater samples collected from Case Areas 002, 004, 005, 009, and 010 and the Former Building E-221 Area as part of the post-construction investigation.

5.3.1 Case Area 002

To further characterize previously identified contamination at Case Area 002, four soil borings (APLB-1, APLB-2, APLB-3, and APLB-4) were drilled and sampled around the location of previously collected sample P1A-007-E5 (Figures 3A and 3B). The following provides an evaluation of soil and groundwater samples collected from the four borings with respect to ESLs.

5.3.1.1 Soil

Three soil samples were collected from each boring at depths ranging from 2 to 8.4 feet bgs. The soil samples were analyzed for VOCs and SVOCs using EPA Methods 8260B and 8270C, respectively. Comparison of analytical results to ESLs, indicates that concentrations of VOCs and SVOCs in soil samples from borings APLB-1 and APLB-2 did not exceed ESLs but that VOC and SVOC concentrations in soil samples collected from borings APLB-3 and APLB-4 exceeded ESLs as discussed below.

The following VOCs and SVOCs were detected at the indicated maximum concentrations in soil samples collected from Case Area 002:

- Boring APLB-3 (at 5 and 8 feet bgs), located approximately 8 feet south of sample P1A-007-E5:
  - 1,2,4-trichlorobenzene at 7,200,000 micrograms per kilogram (µg/kg) in APLB-3(5)
  - 1,2-dichlorobenzene at 62,000 µg/kg in APLB-3(5)
  - 1,3-dichlorobenzene at 240,000 µg/kg in APLB-3(8)
  - 1,4-dichlorobenzene at 650,000 µg/kg in APLB-3(8)
  - chlorobenzene at 97,000 µg/kg in APLB-3(8)
- Boring APLB-4 (at 7 feet bgs), located approximately 17 feet west of sample P1A-007-E5:
  - 1,2,4-trichlorobenzene at 120,000 µg/kg in APLB-4(7)
  - 1,3-dichlorobenzene at 98,000 µg/kg in APLB-4(7)
  - 1,4-dichlorobenzene at 130,000 µg/kg in APLB-4(7)
  - chlorobenzene at 100,000 µg/kg in APLB-4(7)

Based on results of this investigation, VOCs and SVOCs are present in soil at concentrations exceeding ESLs at borings APLB-3 and APLB-4 between depths of 5 and 8 feet bgs (just above the water table). The areal extent of VOC- and SVOC-impacted soil at Case Area 002 has been characterized to the north and east of sample P1A-007-E5 but not to the south and east.

5.3.1.2 Groundwater

Groundwater samples were collected from each temporary well installed in Case Area 002 borings. The groundwater samples were analyzed for VOCs and SVOCs using EPA Methods 8260B and 8270C, respectively. Comparison of analytical results to ESLs indicates that concentrations of SVOCs in groundwater samples from borings APLB-1, APLB-3, and APLB-4 did not exceed their respective ESLs and that at least one VOC was detected at a concentration greater than the ESL in groundwater samples collected from each boring.

VOCs were detected above their respective ESLs at the indicated maximum concentrations in groundwater samples collected from Case Area 002 as follows:

- Boring APLB-1, located 13 feet north of sample P1A-007-E5:
  - chlorobenzene at 1,200 µg/L in APLB-1(GW)
- Boring APLB-2, located 15 feet east of sample P1A-007-E5:
  - chlorobenzene at 200 µg/L in APLB-2(GW)
- Boring APLB-3, located 17 feet south of sample P1A-007-E5:
  - 1,2,4-trichlorobenzene at 490 µg/L in APLB-3(GW)
  - 1,4-dichlorobenzene at 1,000 µg/L in APLB-3(GW)
  - benzene at 280 µg/L in APLB-3(GW)
  - chlorobenzene at 15,000 µg/L in APLB-3(GW)
  - 1,2-dichlorobenzene at 34 µg/L in APLB-3(GW)
  - 1,3-dichlorobenzene at 300 µg/L in APLB-3(GW)
  - 1,4-dichlorobenzene at 970 µg/L in APLB-3(GW)
  - 2-chlorophenol at 35 µg/L in APLB-3(GW)
- Boring APLB-4, located 15 feet west of sample P1A-007-E5:
  - chlorobenzene at 1,700 µg/L in APLB-4(GW)

Figure 3B shows detected results for these analytes. Based on results of this investigation, the areal extent of VOC and SVOC-impacted groundwater at Case Area 002 has not been characterized. Sampling indicates that VOCs and SVOCs are present in groundwater at concentrations exceeding ESLs at all four borings locations.

5.3.2 Case Area 004

To further characterize previously identified contamination at Case Area 004, three soil borings (APLB-5, APLB-6, and APLB-7) were drilled and sampled around the location of previously collected sample P1A-004-N4 (Figures 4A and 4B). The following provides an evaluation of soil and groundwater samples collected from the three borings with respect to ESLs.

5.3.2.1 Soil

Three soil samples were collected from each boring at depths ranging from 2.5 to 6.5 feet bgs. The soil samples were analyzed for TPHd and TPHmo, VOCs, and SVOCs using EPA Methods 8015M, 8260B, and 8270C, respectively. Comparison of analytical results to ESLs; indicates that concentrations of VOCs and SVOCs did not exceed ESLs in samples collected soil samples collected from the Case Area 004 borings. TPHd and TPHmo were detected at the indicated maximum concentrations in soil samples collected from Case Area 004 as follows:

- Boring APLB-5 (at 6 feet bgs), located 16 feet north of sample P1A-004-N4:
  - TPHd at 2,700 milligrams per kilogram (mg/kg) in APLB-5(6)
- Boring APLB-6 (at 4.5 feet bgs), located 16 feet west of sample P1A-004-N4:
  - TPHd at 150 mg/kg in APLB-6(4.5)

Concentrations of TPHd and TPHmo did not exceed ESLs in boring APLB-7. Figure 4A shows detected results for these compounds.

Based on results of this investigation, SVOCs and VOCs have not significantly impacted soil at Case Area 004, but TPHd is present in soil at concentrations above screening levels. Sampling indicates that TPHd is present in soil at concentrations exceeding ESLs at borings APLB-5 and APLB-6 between depths of 2.5 and 6 feet bgs (just above the water table). The areal extent TPH-impacted soil at Case Area 004 has been characterized south of sample P1A-004-N4 but not to the north and west.

5.3.2.2 Groundwater

Groundwater samples were collected from borings APLB-5 through APLB-7 at Case Area 004. Samples from APLB-5 and APLB-6 were analyzed for TPHd and TPHmo using EPA Method 8015M, VOCs using EPA Method 8260B, and SVOCs using EPA Method 8270C. Because of poor soil permeability and consequent low volume of groundwater in boring APLB–7, there was only sufficient water to collect samples for VOC analysis using EPA Method 8260B from that boring.

VOC and SVOC concentrations did not exceed ESLs in groundwater samples collected from Case Area 004 borings. TPHd and TPHmo were detected at concentrations exceeding ESLs at the indicated maximum concentrations in borings APLB-5 and APLB-6:

- Boring APLB-5, located 16 feet north of sample P1A-004-N4:
  - TPHd at 7,600 µg/L in APLB-5(GW)
  - TPHmo at 2,100 µg/L in APLB-5(GW)

- Boring APLB-6, located 16 feet west of sample P1A-004-N4:
  - TPHd at 2,700 µg/L in APLB-6(GW)
  - TPHmo at 1,500 µg/L in APLB-6(GW)

Figure 4B shows detected results for these compounds. Based on results of this investigation, VOCs and SVOCs have not significantly impacted groundwater at Case Area 004. The areal extent of TPHd and TPHmo in groundwater to the north, west, and south of P1A-004-N4 has not been characterized with respect to ESLs.

5.3.3 Case Area 005

To further characterize previously identified contamination at Case Area 005, four soil borings (APLB-8, APLB-9, APLB-10, and APLB-11) were drilled and sampled around the location of previously collected sample P1A-005-E4 (Figures 5A and 5B). The following provides an evaluation of soil and groundwater samples collected from the four borings with respect to ESLs.

5.3.3.1 Soil

Three soil samples were collected from each boring at depths ranging from 2 to 8.5 feet bgs. The soil samples were analyzed for TPHd, TPHmo, TPHg, VOCs, and SVOCs using EPA Methods 8015M, 8260B, and 8270C, respectively. Comparison of analytical results to ESLs indicates that concentrations of TPHg, VOCs and SVOCs did not exceed ESLs in samples collected from APLB-9 and APLB-10. One SVOC and TPHd and TPHmo were detected at concentrations exceeding ESLs at the indicated maximum concentrations in soil samples collected from APLB-8 and APLB-11:

- Boring APLB-8 (at 5.5 feet bgs), located 18 feet north of sample P1A-005-E4:
  - phenanthene at 22,000 µg/kg in APLB-8(5.5)
  - TPHd at 31,000 mg/kg in APLB-8(5.5)
  - TPHmo at 830 mg/kg in APLB-8(5.5)
- Boring APLB-11 (at 2 feet bgs), located 14 feet west of sample P1A-005-E4:
  - TPHd at 170 mg/kg in APLB-11(2)
  - TPHmo at 930 mg/kg in APLB-11(2)

Figure 5A shows results for these compounds. Based on results of this investigation, the areal extent of TPH contamination in soil at Case Area 002 has been characterized to the north and east of sample P1A-007-E5 but not to the south and east and is present at depths between 2 and 5.5 feet bgs. The extent of phenanthrene above the ESL appears to be limited in extent.

5.3.3.2 Groundwater

Three groundwater samples were collected from each temporary well casing installed in Case Area 005 soil borings. The groundwater samples were analyzed for TPHd, TPHmo, and TPHg using EPA Method 8015M, and VOCs and SVOCs using EPA Methods 8260B and 8270C, respectively. Comparison of analytical results to ESLs indicates that concentrations of TPHmo, VOCs and SVOCs did not exceed their respective ESLs in samples collected from the four borings in Case Area 005.

TPHd and TPHg were detected in one groundwater sample at concentrations exceeding ESLs at the indicated maximum concentrations:

- Boring APLB-8, located 18 feet north of sample P1A-005-E4:
  - TPHd at 8,400 µg/L in APLB-8(GW)
  - TPHg at 9,100 µg/L in APLB-8(GW)

Figure 5B shows results for these compounds. Based on results of this investigation, VOCs and SVOCs are not present in groundwater at concentrations exceeding ESLs. TPHg and TPHd have been detected in groundwater at one sampling location (APLB-8) at concentrations exceeding ESLs. The areal extent of TPHd- and TPHg-impacted groundwater has been characterized to the south, west, and east of former sample P1A-005-E4 but not to the north.

5.3.4 Case Area 009

To further characterize previously identified contamination at Case Area 009, five soil borings (APLB-12, APLB-13, APLB-14, APLB-20, and APLB-21) were drilled and sampled around the former trench location (Figures 6A and 6B). The following provides an evaluation of soil and groundwater samples collected from the four borings with respect to ESLs.

5.3.4.1 Soil

Three soil samples were collected from each boring at depths ranging from 1.5 to 8.5 feet bgs. The soil samples were analyzed for TPHd and TPHmo using EPA Method 8015M, and for CAM 17 metals using EPA Method 6010. Comparison of analytical results to ESLs indicates that concentrations of TPHd and TPHmo did not exceed their respective ESLs in samples collected from one of the borings: APLB-21. TPHd, TPHmo, arsenic, and lead were detected at the indicated maximum concentrations in soil samples collected from the other four Case Area 009 borings:

- Boring APLB-12 (at 1.5 feet bgs), located 14 feet north of the former trench location:
  - TPHmo at 1,000 mg/kg in APLB-12(1.5)
  - arsenic at 4.4 mg/kg in APLB-12(1.5)

- Boring APLB-13 (at 2 and 4.5 feet bgs), located 18 feet south of the west side of the former trench location:
  - TPHd at 420 mg/kg in APLB-13(2)
  - TPHmo at 3,900 mg/kg in APLB-13(2)
  - arsenic at 4.6 mg/kg in APLB-13(4.5)
  - lead at 350 mg/kg in APLB-13(2)
- Boring APLB-14 (at 2 and 8.4 feet bgs), located 20 feet south of the east side of the former trench location:
  - TPHd at 390 mg/kg in APLB-14(8.4)
  - TPHmo at 850 mg/kg in APLB-14(8.4)
  - arsenic at 9.6 mg/kg in APLB-14(2)
  - lead at 360 mg/kg in APLB-14(4.5)
  - zinc at 660 mg/kg in APLB-14(8.4)
- Boring APLB-20 (at 1.5 and 4.5 feet bgs), located 25 feet south of the west side of the former trench location:
  - TPHd at 190 mg/kg in APLB-20(1.5)
  - TPHmo at 1,300 mg/kg in APLB-20(1.5)
  - arsenic at 6.2 mg/kg in APLB-20(4.5)
- Boring APLB-21 (at 2.5 and 4.5 feet bgs), located 10 feet east of the former trench location:
  - arsenic at 7.4 mg/kg in APLB-21(2.5)
  - lead at 470 mg/kg in APLB-21(4.5)

Figure 6A shows results for these compounds. Based on results of this investigation, soil at Case Area 009 has been impacted by TPH, arsenic, lead, and zinc, and the areal extent of impacted soil has not been fully characterized to the north, west, south, and east of the former trench location. Sampling indicates that TPHmo, and/or TPHd, arsenic, lead, and/or zinc are present in soil at concentrations exceeding ESLs at borings APLB-12, APLB-13, APLB-14, and APLB-20 between depths of 1.5 and 8.4 feet bgs (just above the water table).

5.3.4.2 Groundwater

Groundwater samples were collected from each temporary well installed in Case Area 009 borings. The groundwater samples were analyzed for TPHd and TPHmo using EPA Method 8015M, and CAM 17 metals using EPA Method 6010. Comparison of analytical results to ESLs indicates that metal concentrations did not exceed ESLs in samples collected from borings APLB-12, APLB-14, and APLB-20 and that concentrations of TPHd and TPHmo did not exceed ESLs in the sample collected from APLB-21.

Metals, TPHd and TPHmo were detected above ESLs at the indicated maximum concentrations in groundwater samples collected from Case Area 009:

- Boring APLB-12, located 14 feet north of the former trench location:
  - TPHd at 1,400 µg/L in APLB-12(GW)
  - TPHmo at 2,300 µg/L in APLB-12(GW)
- Boring APLB-13, located 18 feet south of the west side of the former trench location:
  - TPHd at 2,800 µg/L in APLB-13(GW)
  - TPHmo at 1,100 µg/L in APLB-13(GW)
  - selenium at 52 µg/L in APLB-13(GW)
- Boring APLB-14, located 20 feet south of the east side of the former trench location:
  - TPHd at 2,800 µg/L in APLB-14(GW)
  - TPHmo at 4,100 µg/L in APLB-14(GW)
- Boring APLB-20, located 25 feet south of the west side of the former trench location:
  - TPHd at 920 µg/L in APLB-20(GW)
  - TPHmo at 1,300 µg/L in APLB-20(GW)
- Boring APLB-21, located 10 feet east of the former trench location:
  - barium at 1,400 µg/L in APLB-21(GW)

Figure 6B shows results for these compounds. Based on results of this investigation, the areal extent of TPHd- and TPHmo-impacted groundwater at Case Area 009 has been characterized to the east of the former trench location but not to the north, west, and south. The areal extent of metals impacted groundwater at Case Area 009 has been characterized to the north, southeast, and west of the former trench location, but not to the southwest and east.

5.3.5 Case Area 010

To further characterize previously identified contamination at Case Area 010, five soil borings (APLB-15, APLB-16, APLB-17, APLB-18, and APLB-19) were drilled and sampled around the location of previously collected sample P1A-005-E4 (Figures 7A and 7B). The following provides an evaluation of soil and groundwater samples collected from the four borings with respect to ESLs.

5.3.5.1 Soil

Three soil samples were collected from each boring at depths ranging from 2 to 8.5 feet bgs. The soil samples were analyzed for total petroleum hydrocarbons TPHd, TPHmo, TPHg, VOCs, and SVOCs using EPA Methods 8015M, 8260B, and 8270C, respectively. Comparison of analytical results to ESLs; indicates that concentrations of TPHg, VOCs, and SVOCs did not

exceed ESLs in soil samples collected from five borings. TPHd and TPHmo were detected at the indicated maximum concentrations in soil samples collected from Case Area 010 as follows:

- Boring APLB-15 (at 4.5 feet bgs), located 17 feet north-east of the limits of the former trench location:
  - TPHd at 58,000 mg/kg in APLB-15(4.5)
  - TPHmo at 14,000 mg/kg in APLB-15(4.5)
- Boring APLB-19 (at 8.5 feet bgs), located 9 feet north-west of the limits of the former trench location:
  - TPHd at 530 mg/kg in APLB-19(8.5)
  - TPHmo at 1,600 mg/kg in APLB-19(8.5)

Figure 7A shows results for these analytes. Based on results of this investigation, TPHg, VOCs, and SVOCs are not present in soil at concentrations exceeding ESLs but TPHd and TPHmo are present in soil at concentrations exceeding ESLs at borings APLB-15 and APLB-19 between depths of 4.5 and 8.5 feet bgs (just above the water table). The areal extent TPH-impacted soil at Case Area 010 has been characterized to the south and east of the limits of the former trench location but not to the north and west.

5.3.5.2 Groundwater

Three samples were collected from each temporary well installed in Case Area 010 borings. The groundwater samples were analyzed for TPHd, TPHmo, and TPHg using EPA Method 8015M, and VOCs and SVOCs using 8260B and 8270C, respectively. Comparison of analytical results to ESLs; indicates that SVOCs were not detected in the groundwater samples collected from the five borings sampled and that VOC concentrations did not exceed ESLs in groundwater samples collected from borings APLB-15, APLB-16, APLB-17, and APLB-18. TPHd, TPHmo, TPHg, and one VOC were detected at concentrations exceeding ESLs at the indicated maximum concentrations:

- Boring APLB-15, located 17 feet north-east of the limits of the former trench location:
  - TPHd at 900 µg/L in APLB-15(GW)
  - Boring APLB-16, located 4 feet south-east of the limits of the former trench location:
  - TPHd at 2,000 µg/L in APLB-16(GW)
  - Boring APLB-17, located 8 feet south-east of the limits of the former trench location:
  - TPHd at 910 µg/L in APLB-17(GW)
- Boring APLB-18, located 9 feet south-west of the limits of the former trench location:

- TPHd at 1,100 µg/L in APLB-18(GW)
- TPHmo at 1,100 µg/L in APLB-18(GW)

- Boring APLB-19, located 9 feet north-west of the limits of the former trench location:
  - TPHd at 1,600 µg/L in APLB-19(GW)
  - TPHmo at1,100 µg/L in APLB-19(GW)
  - TPHg at 950 µg/L in APLB-19(GW)
  - chlorobenzene at 540 µg/L in APLB-19(GW)

Figure 7B shows results for these analytes. Based on results of this investigation, SVOCs have not impacted groundwater and there has been limited impact from VOCs. Groundwater contains TPHg, TPHmo, and TPHd above ESLs. The areal extent of TPHg in groundwater at Case Area 010 has been characterized to the north, south, and east of the limits of the former trench location, but not to the west. The areal extent of TPHmo in groundwater has been characterized to the north and east of the limits of the former trench location but not to the south and west. The areal extent of TPHd in groundwater has not been characterized.

Based on results of this investigation, the areal extent of VOCs in groundwater at Case Area 010 has been characterized to the north, south and east of the limits of the former trench location but not to the west.

5.3.6 Former Building E-221 Area

To further characterize previously identified contamination at Building E-221, three groundwater monitoring wells (APLMW-1, APLMW-2, and APLMW-3) were installed and sampled in the area around the former Building E-221 (Figures 8A and 8B). The following provides an evaluation of soil and groundwater samples collected from the three monitoring wells with respect to ESLs.

5.3.6.1 Soil

Two soil samples were collected from each monitoring well location during installation of the monitoring wells at depths ranging from 4 to 8.2 feet bgs. The soil samples were analyzed for TPHd, TPHmo, and TPHg using EPA Method 8015M; for BTEX and MTBE using EPA Method 8021B; and for PAHs using EPA Method 8270C-SIM. Comparison of analytical results to ESLs indicates that concentrations of TPHg, BTEX, and MTBE did not exceed ESL in any of the soil samples collected from the three well borings.

TPHd, TPHmo, and PAHs were detected at the indicated maximum concentrations in soil samples collected from the Former Building E-221 Area as follows:

- Monitoring well APLMW-1 (at 7.5 feet bgs), located 54 feet east of the northeast corner of the Former Building E-221 footprint:

    - TPHd at 300 mg/kg in APLMW-1 (7.5)
    - TPHmo at 520 mg/kg in APLMW-1 (7.5)
- Monitoring well APLMW-2 (at 4.5 feet bgs), located 12 feet east of the southeast corner of the former Building E-221 footprint:
    - TPHd at 380 mg/kg in APLB-2(4.5)
- Monitoring well APLMW-3 (at 4 and 7 feet bgs), located 52 feet east of the southeast corner of the former Building E-221 footprint:
    - benzo(b)fluoranthene at 2,600 µg/kg in APLMW-3(4)
    - benzo(a)pyrene at 2,600 µg/kg in APLMW-3(4)
    - indeno(1,2,3-cd)pyrene at 1,700 µg/kg in APLMW-3(4)
    - TPHd at 460 mg/kg in APLMW-3(7)
    - TPHmo at 1,400 mg/kg in APLMW-3(7)

Based on the results of this investigation, soil at the Former Building E-221 Area does not contain TPHg, BTEX, and MTBE at concentrations exceeding ESLs; but TPHd, TPHmo, and PAH concentrations in soil exceed ESLs. Results show that these compounds exceed ESLs in soil samples collected from wells APLMW-1, APLMW-2, and APLMW-3 between depths of 2 and 7.5 feet bgs (just above the water table). The areal extent of TPHd, TPHmo, and PAHs in soil on the east side of former Building E-221 has not been characterized.

5.3.6.2 Groundwater

Three groundwater samples were collected from each monitoring well installed in the Former Building E-221 Area. The groundwater samples were analyzed for TPHd, TPHmo, and TPHg using EPA Method 8015M; for BTEX and MTBE using EPA Method 8021B; and for PAHs using EPA Method 8270C-SIM. Comparison of analytical results to ESLs indicates that concentrations of TPHg, BTEX, MTBE, and PAHs did not exceed ESL in the groundwater samples collected from the well borings. TPHd and TPHmo were detected at concentrations above ESLs at the indicated maximum concentrations:

- Monitoring well APLMW-2, located 12 feet east of the southeast corner of the former Building E-221 footprint:
    - TPHd at 3,600 µg/L in APLMW-2(GW)
    - TPHmo at 1,800 µg/L in APLMW-2(GW)
- Monitoring well APLMW-3, located 52 feet east of the southeast corner of the former Building E-221 footprint:
    - TPHd at 2,700 µg/L in APLMW-3(GW)
    - TPHmo at 1,900 µg/L in APLMW-3(GW)

Based on results of this investigation, TPHg, BTEX, MTBE, and PAHs have not impacted groundwater at the Former Building E-221 Area. TPHd and TPHmo are present above their

ESLs in groundwater, but the extent of impacted groundwater has not been fully characterized on the east side of former Building E-221.

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

As part of the post-construction investigation program at the Former APL Terminal, 69 soil and 26 groundwater samples were collected for chemical analysis from 21 borings drilled within six case areas. Each case area was previously identified as having soil with concentrations of COPCs exceeding ESLs or were not adequately characterized.

Soils encountered during the investigation program primarily consisted of fill overlying Bay mud deposits. The fill was composed of material such as creosote-saturated wood and asphalt fragments that have potential to contribute to contaminants detected in soil or groundwater. The depth to groundwater at the Site was relatively shallow, occurring at depths ranging between approximately 5 and 8.5 feet bgs.

As indicated in the Interim Final User's Guide: Derivation and Application of Environmental Screening Levels (Cal/EPA, 2013a); "With certain limitations, risks to human health and the environment can be considered not to be of regulatory concern at sites where concentrations of chemicals of concern do not exceed the respective ESLs. The presence of chemicals at concentrations above the ESLs does not necessarily indicate that a significant risk exists at the site. It does generally indicate that additional evaluation of potential environmental concerns is warranted."

Review of analytical results for soil and groundwater samples collected as part of this investigation indicate that COPCs are present above ESLs in soil and/or groundwater in at least two of the borings sampled at each case area.

6.1 SUMMARY AND CONCLUSIONS

6.1.1 Case Area 002

VOCs were detected in soil at concentrations above ESLs in two (APLB-3 and APLB-4) of the four soil borings drilled at this case area. The ESLs for VOCs are based on protection of groundwater. Maximum concentrations of VOCs exceeded the associated ESLs by one order of magnitude. Detected concentrations of VOCs also exceeded screening levels based on ecotoxicity criteria and protection of human health.

VOCs in soil appear to have impacted the underlying groundwater. At least one VOC was detected in groundwater samples collected from each boring at a concentration exceeding the ESL. Sample APLB-3(GW) contained chlorobenzene at a concentration that was three orders of magnitude greater than the ESL. Groundwater ESLs for VOCs are based on the aquatic habitat goal. Chlorobenzene concentrations also exceeded groundwater ceiling values.

VOCs detected in soil and groundwater at concentrations exceeding ESLs in these borings suggest that additional evaluation of potential environmental concern in this area is warranted.

6.1.2 Case Area 004

TPHd was detected in soil at concentrations above the ESL in two (APLB-5 and APLB-6) of the three borings drilled at this case area. The maximum concentration of TPHd exceeded the associated ESL by one order of magnitude. The soil ESL for TPHd is based on the ceiling value. The maximum concentration of TPHd also exceeded the screening level for protection of human health.

TPHd and TPHmo were detected in groundwater at concentrations above the ESL in two (APLB-5 and APLB-6) of the three borings drilled at this case area. The maximum detected concentrations of both TPHd and TPHmo exceeded ESLs by one order of magnitude. The groundwater ESLs are based on the aquatic habitat goal. Detected concentrations of TPHd and TPHmo also exceeded the screening level for ceiling values.

Detections of TPHd in soil and TPHd and TPHmo in groundwater at concentrations exceeding ESLs in these borings suggest that additional evaluation of potential environmental concerns in this area is warranted.

6.1.3 Case Area 005

TPHd and TPHmo were detected in soil at concentrations exceeding ESLs in two (APLB-8 and APLB-11) of the four borings drilled at this case area. The maximum detected concentration of TPHd exceeded the ESL by two orders of magnitude. Soil ESLs for TPHd and TPHmo are based on ceiling values. The maximum detected concentration of TPHd also exceeded the screening level for protection of human health.

The SVOC, phenanthrene, was detected in soil at a concentration exceeding the associated ESL in APLB-8. The ESL for phenanthrene in this area is based on protection of groundwater quality. Phenanthrene concentrations also exceed the ceiling value screening level.

Groundwater sample results show that TPHg and TPHd concentrations in one boring (APLB-8) exceeded ESLs by one order of magnitude. Groundwater ESLs are based on the aquatic habitat goal screening level.

Detections of TPHd, TPHmo and phenanthrene in soil and TPHg and TPHd in groundwater at concentrations exceeding ESLs in these borings suggest that additional evaluation of potential environmental concerns in this area is warranted.

6.1.4 Case Area 009

TPHd was detected in soil at concentrations above the associated ESL in three (APLB-13, APLB-14 and APLB-20) of the five soil borings drilled at this case area. TPHmo was detected in soil at concentrations above the associated ESL in four (APLB-12, APLB-13, APLB-14, and

APLB-20) of the five soil borings drilled at this case area. The maximum detected concentration of TPHmo exceeded the associated ESL by one order of magnitude. The ESLs for TPHd and TPHmo are based on the ceiling value screening level.

Arsenic was detected in soil at concentrations above the associated ESL in all five borings drilled at this case area including APLB-21. Lead was detected in soil at concentrations above the associated ESL in three (APLB-13, APLB-14 and APLB-21) of the five borings drilled at this case area. Zinc was also detected in soil from boring APLB-14 at a concentration that exceeded the ESL. Soil ESLs for lead and zinc are based on ecotoxicity criteria and the soil ESL for arsenic is based on human health.

It is likely that concentrations of arsenic detected in Case Area 009 borings (ranging from 1.2 to 9.6 mg/kg) are from naturally occurring metals in soils since these concentrations fall within the range of background concentrations in California benchmark soils (0.6 to 11 mg/kg) (Kearny Foundation, 1996). Lead concentrations detected in borings APLB-13, APLB-14 and APLB-21 and zinc concentrations detected in borings APLB-14 and APLB-21 exceeded the maximum background concentration of these elements in California benchmark soils (lead 107.9 mg/kg and zinc 235 mg/kg) (Kearny Foundation, 1996) and therefore, may not be naturally occurring.

Groundwater sample results show that TPHd and TPHmo were detected at concentrations that exceeded ESLs in four (APLB-12, APLB-13, APLB-14 and APLB-20) of the five borings. TPHmo concentrations exceeded the ESL by an order of magnitude. Barium was detected in groundwater from APLB-21 and selenium was detected in groundwater from APLB-13 at concentrations that exceeded ESLs. Groundwater ESLs for TPHd, TPHmo, barium, and selenium are based on aquatic habitat goals.

Detections of TPHd, TPHmo, lead, and zinc in soil and TPHd, TPHmo, barium and selenium in groundwater at concentrations exceeding ESLs in these borings suggest that additional evaluation of potential environmental concerns in this area is warranted.

6.1.5 Case Area 010

TPHd and TPHmo were detected in soil at concentrations above ESLs in two (APLB-15 and APLB-19) of the five soil borings drilled at this case area. The maximum detected concentrations of TPHd and TPHmo exceeded ESLs by one and two orders of magnitude, respectively. Soil ESLs for TPHd and TPHmo are based on ceiling values. TPHd concentrations also exceeded screening levels for protection of human health.

Comparison of groundwater sample analytical results to ESLs shows that TPHd concentrations from all five borings, TPHmo concentrations from two borings (APLB-18 and APLB-19), and TPHg and chlorobenzene concentrations from one boring (APLB-19) exceeded the associated ESLs. Maximum concentrations of chlorobenzene, TPHmo, and TPHd,

exceeded ESLs by an order of magnitude. The ESLs for chlorobenzene, TPHg, TPHd, and TPHmo are based on aquatic habitat goals.

Detections of TPHd and TPHmo in soil and TPHd, TPHmo, TPHg and chlorobenzene in groundwater above their respective ESLs in these borings suggest that additional evaluation of potential environmental concerns in this area is warranted.

6.1.6 Former Building E-221

TPHd and TPHmo were detected in soil at concentrations above ESLs in the three well borings (APLMW-1, APLMW-2 and APLMW-3) drilled at this case area. The maximum detected concentration of TPHmo exceeded the ESL by one order of magnitude.

PAHs were detected in soil at concentrations above the associated ESLs in one of the well borings (APLMW-3) drilled in this case area. Benzo(a)pyrene exceeded the associated ESL by one order of magnitude. Soil ESLs for TPHd and TPHmo are based on ceiling values. Soil ESLs for PAHs are based on protection of human health.

Analytical results for groundwater samples collected from the monitoring wells installed in this area show that TPHd and TPHmo concentrations in two of the wells exceeded ESLs. Maximum concentrations of TPHd and TPHmo exceeded ESLs by an order of magnitude. The ESLs for TPHd and TPHmo are based on aquatic habitat goals.

Detections of TPHd and TPHmo in soil and groundwater at concentrations exceeding ESLs in these wells suggest that additional evaluation of potential environmental concerns in this area is warranted.

It should be noted that the Site is currently paved and groundwater is not currently used for drinking water; which limits potential exposure to human receptors. However, the levels of COPCs present in site soil and groundwater would likely not be acceptable if the current land use were to change in the future. Further characterization of the extent of COPCs in soil and groundwater is necessary to assess potential impacts to the environment and human health and to make risk management or remedial decisions regarding the site.

6.2 RECOMMENDATIONS

It is recommended that a Work Plan be prepared that would describe a second phase of soil and groundwater investigation to characterize the extent of contaminants in soil and groundwater at case areas with analytical results that suggest additional evaluation is warranted. Amec Foster Wheeler recommends utilizing a “step-out” investigation and sampling approach using an on-site mobile laboratory. Step-out boring locations would be identified in the Work Plan and would include areas around previous boring locations with ESL exceedances. Soil and groundwater samples collected from these borings would be analyzed for COPCs that previously exceeded ESLs. The on-site mobile laboratory will allow for field

decisions regarding additional sampling locations based on real-time analysis of samples and preclude the need for multiple phases of investigation and the associated planning, mobilization, and reporting.

Prior to sampling, potential step-out boring areas would be permitted and cleared using a geophysical locator. Soil and groundwater samples would be collected from the step-out borings and analyzed on site. Based on the results, a decision would be made to drill and sample additional step-out borings until sample results characterize the extent of COPC concentrations in soil and groundwater.

After completion of the investigation, the extent and magnitude of COPC-impacted soil could be estimated and risks to the environment and human health from COPCs calculated. On the basis of that evaluation, management or remedial decisions can be identified and evaluated.

7.0 REFERENCES

Alameda County Environmental Health (ACEH), 2014. ACEH SCP Case File RO470, Port of Oakland / APL / Berths 60-63, 1395 Middle Harbor Road, Oakland. Letter from Keith Nowell of ACEH to John Prall, Port of Oakland. June 4.

Alameda County Environmental Health (ACEH), 2015. Modified Work Plan Approval for Site Cleanup Program Case No. RO0000470 and GeoTracker Global ID T0600101969.

AMEC Environment & Infrastructure, Inc., 2014. Post-Construction Work Plan, Former APL Terminal, Port of Oakland, Oakland, California. November 7.

Amec Foster Wheeler Environment & Infrastructure, Inc., 2015. Addendum to Post-Construction Work Plan, Former APL Terminal, Port of Oakland, Oakland, California. April 23.

AMEC Geomatrix. Inc. (AMEC), 2009. Revised Site Management Plan, Former Union Pacific Roundhouse Area, 1407 Middle Harbor Drive, Oakland, California. January 9.

Baseline Environmental Consulting, 2013. Post-Construction Closure Report, Former APL Terminal, Berths 60 to 63, 1395 Middle Harbor Road, Port of Oakland, Oakland, CA. August.

California Environmental Protection Agency (Cal/EPA), 2013a. Interim Final User's Guide: Derivation and Application of Environmental Screening Levels. December.

California Environmental Protection Agency (Cal/EPA), 2013b. San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Regional Water Quality Control Board) 2013. Environmental Screening Levels, Interim Final. December.

California Regional Water Quality Control Board San Francisco Bay Region, *Water Quality Control Plan for the San Francisco Bay (Basin Plan)*. March 20, 2015.

EPA, 2009. USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, EPA-540-R-08-005, January.

EPA, 2010. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, EPA-540-R-10-011. January.

ETIC Engineering, Inc., 2005. Construction Worker Risk Assessment, Berths 60-63 Yard and Gate Redevelopment Project Area, Port of Oakland. March 21.

ETIC, 2006. Revised Soil Management and Contingency Plan APL Terminal Redevelopment Project, Port of Oakland, Oakland, California. August 30.

ETIC, 2007. Revised Evaluation of ESL Exceedances, American President Lines Terminal, Berths 60-63 Yard and Gate Redevelopment Project, Oakland, California. March 19.

GAIA Consulting, Inc., 2003. Subsurface Site Investigation Report, American President Lines Terminal. April.

IRIS/CAMBRIA, 2002. Planning Scale Environmental Site Assessment, American President Lines Terminal, Port of Oakland. June 10.

Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California (Kearney), 1996. Background Concentrations of Trace and Major Elements in California Soils. March.

Treadwell and Rollo, 2005. Redevelopment Planning Report, Environmental Subsurface Assessment, Berths 60-63 Yard and Gate Redevelopment Project. March 30.

U.S. Environmental Protection Agency (EPA), 2008. USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA-540-R-08-01. June.

amec
foster
wheeler

TABLES

TABLE 1

SAMPLING AND ANALYTICAL SUMMARY
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Test Method	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (include napthalene)(8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	CAM 17 Metals (6000-7000 Series)	Lead (EPA 6010) and WET	Lead (EPA 6010) and TCLP (EPA 3010A)	Comments
								Soil Containers	3 terracore samplers	3 terracore samplers	One jar or liner							
								Aqueous Containers	3 x 40 mL VOA	3 x 40 mL VOA	2 x 1 L Amber	2 x 1 L Amber	1 x 1 L Amber	3 x 40 mL VOA	500 mL Poly	NA	Na	
002	APLB-1	soil	APLB-1(2)	2	Primary	5/1/2015	266525-010		X		X							
		soil	APLB-1(4.5)	4.5	Primary	5/1/2015	266525-011		X		X							
		soil	APLB-1(8.4)	8.4	Primary	5/1/2015	266525-012		X		X							
		water	APLB-1(GW)	NA	Primary	5/1/2015	266525-027		X		X							
	APLB-2	soil	APLB-2(2)	2	Primary	5/1/2015	266525-019		X		X							
		soil	APLB-2(5)	5	Primary	5/1/2015	266525-020		X		X							
		soil	APLB-2(8)	8	Primary	5/1/2015	266525-021		X		X							
		water	APLB-2(GW)	NA	Primary	5/1/2015	266525-030		X		X							
	APLB-3	soil	APLB-3(2)	2	Primary	5/1/2015	266525-016		X		X							
		soil	APLB-3(5)	5	Primary	5/1/2015	266525-017		X		X							
		soil	APLB-3(8)	8	Primary	5/1/2015	266525-018		X		X							
		water	APLB-3(GW)	NA	Primary	5/1/2015	266525-029		X		X							
	APLB-4	soil	APLB-4(2)	2	Primary	5/1/2015	266525-013		X		X							
		soil	APLB-4(4.5)	4.5	Primary	5/1/2015	266525-014		X		X							
		soil	APLB-4(7)	7	Primary	5/1/2015	266525-015		X		X							
		water	APLB-4(GW)	NA	Primary	5/1/2015	266525-028		X		X							
004	APLB-5	soil	APLB-5(2.5)	2.5	Primary	4/27/2015	266374-013		X		X		X					
		soil	APLB-5(4.5)	4.5	Primary	4/27/2015	266374-014		X		X		X					
		soil	APLB-5(6)	6	Primary	4/27/2015	266374-015		X		X		X					
		water	APLB-5(GW)	NA	Primary	4/27/2015	266374-001		X		X		X					
	APLB-6	soil	APLB-6(2.5)	2.5	Primary	4/27/2015	266374-016		X		X		X					
		soil	APLB-6(4.5)	4.5	Primary	4/27/2015	266374-017		X		X		X					
		soil	APLB-6(5.5)	5.5	Primary	4/27/2015	266374-018		X		X		X					
		water	APLB-6(GW)	NA	Primary	4/27/2015	266374-002		X		X		X					
	APLB-7	soil	APLB-7(2)	2	Primary	4/27/2015	266374-019		X		X		X					
		soil	APLB-7(4.5)	4.5	Primary	4/27/2015	266374-020		X		X		X					
		soil	APLB-7(6.5)	6.5	Primary	4/27/2015	266374-021		X		X		X					
		water	APLB-7(GW)	NA	Primary	4/28/2015	266392-001		X									Insufficient water in temporary well casing for 8270/8015 analyses.
005	APLB-8	soil	APLB-8(2)	2	Primary	4/27/2015	266374-009		X		X		X	X				
		soil	APLB-8(4.5)	4.5	Primary	4/27/2015	266374-010		X		X		X	X				
		soil	APLB-8(5.5)	5.5	Primary	4/27/2015	266374-011		X		X		X	X				
		water	APLB-8(GW)	NA	Primary	4/27/2015	266374-012		X		X		X	X				
	APLB-9	soil	APLB-9(2)	2	Primary	4/27/2015	266374-022		X		X		X	X				
		soil	APLB-9(4.5)	4.5	Primary	4/27/2015	266374-003		X		X		X	X				
		soil	APLB-9(8)	8	Primary	4/27/2015	266374-004		X		X		X	X				
		water	APLB-9(GW)	NA	Primary	4/28/2015	266392-002		X				X	X				Insufficient water for 8270 analysis.

TABLE 1

SAMPLING AND ANALYTICAL SUMMARY
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Test Method	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (include napthalene)(8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	CAM 17 Metals (6000-7000 Series)	Lead (EPA 6010) and WET	Lead (EPA 6010) and TCLP (EPA 3010A)	Comments
								Soil Containers	3 terracore samplers	3 terracore samplers	One jar or liner							
								Aqueous Containers	3 x 40 mL VOA	3 x 40 mL VOA	2 x 1 L Amber	2 x 1 L Amber	1 x 1 L Amber	3 x 40 mL VOA	500 mL Poly	NA	Na	
005	APLB-10	soil	APLB-10(2)	2	Primary	4/27/2015	266374-005		X		X		X	X				
		soil	APLB-10(4.5)	4.5	Primary	4/27/2015	266374-006		X		X		X	X				
		soil	APLB-10(8.5)	8.5	Primary	4/27/2015	266374-007		X		X		X	X				
		water	TB42815	NA	QC	4/28/2015	266392-007		X					X				Trip blank (4/27-4/28 samples)
		water	APLB-10(GW)	NA	Primary	4/27/2015	266374-008		X		X		X	X				
	APLB-11	soil	APLB-11(2)	2	Primary	4/30/2015	266511-011		X		X		X	X				
		soil	APLB-11(4.3)	4.3	Primary	4/30/2015	266511-012		X		X		X	X				
		soil	APLB-11(5)	5	Primary	4/30/2015	266511-013		X		X		X	X				
		water	RB43015	NA	QC	4/30/2015	266511-001		X		X		X	X				Rinsate blank
		water	TB4/30/15	NA	QC	4/30/2015	266511-004		X					X				TB for 4/30/15
		water	APLB-11(GW)	NA	Primary	4/30/2015	266511-002		X		X		X	X				
		water	APLB-11(GW)	NA	Duplicate	4/30/2015	266511-003		X		X		X	X				
009	APLB-12	soil	APLB-12(1.5)	1.5	Primary	4/30/2015	266511-029						X		X			
		soil	APLB-12(4.5)	4.5	Primary	4/30/2015	266511-030						X		X			
		soil	APLB-12(7.8)	7.8	Primary	4/30/2015	266511-031						X		X			
		water	APLB-12(GW)	NA	Primary	4/30/2015	266511-010						X		X			
	APLB-13	soil	APLB-13(2)	2	Primary	5/1/2015	266525-004						X		X			
		soil	APLB-13(4.5)	4.5	Primary	5/1/2015	266525-005						X		X			
		soil	APLB-13(8)	8	Primary	5/1/2015	266525-006						X		X			
		water	APLB-13(GW)	NA	Primary	5/1/2015	266525-023						X		X			
	APLB-14	soil	APLB-14(2)	2	Primary	5/1/2015	266525-001						X		X			
		soil	APLB-14(4.5)	4.5	Primary	5/1/2015	266525-002						X		X			
		soil	APLB-14(8.4)	8.4	Primary	5/1/2015	266525-003						X		X			
		water	APLB-14(GW)	NA	Primary	5/1/2015	266525-022						X		X			
	APLB-20	soil	APLB-20(1.5)	1.5	Primary	5/1/2015	266525-007						X		X			
		soil	APLB-20(4.5)	4.5	Primary	5/1/2015	266525-008						X		X			
		soil	APLB-20(8.5)	8.5	Primary	5/1/2015	266525-009						X		X			
		water	APLB-20(GW)	NA	Primary	5/1/2015	266525-024						X		X			
		water	RB5-1-15	NA	QC	5/1/2015	266525-026		X		X		X					Rinsate blank 5/1/15
		water	TB5-1-15	NA	QC	5/1/2015	266525-025		X									Trip blank 5/1/15
	APLB-21	soil	APLB-21(2.5)	2.5	Primary	4/28/2015	266392-004						X		X			
		soil	APLB-21(4.5)	4.5	Primary	4/28/2015	266392-005						X		X			
		soil	APLB-21(8.5)	8.5	Primary	4/28/2015	266392-006						X		X			
		water	APLB-21(GW)	NA	Primary	4/28/2015	266392-003						X		X			

TABLE 1

SAMPLING AND ANALYTICAL SUMMARY
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Test Method	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (include napthalene)(8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	CAM 17 Metals (6000-7000 Series)	Lead (EPA 6010) and WET	Lead (EPA 6010) and TCLP (EPA 3010A)	Comments
								Soil Containers	3 terracore samplers	3 terracore samplers	One jar or liner							
								Aqueous Containers	3 x 40 mL VOA	3 x 40 mL VOA	2 x 1 L Amber	2 x 1 L Amber	1 x 1 L Amber	3 x 40 mL VOA	500 mL Poly	NA	Na	
010	APLB-15	soil	APLB-15(2.5)	2.5	Primary	4/30/2015	266511-014		X		X		X	X				
		soil	APLB-15(4.5)	4.5	Primary	4/30/2015	266511-015		X		X		X	X				
		soil	APLB-15(8)	8	Primary	4/30/2015	266511-016		X		X		X	X				
		water	APLB-15(GW)	NA	Primary	4/30/2015	266511-005		X		X		X	X				
	APLB-16	soil	APLB-16(2.5)	2.5	Primary	4/30/2015	266511-017		X		X		X	X				
		soil	APLB-16(4.5)	4.5	Primary	4/30/2015	266511-018		X		X		X	X				
		soil	APLB-16(7.6)	7.6	Primary	4/30/2015	266511-019		X		X		X	X				
		water	APLB-16(GW)	NA	Primary	4/30/2015	266511-006		X		X		X	X				
	APLB-17	soil	APLB-17(2)	2	Primary	4/30/2015	266511-020		X		X		X	X				
		soil	APLB-17(5)	5	Primary	4/30/2015	266511-021		X		X		X	X				
		soil	APLB-17(6.5)	6.5	Primary	4/30/2015	266511-022		X		X		X	X				
		water	APLB-17(GW)	NA	Primary	4/30/2015	266511-007		X		X		X	X				
	APLB-18	soil	APLB-18(2)	2	Primary	4/30/2015	266511-026		X		X		X	X				
		soil	APLB-18(4.5)	4.5	Primary	4/30/2015	266511-027		X		X		X	X				
		soil	APLB-18(7.5)	7.5	Primary	4/30/2015	266511-028		X		X		X	X				
		water	APLB-18(GW)	NA	Primary	4/30/2015	266511-009		X		X		X	X				
	APLB-19	soil	APLB-19(2)	2	Primary	4/30/2015	266511-023		X		X		X	X				
		soil	APLB-19(4.5)	4.5	Primary	4/30/2015	266511-024		X		X		X	X				
		soil	APLB-19(8.5)	8.5	Primary	4/30/2015	266511-025		X		X		X	X				
		water	APLB-19(GW)	NA	Primary	4/30/2015	266511-008		X		X		X	X				
Former Building E-221	APLMW-1	soil	APLMW-1(4)	4	Primary	5/14/2015	266803-001			X		X	X	X				
		soil	APLMW-1(7.5)	7.5	Primary	5/14/2015	266803-002			X		X	X	X				
		water	APLMW-1(GW)	NA	Primary	5/23/2015	267026-001			X		X	X	X				
	APLMW-2	soil	APLMW-2(4.5)	4.5	Primary	5/15/2015	266820-001			X		X	X	X				
		soil	APLMW-2(8.2)	8.2	Primary	5/15/2015	266820-002			X		X	X	X				
		water	APLMW-2(GW)	NA	Primary	5/23/2015	267026-002			X		X	X	X				
		water	DUP052315	NA	Duplicate	5/23/2015	267026-003			X		X	X	X				
		water	TB052315	NA	QC	5/23/2015	267026-004		X					X				
	APLMW-3	soil	APLMW-3(4)	4	Primary	5/14/2015	266803-003			X		X	X	X				
		soil	APLMW-3(7)	7	Primary	5/14/2015	266803-004			X		X	X	X				
		water	APLMW-3(GW)	NA	Primary	5/23/2015	267026-005			X		X	X	X				
IDW Soil -Case Area Borings		soil	APLB-DRUM	NA	Primary	6/19/2015	267609-001									X	X	4-point composite from drum
IDW water		water	RW052315	NA	Primary	5/23/2015	267026-006		X		X		X	X	X			Decontamination rinsate and purge water

[a] The sample depth is entered in parentheses at the end of the sample number. Date will correspond to the date the sample was collected.

Abbreviations

BTEX = collective term for benzene, toluene, ethylbenzene, and xylenes
GW = groundwater
IDW = Investigation derived waste
L = liter
mL = milliliter
PAHs = polynuclear aromatic hydrocarbons
QC = quality control
SVOCs = semivolatile organic carbons
TPHd = total petroleum hydrocarbons quantified as diesel
TPHg = TPH quantified as gasoline
TPHmo = TPH quantified as motor oil
VOA = volatile organic analysis
VOCs = volatile organic compounds

TABLE 2

GROUNDWATER MONITORING PARAMETERS

Former APL Terminal, Port of Oakland
Oakland, California

Sample Location	pH	Conductivity (µmhos/cm)	TDS (ppm)[1]	Temp (°C)	Turbidity (NTU)	Comments
APLB-1	7.95	2,042	1368	21.2	638	Dark gray, silty, strong gas odor.
APLB-2	7.05	7,567	5070	22.2	187	Medium gray, silty.
APLB-3	7.14	7,742	5187	21.5	620	Medium gray, silty, strong odor.
APLB-4	7.53	2,942	1971	21.6	198	Medium gray, silty.
APLB-5	7.01	4,925	3300	20.9	>1000	Dark gray, silty.
APLB-6	7.03	3,254	2180	19.8	28.3	Dark gray, silty.
APLB-7	--	--		--	--	No parameters taken.
APLB-8	6.52	4,321	2895	20.7	9.03	Sheen.
APLB-9	--	--		--	--	No parameters taken.
APLB-10	6.84	17,937	12018	20.0	3.14	No parameters taken.
APLB-11	6.37	4,325	2898	20.8	5.44	Medium silty gray, bay mud sulphur odor.
APLB-12	6.62	14,515	9725	23.8	21.4	Medium gray, silty.
APLB-13	6.97	15,201	10185	20.2	28.6	Medium gray, silty.
APLB-14	7.15	9,801	6567	20.4	7.92	Medium gray, silty.
APLB-15	6.68	17,782	11914	20.5	>1000	Medium gray, silty
APLB-16	6.64	3,520	2358	22.6	211	Dark gray, silty, bay mud sulphur odor.
APLB-17	6.67	4,465	2992	23.1	278	Light gray.
APLB-18	6.74	7,347	4922	22.4	>1000	Dark gray, silty, sulphur odor.
APLB-19	7.29	3,490	2338	22.3	206	Medium silty gray, strong gas odor with sheen.
APLB-20	7.08	12,534	8398	20.8	9.47	Dark gray, silty, bay mud sulphur odor.
APLB-21	6.72	11,765	7883	20.7	532	Dark gray, silty.
APLMW-1	7.33	4,342	2909	22.25	19.3	Greenish gray, initially silty.
APLMW-2	6.71	9,392	6293	20.03	1.76	Clear.
APLMW-3	6.67	6,591	4416	20.56	2.65	Clear.

TABLE 2

GROUNDWATER MONITORING PARAMETERS
Former APL Terminal, Port of Oakland
Oakland, California

Note

1. TDS is calculated based on conversion factor of 0.67 (http://www.stevenswater.com/water_quality_sensors/conductivity_info.html).

Abbreviations

µmhos/cm = micromhos per centimeter
ppm = parts per million
NTU = nephelometric turbidity units

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Total Petroleum Hydrocarbons mg/kg			BTEX and MTBE (8021B) ug/kg						PAHs (8270C-SIM) ug/kg												PAHs (8270C-SIM) ug/kg			
							TPHd (8015M)	TPHmo (8015M)	TPHg (8015M)	MTBE	Benzene	Toluene	Ethylbenzene	m,pXylenes	o-Xylene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzeo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**110**	**500**	**500**	**--**	**1,200**	**9,300**	**4,700**	**11,000 (Total)**		**4,800**	**13,000**	**19,000**	**8,900**	**11,000**	**2,800**	**40,000**	**85,000**	**1,300**	**13,000**	**1,300**	**1,300**	**130**	**1,300**	**380**	**27,000**
002	APLB-1	APLB-1(2)	2	Primary	5/1/2015	266525-010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-1(4.5)	4.5	Primary	5/1/2015	266525-011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-1(8.4)	8.4	Primary	5/1/2015	266525-012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-2	APLB-2(2)	2	Primary	5/1/2015	266525-019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-2(5)	5	Primary	5/1/2015	266525-020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-2(8)	8	Primary	5/1/2015	266525-021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-3	APLB-3(2)	2	Primary	5/1/2015	266525-016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-3(5)	5	Primary	5/1/2015	266525-017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-3(8)	8	Primary	5/1/2015	266525-018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-4	APLB-4(2)	2	Primary	5/1/2015	266525-013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-4(4.5)	4.5	Primary	5/1/2015	266525-014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-4(7)	7	Primary	5/1/2015	266525-015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
004	APLB-5	APLB-5(2.5)	2.5	Primary	4/27/2015	266374-013	**60**	**240**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-5(4.5)	4.5	Primary	4/27/2015	266374-014	**96**	**65**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-5(6)	6	Primary	4/27/2015	266374-015	**2,700**	<110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-6	APLB-6(2.5)	2.5	Primary	4/27/2015	266374-016	**140**	**460**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-6(4.5)	4.5	Primary	4/27/2015	266374-017	**150**	**63**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-6(5.5)	5.5	Primary	4/27/2015	266374-018	**130**	**64**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-7	APLB-7(2)	2	Primary	4/27/2015	266374-019	**16**	**280**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-7(4.5)	4.5	Primary	4/27/2015	266374-020	**33**	**160**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-7(6.5)	6.5	Primary	4/27/2015	266374-021	**4.6**	**14**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
005	APLB-8	APLB-8(2)	2	Primary	4/27/2015	266374-009	**48**	**230**	<0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-8(4.5)	4.5	Primary	4/27/2015	266374-010	**38**	**220**	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-8(5.5)	5.5	Primary	4/27/2015	266374-011	**31,000**	**830**	**430**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-9	APLB-9(2)	2	Primary	4/27/2015	266374-022	**6.8**	**130**	<0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-9(4.5)	4.5	Primary	4/27/2015	266374-003	**18**	**140**	<0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-9(8)	8	Primary	4/27/2015	266374-004	<1.2	<6.0	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-10	APLB-10(2)	2	Primary	4/27/2015	266374-005	**50**	**410**	<0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-10(4.5)	4.5	Primary	4/27/2015	266374-006	**65**	**280**	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-10(8.5)	8.5	Primary	4/27/2015	266374-007	**4.1**	<5.9	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-11	APLB-11(2)	2	Primary	4/30/2015	266511-011	**170**	**930**	<0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-11(4.3)	4.3	Primary	4/30/2015	266511-012	**1.9**	**12**	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-11(5)	5	Primary	4/30/2015	266511-013	**4.6**	**6.3**	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
009	APLB-12	APLB-12(1.5)	1.5	Primary	4/30/2015	266511-029	**54**	**1,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-12(4.5)	4.5	Primary	4/30/2015	266511-030	**61**	**56**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-12(7.8)	7.8	Primary	4/30/2015	266511-031	<1.1	<5.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-13	APLB-13(2)	2	Primary	5/1/2015	266525-004	**420**	**3,900**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-13(4.5)	4.5	Primary	5/1/2015	266525-005	**84**	**390**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-13(8)	8	Primary	5/1/2015	266525-006	<1.1	<5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-14	APLB-14(2)	2	Primary	5/1/2015	266525-001	**26**	**260**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-14(4.5)	4.5	Primary	5/1/2015	266525-002	**140**	**500**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-14(8.4)	8.4	Primary	5/1/2015	266525-003	**390**	**850**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-20	APLB-20(1.5)	1.5	Primary	5/1/2015	266525-007	**190**	**1,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-20(4.5)	4.5	Primary	5/1/2015	266525-008	<1.1	**6.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-20(8.5)	8.5	Primary	5/1/2015	266525-009	<1.1	<5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-21	APLB-21(2.5)	2.5	Primary	4/28/2015	266392-004	**2.6**	**13**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-21(4.5)	4.5	Primary	4/28/2015	266392-005	**60**	**320**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-21(8.5)	8.5	Primary	4/28/2015	266392-006	**2.9**	**10**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Total Petroleum Hydrocarbons mg/kg			BTEX and MTBE (8021B) ug/kg						PAHs (8270C-SIM) ug/kg											PAHs (8270C-SIM) ug/kg			
							TPHd (8015M)	TPHmo (8015M)	TPHg (8015M)	MTBE	Benzene	Toluene	Ethylbenzene	m,pXylenes	o-Xylene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzeo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**110**	**500**	**500**	**--**	**1,200**	**9,300**	**4,700**	**11,000 (Total)**		**4,800**	**13,000**	**19,000**	**8,900**	**11,000**	**2,800**	**40,000**	**85,000**	**1,300**	**13,000**	**1,300**	**1,300**	**130**	**1,300**	**380**	**27,000**
010	APLB-15	APLB-15(2.5)	2.5	Primary	4/30/2015	266511-014	**50**	**210**	<0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-15(4.5)	4.5	Primary	4/30/2015	266511-015	**5,800**	**14,000**	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-15(8)	8	Primary	4/30/2015	266511-016	**12**	**200**	<0.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-16	APLB-16(2.5)	2.5	Primary	4/30/2015	266511-017	**27**	**160**	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-16(4.5)	4.5	Primary	4/30/2015	266511-018	**1.1**	**6.5**	<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-16(7.6)	7.6	Primary	4/30/2015	266511-019	**9.9**	**55**	<0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-17	APLB-17(2)	2	Primary	4/30/2015	266511-020	**1.5**	**14**	<0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-17(5)	5	Primary	4/30/2015	266511-021	**25**	**140**	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-17(6.5)	6.5	Primary	4/30/2015	266511-022	**24**	**100**	<0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-18	APLB-18(2)	2	Primary	4/30/2015	266511-026	**7.6**	**45**	<0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-18(4.5)	4.5	Primary	4/30/2015	266511-027	**13**	**270**	<0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-18(7.5)	7.5	Primary	4/30/2015	266511-028	<1.1	<5.7	<0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-19	APLB-19(2)	2	Primary	4/30/2015	266511-023	<1.1	<5.5	<0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-19(4.5)	4.5	Primary	4/30/2015	266511-024	<1.0	<5.2	<0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-19(8.5)	8.5	Primary	4/30/2015	266511-025	**530**	**1,600**	<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-1	APLMW-1(4)	4	Primary	5/14/2015	266803-001	**9.6**	**65**	<0.21	<4.2	<1.1	<1.1	<1.1	<1.1	<1.1	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3
		APLMW-1(7.5)	7.5	Primary	5/14/2015	266803-002	**300**	**520**	**140**	<250	<61	**160**	<61	<61	<61	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	**7.1**	**13**	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5
Former Building E-221	APLMW-2	APLMW-2(4.5)	4.5	Primary	5/15/2015	266820-001	**380**	**220**	**1.5**	<3.9	<0.97	<0.97	<0.97	<0.97	**1.3**	**11**	**17**	<5.2	**28**	**78**	<5.2	**26**	**52**	**13**	**26**	**39**	**11**	**34**	**22**	<5.2	**31**
		APLMW-2(8.2)	8.2	Primary	5/15/2015	266820-002	**3.2**	**8.4**	<0.21	<4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	6.2
	APLMW-3	APLMW-3(4)	4	Primary	5/14/2015	266803-003	**150**	**900**	<0.23	<4.7	<1.2	<1.2	<1.2	<1.2	<1.2	<550	**720**	<550	<550	**710**	<550	**2,100**	**3,400**	**910**	**1,300**	**2,600**	**650**	**2,600**	**1,700**	<550	**2,400**
		APLMW-3(7)	7	Primary	5/14/2015	266803-004	**460**	**1,400**	**1.6**	**7.8**	**4.5**	**16**	**2.5**	**3.6**	**4.1**	**15**	**7.3**	<6.5	<6.5	**18**	**7.8**	**53**	**80**	**28**	**41**	**66**	<33	**51**	**35**	**7.0**	**51**
IDW	Soil from Case Area Borings	APLB-DRUM	NA	Primary	6/19/2015	267609-001	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Volatile Organic Compounds (8260B) µg/kg										Semi-volatile Organic Compounds µg/kg									
							1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Butanone	Acetone	Chlorobenzene	n-Butylbenzene	sec-Butylbenzene	Toluene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Methylnaphthalene	Acenaphthene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**--**	**7,600**	**1,600**	**7,400**	**1,800**	**13,000**	**500**	**1,500**	**--**	**--**	**9,300**	**7,600**	**7,400**	**1,800**	**250**	**19,000**	**12,000**	**130.00**	**1,300**	**27,000**	**13,000**
002	APLB-1	APLB-1(2)	2	Primary	5/1/2015	266525-010	<5.1	<5.1	<5.1	<5.1	<5.1	<10	<20	<5.1	<5.1	<5.1	<5.1	<36,000	<36,000	<36,000	<7,200	<7,200	<7,200	<7,200	<7,200	<7,200	<7,200
		APLB-1(4.5)	4.5	Primary	5/1/2015	266525-011	<5.3	<5.3	<5.3	<5.3	<5.3	<11	<21	<5.3	<5.3	<5.3	<5.3	<36,000	<36,000	<36,000	<7,100	<7,100	<7,100	<7,100	<7,100	<7,100	<7,100
		APLB-1(8.4)	8.4	Primary	5/1/2015	266525-012	<4.4	<4.4	<4.4	<4.4	<4.4	<8.7	**37**	<4.4	<4.4	<4.4	<4.4	<410	<410	<410	<82	<82	<82	<82	<82	<82	<82
	APLB-2	APLB-2(2)	2	Primary	5/1/2015	266525-019	<250	**430**	<250	<250	<250	<490	<980	<250	<250	<250	<250	<6,000	<6,000	<6,000	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200
		APLB-2(5)	5	Primary	5/1/2015	266525-020	<4.7	**77**	**15**	**920**	**59**	<9.4	<19	**160**	<4.7	<4.7	<4.7	**360**	**520**	<360	<71	<71	<71	<71	<71	<71	<71
		APLB-2(8)	8	Primary	5/1/2015	266525-021	<8.0	<8.0	<8.0	<8.0	<8.0	<16	<32	<8.0	<8.0	<8.0	<8.0	<500	<500	<500	<100	<100	<100	<100	**110**	<100	**110**
	APLB-3	APLB-3(2)	2	Primary	5/1/2015	266525-016	<5.4	**8.8**	<5.4	<5.4	<5.4	<11	<22	**29**	<5.4	<5.4	<5.4	<1,800	<1,800	<1,800	<350	<350	<350	<350	<350	<350	<350
		APLB-3(5)	5	Primary	5/1/2015	266525-017	**1,300,000**	**7,200,000**	**62,000**	<4,900	**57,000**	<9,800	<20,000	**55,000**	<4,900	<4,900	<4,900	**6,000,000**	<72,000	<72,000	<14,000	<14,000	<14,000	<14,000	<14,000	<14,000	<14,000
		APLB-3(8)	8	Primary	5/1/2015	266525-018	**210,000**	**1,100,000**	**26,000**	**240,000**	**650,000**	<7,800	<16,000	**97,000**	<3,900	<3,900	<3,900	**2,300,000**	**220,000**	**560,000**	<16,000	<16,000	<16,000	<16,000	<16,000	<16,000	<16,000
	APLB-4	APLB-4(2)	2	Primary	5/1/2015	266525-013	**1,500**	**8,100**	<250	<250	<250	<500	<1,000	**2,200**	<250	<250	<250	<18,000	<18,000	<18,000	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600	<3,600
		APLB-4(4.5)	4.5	Primary	5/1/2015	266525-014	**130**	**4,000**	**32**	**77**	**200**	<11	<21	**110**	<5.3	<5.3	<5.3	**3,400**	<350	**530**	<69	<69	<69	<69	<69	<69	<69
		APLB-4(7)	7	Primary	5/1/2015	266525-015	**11,000**	**120,000**	<4,200	**98,000**	**130,000**	<8,400	<17,000	**100,000**	<4,200	<4,200	<4,200	**29,000**	**36,000**	**40,000**	<160	<160	<160	<160	<160	<160	<160
004	APLB-5	APLB-5(2.5)	2.5	Primary	4/27/2015	266374-013	<4.5	<4.5	<4.5	<4.5	<4.5	<8.9	<18	<4.5	<4.5	<4.5	**4.7**	<18,000	<18,000	<18,000	<3,500	<3,500	<3,500	<3,500	<3,500	<3,500	<3,500
		APLB-5(4.5)	4.5	Primary	4/27/2015	266374-014	<3.8	<3.8	<3.8	<3.8	<3.8	<7.7	<15	<3.8	<3.8	<3.8	<3.8	<730	<730	<730	<150	<150	<150	<150	<150	<150	<150
		APLB-5(6)	6	Primary	4/27/2015	266374-015	<190	<190	<190	<190	<190	<380	<770	<190	<190	<190	<190	<2,700	<2,700	<2,700	<540	<540	<540	<540	<540	<540	<540
	APLB-6	APLB-6(2.5)	2.5	Primary	4/27/2015	266374-016	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	<16	<3.9	<3.9	<3.9	<3.9	<5,900	<5,900	<5,900	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200
		APLB-6(4.5)	4.5	Primary	4/27/2015	266374-017	<4.8	<4.8	<4.8	<4.8	<4.8	<9.5	<19	<4.8	<4.8	<4.8	<4.8	<770	<770	<770	<150	<150	<150	<150	<150	<150	<150
		APLB-6(5.5)	5.5	Primary	4/27/2015	266374-018	<4.5	<4.5	<4.5	<4.5	<4.5	<9.0	<18	<4.5	<4.5	<4.5	<4.5	<1,200	<1,200	<1200	<230	<230	<230	<230	<230	**230**	<230
	APLB-7	APLB-7(2)	2	Primary	4/27/2015	266374-019	<4.7	<4.7	<4.7	<4.7	<4.7	<9.5	<19	<4.7	<4.7	<4.7	<4.7	<1,000	<1,000	<1,000	<210	<210	<210	<210	<210	<210	<210
		APLB-7(4.5)	4.5	Primary	4/27/2015	266374-020	<4.7	<4.7	<4.7	<4.7	<4.7	<9.4	<19	<4.7	<4.7	<4.7	<4.7	<760	<760	<760	<150	<150	<150	<150	<150	<150	<150
		APLB-7(6.5)	6.5	Primary	4/27/2015	266374-021	<4.5	<4.5	<4.5	<4.5	<4.5	<9.1	<18	<4.5	<4.5	<4.5	<4.5	<390	<390	<390	<78	<78	<78	<78	<78	<78	<78
005	APLB-8	APLB-8(2)	2	Primary	4/27/2015	266374-009	<5.1	<5.1	<5.1	<5.1	<5.1	<10	<20	<5.1	<5.1	<5.1	<5.1	<3,600	<3,600	<3,600	<730	<730	<730	<730	<730	<730	<730
		APLB-8(4.5)	4.5	Primary	4/27/2015	266374-010	<4.3	<4.3	<4.3	<4.3	<4.3	<8.6	<17	<4.3	<4.3	<4.3	<4.3	<35,000	<35,000	<35,000	<6,900	<6,900	<6,900	<6,900	<6,900	<6,900	<6,900
		APLB-8(5.5)	5.5	Primary	4/27/2015	266374-011	<230	<230	<230	<230	<230	<460	<920	<230	**1,000**	**780**	<230	<7,900	<7,900	<7,900	<1,600	**4,600**	<1,600	<1,600	<1,600	<1,600	<1,600
	APLB-9	APLB-9(2)	2	Primary	4/27/2015	266374-022	<4.3	<4.3	<4.3	<4.3	<4.3	<8.7	<17	<4.3	<4.3	<4.3	<4.3	<700	<700	<700	<140	<140	<140	<140	<140	<140	<140
		APLB-9(4.5)	4.5	Primary	4/27/2015	266374-003	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<17	<4.2	<4.2	<4.2	<4.2	<7,400	<7,400	<7,400	<1,500	<1,500	<1,500	<1,500	<1,500	<1,500	<1,500
		APLB-9(8)	8	Primary	4/27/2015	266374-004	<4.9	<4.9	<4.9	<4.9	<4.9	<9.8	<20	<4.9	<4.9	<4.9	<4.9	<400	<400	<400	<80	<80	<80	<80	<80	<80	<80
	APLB-10	APLB-10(2)	2	Primary	4/27/2015	266374-005	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<17	<4.2	<4.2	<4.2	<4.2	<3,600	<3,600	<3,600	<720	<720	<720	<720	<720	<720	<720
		APLB-10(4.5)	4.5	Primary	4/27/2015	266374-006	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	<16	<3.9	<3.9	<3.9	<3.9	<3,700	<3,700	<3,700	<750	<750	<750	<750	<750	<750	<750
		APLB-10(8.5)	8.5	Primary	4/27/2015	266374-007	<5.8	<5.8	<5.8	<5.8	<5.8	<12	<23	<5.8	<5.8	<5.8	<5.8	<390	<390	<390	<78	<78	<78	<78	<78	<78	<78
	APLB-11	APLB-11(2)	2	Primary	4/30/2015	266511-011	<5.2	<5.2	<5.2	<5.2	<5.2	<10	**48 J**	<5.2	<5.2	<5.2	<5.2	<3,600	<3,600	<3,600	<720	<720	<720	<720	<720	<720	<720
		APLB-11(4.3)	4.3	Primary	4/30/2015	266511-012	<5.3	<5.3	<5.3	<5.3	<5.3	<11	<21	<5.3	<5.3	<5.3	<5.3	<380	<380	<380	<75	<75	**170**	**100**	**150**	<75	**170**
		APLB-11(5)	5	Primary	4/30/2015	266511-013	<4.3	<4.3	<4.3	<4.3	<4.3	<8.7	**59**	<4.3	<4.3	<4.3	<4.3	<410	<410	<410	<81	<81	<81	<81	<81	<81	<81
009	APLB-12	APLB-12(1.5)	1.5	Primary	4/30/2015	266511-029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-12(4.5)	4.5	Primary	4/30/2015	266511-030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-12(7.8)	7.8	Primary	4/30/2015	266511-031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-13	APLB-13(2)	2	Primary	5/1/2015	266525-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-13(4.5)	4.5	Primary	5/1/2015	266525-005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-13(8)	8	Primary	5/1/2015	266525-006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-14	APLB-14(2)	2	Primary	5/1/2015	266525-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-14(4.5)	4.5	Primary	5/1/2015	266525-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-14(8.4)	8.4	Primary	5/1/2015	266525-003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-20	APLB-20(1.5)	1.5	Primary	5/1/2015	266525-007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-20(4.5)	4.5	Primary	5/1/2015	266525-008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-20(8.5)	8.5	Primary	5/1/2015	266525-009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-21	APLB-21(2.5)	2.5	Primary	4/28/2015	266392-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-21(4.5)	4.5	Primary	4/28/2015	266392-005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-21(8.5)	8.5	Primary	4/28/2015	266392-006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Volatile Organic Compounds (8260B) µg/kg											Semi-volatile Organic Compounds µg/kg									
							1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Butanone	Acetone	Chlorobenzene	n-Butylbenzene	sec-Butylbenzene	Toluene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Methylnaphthalene	Acenaphthene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**--**	**7,600**	**1,600**	**7,400**	**1,800**	**13,000**	**500**	**1,500**	**--**	**--**	**9,300**	**7,600**	**7,400**	**1,800**	**250**	**19,000**	**12,000**	**130.00**	**1,300**	**27,000**	**13,000**
010	APLB-15	APLB-15(2.5)	2.5	Primary	4/30/2015	266511-014	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	**20**	<4.3	<4.3	<4.3	<4.3	<370	<370	<370	**120**	<73	<73	<73	<73	<73	**74**
		APLB-15(4.5)	4.5	Primary	4/30/2015	266511-015	<5.1	<5.1	<5.1	<5.1	<5.1	**15**	**97**	<5.1	<5.1	<5.1	<5.1	<39,000	<39,000	<39,000	<7,800	<7,800	<7,800	<7,800	<7,800	<7,800	<7,800
		APLB-15(8)	8	Primary	4/30/2015	266511-016	<6.4	<6.4	<6.4	<6.4	<6.4	**22**	**120**	<6.4	<6.4	<6.4	<6.4	<550	<550	<550	<110	<110	<110	<110	<110	<110	<110
	APLB-16	APLB-16(2.5)	2.5	Primary	4/30/2015	266511-017	<4.6	<4.6	<4.6	<4.6	<4.6	<9.2	**33**	<4.6	<4.6	<4.6	<4.6	<3,800	<3,800	<3,800	<750	<750	<750	<750	<750	<750	<750
		APLB-16(4.5)	4.5	Primary	4/30/2015	266511-018	<5.0	<5.0	<5.0	<5.0	<5.0	<10	**27**	<5.0	<5.0	<5.0	<5.0	<380	<380	<380	<76	<76	<76	<76	<76	<76	<76
		APLB-16(7.6)	7.6	Primary	4/30/2015	266511-019	<5.3	<5.3	<5.3	<5.3	<5.3	<11	**54**	<5.3	<5.3	<5.3	<5.3	<400	<400	<400	<80	<80	<80	<80	<80	<80	<80
	APLB-17	APLB-17(2)	2	Primary	4/30/2015	266511-020	<4.7	<4.7	<4.7	<4.7	<4.7	<9.5	**23**	<4.7	<4.7	<4.7	<4.7	<370 UJ	<370	<370 UJ	<74	<74	<74	<74	<74	<74	<74
		APLB-17(5)	5	Primary	4/30/2015	266511-021	<4.3	<4.3	<4.3	<4.3	<4.3	**9.8**	**51**	<4.3	<4.3	<4.3	<4.3	<390	<390	<390	<77	<77	<77	<77	<77	<77	<77
		APLB-17(6.5)	6.5	Primary	4/30/2015	266511-022	<6.3	<6.3	<6.3	<6.3	<6.3	<13	<25	<6.3	<6.3	<6.3	<6.3	<410	<410	<410	<81	<81	<81	<81	<81	<81	<81
	APLB-18	APLB-18(2)	2	Primary	4/30/2015	266511-026	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	<17	<4.3	<4.3	<4.3	<4.3	<380	<380	<380	<77	<77	<77	<77	<77	<77	<77
		APLB-18(4.5)	4.5	Primary	4/30/2015	266511-027	<4.8	<4.8	<4.8	<4.8	<4.8	<9.6	<19	<4.8	<4.8	<4.8	<4.8	<4,100	<4,100	<4,100	<820	<820	<820	<820	<820	<820	<820
		APLB-18(7.5)	7.5	Primary	4/30/2015	266511-028	<4.9	<4.9	<4.9	<4.9	<4.9	<9.8	<20	<4.9	<4.9	<4.9	<4.9	<380	<380	<380	<76	<76	<76	<76	<76	<76	<76
	APLB-19	APLB-19(2)	2	Primary	4/30/2015	266511-023	<4.1	<4.1	<4.1	<4.1	<4.1	<8.3	<17	<4.1	<4.1	<4.1	<4.1	<370	<370	<370	<73	<73	<73	<73	<73	<73	<73
		APLB-19(4.5)	4.5	Primary	4/30/2015	266511-024	<4.8	<4.8	<4.8	<4.8	<4.8	<9.7	<19	<4.8	<4.8	<4.8	<4.8	<350	<350	<350	<70	<70	<70	<70	<70	<70	<70
		APLB-19(8.5)	8.5	Primary	4/30/2015	266511-025	<5.4	<5.4	<5.4	<5.4	<5.4	<11	**54**	<5.4	<5.4	<5.4	<5.4	<17,000	<17,000	<17,000	<3,300	<3,300	<3,300	<3,300	<3,300	<3,300	<3,300
Former Building E-221	APLMW-1	APLMW-1(4)	4	Primary	5/14/2015	266803-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-1(7.5)	7.5	Primary	5/14/2015	266803-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	APLMW-2(4.5)	4.5	Primary	5/15/2015	266820-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-2(8.2)	8.2	Primary	5/15/2015	266820-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-3	APLMW-3(4)	4	Primary	5/14/2015	266803-003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-3(7)	7	Primary	5/14/2015	266803-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IDW	Soil from Case Area Borings	APLB-DRUM	NA	Primary	6/19/2015	267609-001	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	--	--	--

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Semi-volatile Organic Compounds µg/kg					Metals mg/kg										Metals mg/kg							TCLP Lead (mg/L)	STLC Lead (mg/L)
							Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selnium	Silver	Thallium	Vanadium	Zinc		
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**40,000**	**89,000**	**4,800**	**11,000**	**85,000**	**40**	**1.6**	**1,500**	**8.0**	**12**	**2,500**	**80**	**225**	**320**	**10**	**40**	**150**	**10**	**40**	**10**	**200**	**600**	**NA**	**NA**
002	APLB-1	APLB-1(2)	2	Primary	5/1/2015	266525-010	<7,200	<7,200	<7,200	<7,200	<7,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-1(4.5)	4.5	Primary	5/1/2015	266525-011	<7,100	<7,100	<7,100	<7,100	<7,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-1(8.4)	8.4	Primary	5/1/2015	266525-012	**130**	<82	<82	**85**	**120**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-2	APLB-2(2)	2	Primary	5/1/2015	266525-019	<1,200	<1,200	<1,200	<1,200	<1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-2(5)	5	Primary	5/1/2015	266525-020	**94**	<71	<71	<71	**110**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-2(8)	8	Primary	5/1/2015	266525-021	**210**	<100	<100	**210**	**200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-3	APLB-3(2)	2	Primary	5/1/2015	266525-016	<350	<350	<350	<350	<350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-3(5)	5	Primary	5/1/2015	266525-017	<14,000	<14,000	<14,000	<14,000	<14,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-3(8)	8	Primary	5/1/2015	266525-018	<16,000	<16,000	<16,000	<16,000	<16,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-4	APLB-4(2)	2	Primary	5/1/2015	266525-013	<3,600	<3,600	<3,600	<3,600	<3,600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-4(4.5)	4.5	Primary	5/1/2015	266525-014	<69	<69	<69	<69	<69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-4(7)	7	Primary	5/1/2015	266525-015	<160	<160	<160	<160	<160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
004	APLB-5	APLB-5(2.5)	2.5	Primary	4/27/2015	266374-013	<3,500	<3,500	<3,500	<3,500	<3,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-5(4.5)	4.5	Primary	4/27/2015	266374-014	<150	<150	<150	<150	<150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-5(6)	6	Primary	4/27/2015	266374-015	<540	<540	<540	<540	<540	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-6	APLB-6(2.5)	2.5	Primary	4/27/2015	266374-016	<1,200	<1,200	<1,200	<1,200	<1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-6(4.5)	4.5	Primary	4/27/2015	266374-017	<150	<150	<150	<150	<150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-6(5.5)	5.5	Primary	4/27/2015	266374-018	<230	<230	<230	<230	<230	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-7	APLB-7(2)	2	Primary	4/27/2015	266374-019	<210	<210	<210	<210	<210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-7(4.5)	4.5	Primary	4/27/2015	266374-020	<150	<150	<150	<150	<150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-7(6.5)	6.5	Primary	4/27/2015	266374-021	<78	<78	<78	<78	<78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
005	APLB-8	APLB-8(2)	2	Primary	4/27/2015	266374-009	<730	<730	<730	<730	<730	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-8(4.5)	4.5	Primary	4/27/2015	266374-010	<6,900	<6,900	<6,900	<6,900	<6,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-8(5.5)	5.5	Primary	4/27/2015	266374-011	<1,600	**9,500**	<1,600	**22,000**	<1,600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-9	APLB-9(2)	2	Primary	4/27/2015	266374-022	<140	<140	<140	<140	<140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-9(4.5)	4.5	Primary	4/27/2015	266374-003	<1,500	<1,500	<1,500	<1,500	<1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-9(8)	8	Primary	4/27/2015	266374-004	<80	<80	<80	<80	<80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-10	APLB-10(2)	2	Primary	4/27/2015	266374-005	<720	<720	<720	<720	<720	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-10(4.5)	4.5	Primary	4/27/2015	266374-006	<750	<750	<750	<750	<750	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-10(8.5)	8.5	Primary	4/27/2015	266374-007	<78	<78	<78	<78	<78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-11	APLB-11(2)	2	Primary	4/30/2015	266511-011	<720	<720	<720	<720	<720	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-11(4.3)	4.3	Primary	4/30/2015	266511-012	**310**	<75	<75	**170**	**260**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-11(5)	5	Primary	4/30/2015	266511-013	<81	<81	<81	<81	<81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
009	APLB-12	APLB-12(1.5)	1.5	Primary	4/30/2015	266511-029	--	--	--	--	--	<0.50	**4.4**	**85**	**0.30**	**0.71**	**26**	**7.3**	**22**	**34**	**0.20**	**0.50**	**25**	**0.76**	<0.25	<0.50	**37**	**65**	--	--
		APLB-12(4.5)	4.5	Primary	4/30/2015	266511-030	--	--	--	--	--	**0.84**	**3.5**	**190**	**0.39**	**1.4**	**8.5**	**10**	**21**	**7.3**	**0.31**	**0.42**	**12**	**1.7**	<0.26	<0.51	**45**	**100**	--	
		APLB-12(7.8)	7.8	Primary	4/30/2015	266511-031	--	--	--	--	--	<0.52	**1.7**	**36**	**0.12**	<0.26	**30**	**3.2**	**3.3**	**2.0**	**0.022**	<0.26	**16**	<0.52	<0.26	<0.52	**16**	**11**	--	--
	APLB-13	APLB-13(2)	2	Primary	5/1/2015	266525-004	--	--	--	--	--	**25**	**4.6**	**99**	**0.34**	<0.25	**26**	**8.2**	**33**	**350**	**0.16**	**0.49**	**31**	<0.50	<0.25	<0.50	**40**	**66**	--	--
		APLB-13(4.5)	4.5	Primary	5/1/2015	266525-005	--	--	--	--	--	<0.54	**7.1**	**95**	**0.30**	**0.34**	**32**	**10**	**45**	**33**	**0.91**	**0.80**	**36**	<0.54	**0.28**	<0.54	**40**	**120**	--	--
		APLB-13(8)	8	Primary	5/1/2015	266525-006	--	--	--	--	--	<0.59	**1.7**	**39**	<0.12	<0.30	**23**	**3.6**	**3.7**	**1.8**	<0.018	<0.30	**18**	<0.59	<0.30	<0.59	**16**	**17**	--	--
	APLB-14	APLB-14(2)	2	Primary	5/1/2015	266525-001	--	--	--	--	--	<0.50	**9.6**	**110**	**0.34**	<0.25	**20**	**9.6**	**42**	**11**	**0.38**	**0.72**	**18**	<0.50	<0.25	<0.50	**52**	**120**	--	--
		APLB-14(4.5)	4.5	Primary	5/1/2015	266525-002	--	--	--	--	--	**5.9**	**3.0**	**110**	**0.21**	**0.63**	**54**	**6.9**	**39**	**360**	**0.30**	<0.28	**41**	<0.56	**0.43**	<0.56	**32**	**290**	--	--
		APLB-14(8.4)	8.4	Primary	5/1/2015	266525-003	--	--	--	--	--	**1.1**	**2.5**	**23**	<0.11	**0.44**	**23**	**2.7**	**29**	**63**	**0.058**	<0.29	**15**	<0.57	<0.29	<0.57	**17**	**660**	--	--
	APLB-20	APLB-20(1.5)	1.5	Primary	5/1/2015	266525-007	--	--	--	--	--	<0.52	**5.8**	**100**	**0.35**	<0.26	**25**	**7.4**	**27**	**37**	**0.34**	**0.39**	**28**	<0.52	<0.26	<0.52	**34**	**81**	--	--
		APLB-20(4.5)	4.5	Primary	5/1/2015	266525-008	--	--	--	--	--	<0.54	**6.2**	**77**	**0.45**	**0.67**	**7.1**	**13**	**16**	**14**	**0.13**	**0.43**	**7.6**	<0.54	**0.33**	<0.54	**67**	**160**	--	--
		APLB-20(8.5)	8.5	Primary	5/1/2015	266525-009	--	--	--	--	--	<0.52	1.2	**25**	**0.10**	<0.26	**24**	**2.5**	**3.6**	**2.0**	<0.017	<0.26	**13**	<0.52	<0.26	<0.52	**14**	**9.3**	--	--
	APLB-21	APLB-21(2.5)	2.5	Primary	4/28/2015	266392-004	--	--	--	--	--	<0.52	**7.4**	**100**	**0.31**	**1.3**	**18**	**9.5**	**21**	**5.9**	**0.43**	**0.74**	**15**	**1.5**	<0.26	<0.52	**38**	**87**	--	--
		APLB-21(4.5)	4.5	Primary	4/28/2015	266392-005	--	--	--	--	--	**2.0**	**5.6**	**280**	**0.27**	**1.2**	**49**	**8.4**	**66**	**470**	**1.2**	**0.92**	**41**	**0.98**	<0.29	<0.59	**38**	**240**	--	--
		APLB-21(8.5)	8.5	Primary	4/28/2015	266392-006	--	--	--	--	--	<0.55	**1.9**	**59**	**0.19**	**0.35**	**39**	**5.9**	**6.2**	**4.7**	<0.020	<0.28	**28**	<0.55	<0.28	<0.55	**24**	**17**	--	--

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Boring	Sample Number [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	Semi-volatile Organic Compounds µg/kg					Metals mg/kg										Metals mg/kg							TCLP Lead (mg/L)	STLC Lead (mg/L)
							Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selnium	Silver	Thallium	Vanadium	Zinc		
Environmental Screening Level [b]- Shallow Soils Commerical/Industrial Land Use							**40,000**	**89,000**	**4,800**	**11,000**	**85,000**	**40**	**1.6**	**1,500**	**8.0**	**12**	**2,500**	**80**	**225**	**320**	**10**	**40**	**150**	**10**	**40**	**10**	**200**	**600**	**NA**	**NA**
010	APLB-15	APLB-15(2.5)	2.5	Primary	4/30/2015	266511-014	**110**	<73	**94**	<73	**110**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-15(4.5)	4.5	Primary	4/30/2015	266511-015	<7,800	<7,800	<7,800	<7,800	<7,800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-15(8)	8	Primary	4/30/2015	266511-016	<110	<110	<110	<110	<110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-16	APLB-16(2.5)	2.5	Primary	4/30/2015	266511-017	<750	<750	<750	<750	<750	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-16(4.5)	4.5	Primary	4/30/2015	266511-018	<76	<76	<76	<76	<76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-16(7.6)	7.6	Primary	4/30/2015	266511-019	<80	<80	<80	<80	<80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-17	APLB-17(2)	2	Primary	4/30/2015	266511-020	<74	<74	<74	<74	<74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-17(5)	5	Primary	4/30/2015	266511-021	<77	<77	<77	<77	<77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-17(6.5)	6.5	Primary	4/30/2015	266511-022	<81	<81	<81	<81	<81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-18	APLB-18(2)	2	Primary	4/30/2015	266511-026	<77	<77	<77	<77	<77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-18(4.5)	4.5	Primary	4/30/2015	266511-027	<820	<820	<820	<820	<820	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-18(7.5)	7.5	Primary	4/30/2015	266511-028	<76	<76	<76	<76	<76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-19	APLB-19(2)	2	Primary	4/30/2015	266511-023	<73	<73	<73	<73	<73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-19(4.5)	4.5	Primary	4/30/2015	266511-024	<70	<70	<70	<70	<70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLB-19(8.5)	8.5	Primary	4/30/2015	266511-025	<3,300	<3,300	<3,300	<3,300	<3,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Former Building E-221	APLMW-1	APLMW-1(4)	4	Primary	5/14/2015	266803-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-1(7.5)	7.5	Primary	5/14/2015	266803-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	APLMW-2(4.5)	4.5	Primary	5/15/2015	266820-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-2(8.2)	8.2	Primary	5/15/2015	266820-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-3	APLMW-3(4)	4	Primary	5/14/2015	266803-003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		APLMW-3(7)	7	Primary	5/14/2015	266803-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IDW	Soil from Case Area Borings	APLB-DRUM	NA	Primary	6/19/2015	267609-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.37**	**12**

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Notes
Soil and groundwater samples were analyzed by Curtis &Tompkins, Ltd. Laboratory analytical reports are provided in Appendix F.
[a] The sample depth is entered in parentheses at the end of the sample number.
[b] Summary Table B2 - Shallow Soil Screening Levesl (<3 m bgs) Commercial/Industrial Land Use, (groundwater is not a current or potential drinking water resource) from Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Interim Final (Cal/EPA SFRWQCB, 2013)
[c] Table F-1b. Groundwater Screening Levels (groundwater is not a current or potential drinking water resource) from Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Interim Final (Cal/EPA SFRWQCB, 2013)
For VOCs and SVOCs, only detected compounds are listed. Comprehensive analytical results are presented in Appendix F.
Results shown in bold font are detected results
Highlighted results exceed ESLs.
<13 = Not detected at indicated reporting limit
-- = Not analyzed.

Abbreviations
BTEX = collective term for benzene, toluene, ethylbenzene, and xylenes
GW = groundwater
ID= identification
mg/kg = milligrams per kilogram
MTBE = methyl tertiary-butyl ether
PAHs = polynuclear aromatic hydrocarbons
TPHd = Total Petroleum Hyrdocarbons Diesel Range
TPHg = Total Petroleum Hyrdocarbons Gasoline Range
TPHmo = Total Petroleum Hyrdocarbons Motor Oil range
ug/kg = micrograms per kilogram
ug/L = micrograms per liter

Qualifiers
J = Result is an estimated concentration.
U = The analyte was analyzed for, but was not detected at the reporting limit shown.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate.

TABLE 4

GROUNDWATER SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Well	Sample Number	Sample Type	Date	Lab ID	Total Petroleum Hydrocarbons µg/L			BTEX and MTBE (8021B) µg/L						PAHs (8270C-SIM) µg/L			Volatile Organic Compounds µg/L								Semi-volatile Organic Compounds µg/L					
						TPHd (8015M)	TPHmo (8015M)	TPHg (8015M)	MTBE	Benzene	Toluene	Ethylbenzene	m,pXylenes	o-Xylene	Acenaphthylene	Fluorene	Pyrene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Benzene	Chlorobenzene	MTBE	n-Butyl-benzene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Chlorophenol	Naphthalene
Groundwater Screening Level [c]						**640**	**640**	**500**	**--**	**27**	**130**	**43**	**100 (Total)**		**30**	**3.9**	**2.0**	**--**	**25**	**65**	**15**	**270**	**25**	**--**	**--**	**14**	**25**	**65**	**15**	**1.8**	**24**
002	APLB-1	APLB-1(GW)	Primary	5/1/2015	266525-027	--	--	--	--	--	--	--	--	--	--	--	--	<10	<10	<10	<10	**110**	**1,200**	<10	<10	<13	<130	<130	<130	<13	<13
	APLB-2	APLB-2(GW)	Primary	5/1/2015	266525-030	--	--	--	--	--	--	--	--	--	--	--	--	<2.0	**7.2**	**14**	**4.6**	<2.0	**200**	<2.0	<2.0	<13	<130	<130	<130	<13	<13
	APLB-3	APLB-3(GW)	Primary	5/1/2015	266525-029	--	--	--	--	--	--	--	--	--	--	--	--	**110**	**490**	**290**	**1,000**	**280**	**15,000**	<100	<100	**34**	**450**	**300**	**970**	**35**	**19**
	APLB-4	APLB-4(GW)	Primary	5/1/2015	266525-028	--	--	--	--	--	--	--	--	--	--	--	--	<13	**15**	<13	**15**	<13	**1,700**	<13	<13	<11	<110	<110	<110	<11	<11
004	APLB-5	APLB-5(GW)	Primary	4/27/2015	266374-001	**7,600**	**2,100**	--	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<19	<190	<190	<190	<19	<19
	APLB-6	APLB-6(GW)	Primary	4/27/2015	266374-002	**2,700**	**1,500**	--	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<100	<100	<100	<10	<10
	APLB-7	APLB-7(GW)	Primary	4/28/2015	266392-001	--	--	--	--	--	--	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--
005	APLB-8	APLB-8(GW)	Primary	4/27/2015	266374-012	**8,400**	**560**	**9,100**	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**	**0.50**	<100	<1,000	<1,000	<1,000	<100	<100
	APLB-9	APLB-9(GW)	Primary	4/28/2015	266392-002	**520**	**310**	<50	--	--	--	--	--	--	--	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	--	--
	APLB-10	APLB-10(GW)	Primary	4/27/2015	266374-008	**270**	<300	<50	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<9.4	<94	<94	<94	<9.4	<9.4
	APLB-11	APLB-11(GW)	Primary	4/30/2015	266511-002	**520**	<300	<50	--	--	--	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.6**	<2.0	<9.8	<98	<98	<98	<9.8	<9.8
	APLB-11	DUP4/30/15	Duplicate	4/30/2015	266511-003	**590**	<300	<50	--	--	--	--	--	--	--	--	--	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	**2.6**	<1.7	<9.8	<98	<98	<98	<9.8	<9.8
009	APLB-12	APLB-12(GW)	Primary	4/30/2015	266511-010	**1,400**	**2,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-13	APLB-13(GW)	Primary	5/1/2015	266525-023	**2,800**	**1,100**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-14	APLB-14(GW)	Primary	5/1/2015	266525-022	**2,800**	**4,100**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-20	APLB-20(GW)	Primary	5/1/2015	266525-024	**920**	**1,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-21	APLB-21(GW)	Primary	4/28/2015	266392-003	<50	**460**	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
010	APLB-15	APLB-15(GW)	Primary	4/30/2015	266511-005	**900**	**530**	<5,000	--	--	--	--	--	--	--	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<100	<100	<100	<10	<10
	APLB-16	APLB-16(GW)	Primary	4/30/2015	266511-006	**2,000**	**640**	<50	--	--	--	--	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<9.8	<98	<98	<98	<9.8	<9.8
	APLB-17	APLB-17(GW)	Primary	4/30/2015	266511-007	**910**	**630**	<50	--	--	--	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<9.8	<98	<98	<98	<9.8	<9.8
	APLB-18	APLB-18(GW)	Primary	4/30/2015	266511-009	**1,100**	**1,100**	<50	--	--	--	--	--	--	--	--	--	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<9.4	<94	<94	<94	<9.4	<9.4
	APLB-19	APLB-19(GW)	Primary	4/30/2015	266511-008	**1,600**	**1,100**	**950**	--	--	--	--	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	**540**	<5.0	<5.0	<9.8	<98	<98	<98	<9.8	<9.8
Former Building E-221	APLMW-1	APLMW-1(GW)	Primary	5/23/2015	267026-001	**400**	<300	**420**	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.20**	**0.10**	**0.10**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	APLMW-2(GW)	Primary	5/23/2015	267026-002	**3,100**	**1,400**	**100**	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.20**	<0.20	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	DUP052315	Duplicate	5/23/2015	267026-003	**3,600**	**1,800**	**86**	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	**0.20**	<0.20	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-3	APLMW-3(GW)	Primary	5/23/2015	267026-005	**2,700**	**1,900**	<50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
QA/QC	TB	TB42815	QC	4/28/2015	266392-007	**--**	**--**	<50	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**--**	**--**	**--**	**--**	**--**	**--**
	RG	RB43015	QC	4/30/2015	266511-001	<50	<300	<50	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<13	<130	<130	<130	<13	<13
	TB	TB4/30/15	QC	4/30/2015	266511-004	**--**	**--**	<50	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**--**	**--**	**--**	**--**	**--**	**--**
	RB	RB5-1-15	QC	5/1/2015	266525-026	<50	<300	**--**	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<13	<130	<130	<130	<13	<13
	TB	TB5-1-15	QC	5/1/2015	266525-025	--	--	**--**	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
	TB	TB052315	QC	5/23/2015	267026-004	--	--	<50	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
IDW	Rinsate and Purge Water	RW052315	QC	5/23/2015	267026-006	**1,500**	**810**	**64**	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<49	<49	<49	<49	<49	<49

TABLE 4

GROUNDWATER SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Case Area	Well	Sample Number	Sample Type	Date	Lab ID	Metals µg/L																
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selnium	Silver	Thallium	Vanadium	Zinc
Groundwater Screening Level [c]						**30**	**36**	**1,000**	**0.53**	**0.25**	**180**	**3.0**	**3.1**	**2.5**	**0.025**	**240**	**8.2**	**5.0**	**0.19**	**4.0**	**19**	**81**
002	APLB-1	APLB-1(GW)	Primary	5/1/2015	266525-027	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-2	APLB-2(GW)	Primary	5/1/2015	266525-030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-3	APLB-3(GW)	Primary	5/1/2015	266525-029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-4	APLB-4(GW)	Primary	5/1/2015	266525-028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
004	APLB-5	APLB-5(GW)	Primary	4/27/2015	266374-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-6	APLB-6(GW)	Primary	4/27/2015	266374-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-7	APLB-7(GW)	Primary	4/28/2015	266392-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
005	APLB-8	APLB-8(GW)	Primary	4/27/2015	266374-012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-9	APLB-9(GW)	Primary	4/28/2015	266392-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-10	APLB-10(GW)	Primary	4/27/2015	266374-008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-11	APLB-11(GW)	Primary	4/30/2015	266511-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-11	DUP4/30/15	Duplicate	4/30/2015	266511-003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
009	APLB-12	APLB-12(GW)	Primary	4/30/2015	266511-010	<10	<5.0	**540**	<2.0	<5.0	**9.6**	<5.0	<5.0	<5.0	<0.20	**8.9**	<5.0	<10	<5.0	<10	<5.0	<20
	APLB-13	APLB-13(GW)	Primary	5/1/2015	266525-023	<10	<5.0	**190**	<2.0	<5.0	**16**	<5.0	<5.0	<5.0	<0.20	**7.6**	<5.0	**52**	<5.0	<10	**11**	<20
	APLB-14	APLB-14(GW)	Primary	5/1/2015	266525-022	<10	<5.0	**770**	<2.0	<5.0	**5.9**	<5.0	<5.0	<5.0	<0.20	**5.3**	<5.0	<10	<5.0	<10	<5.0	<20
	APLB-20	APLB-20(GW)	Primary	5/1/2015	266525-024	<10	<5.0	**590**	<2.0	<5.0	**6.2**	<5.0	<5.0	<5.0	<0.20	**5.1**	<5.0	<10	<5.0	<10	<5.0	<20
	APLB-21	APLB-21(GW)	Primary	4/28/2015	266392-003	<10	<5.0	**1,400**	<2.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.20	<5.0	<5.0	<10	<5.0	<1.0	<5.0	<20
010	APLB-15	APLB-15(GW)	Primary	4/30/2015	266511-005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-16	APLB-16(GW)	Primary	4/30/2015	266511-006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-17	APLB-17(GW)	Primary	4/30/2015	266511-007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-18	APLB-18(GW)	Primary	4/30/2015	266511-009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLB-19	APLB-19(GW)	Primary	4/30/2015	266511-008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Former Building E-221	APLMW-1	APLMW-1(GW)	Primary	5/23/2015	267026-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	APLMW-2(GW)	Primary	5/23/2015	267026-002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-2	DUP052315	Duplicate	5/23/2015	267026-003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	APLMW-3	APLMW-3(GW)	Primary	5/23/2015	267026-005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
QA/QC	TB	TB42815	QC	4/28/2015	266392-007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	RG	RB43015	QC	4/30/2015	266511-001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TB	TB4/30/15	QC	4/30/2015	266511-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	RB	RB5-1-15	QC	5/1/2015	266525-026	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TB	TB5-1-15	QC	5/1/2015	266525-025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TB	TB052315	QC	5/23/2015	267026-004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IDW	Rinsate and Purge Water	RW052315	QC	5/23/2015	267026-006	<10	<5.0	**71**	<2.0	<5.0	**37**	**6.5**	**8.8**	<5.0	<0.20	**30**	**9.3**	<10	<5.0	<10	**26**	**24**

TABLE 4

GROUNDWATER SAMPLE ANALYTICAL RESULTS
Former APL Terminal, Port of Oakland
Oakland, California

Notes

Soil and groundwater samples were analyzed by Curtis &Tompkins, Ltd. Laboratory analytical reports are provided in Appendix F.
[a] The sample depth is entered in parentheses at the end of the sample number.
[b] Summary Table B2 - Shallow Soil Screening Levesl (<3 m bgs) Commercial/Industrial Land Use, (groundwater is not a current or potential drinking water resource) from Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Interim Final (Cal/EPA SFRWQCB, 2013)
[c] Table F-1b. Groundwater Screening Levels (groundwater is not a current or potential drinking water resource) from Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Interim Final (Cal/EPA SFRWQCB, 2013)
For VOCs and SVOCs, only detected compounds are listed. Comprehensive analytical results are presented in Appendix F.
Results shown in bold font are detected results
Highlighted results exceed ESLs.
<13 = Not detected at indicated reporting limit
-- = Not analyzed.

Abbreviations

BTEX = collective term for benzene, toluene, ethylbenzene, and xylenes
GW = groundwater
ID= identification
mg/kg = milligrams per kilogram
MTBE = methyl tertiary-butyl ether
PAHs = polynuclear aromatic hydrocarbons
TPHd = Total Petroleum Hyrdocarbons Diesel Range
TPHg = Total Petroleum Hyrdocarbons Gasoline Range
TPHmo = Total Petroleum Hyrdocarbons Motor Oil range
ug/kg = micrograms per kilogram
ug/L = micrograms per liter

Qualifiers

J = Result is an estimated concentration.
U = The analyte was analyzed for, but was not detected at the reporting limit shown.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate.

amec
foster
wheeler

FIGURES



N

2 1 0 2

Miles

Source: Oakland West (USGS 1:24,000 sheets)

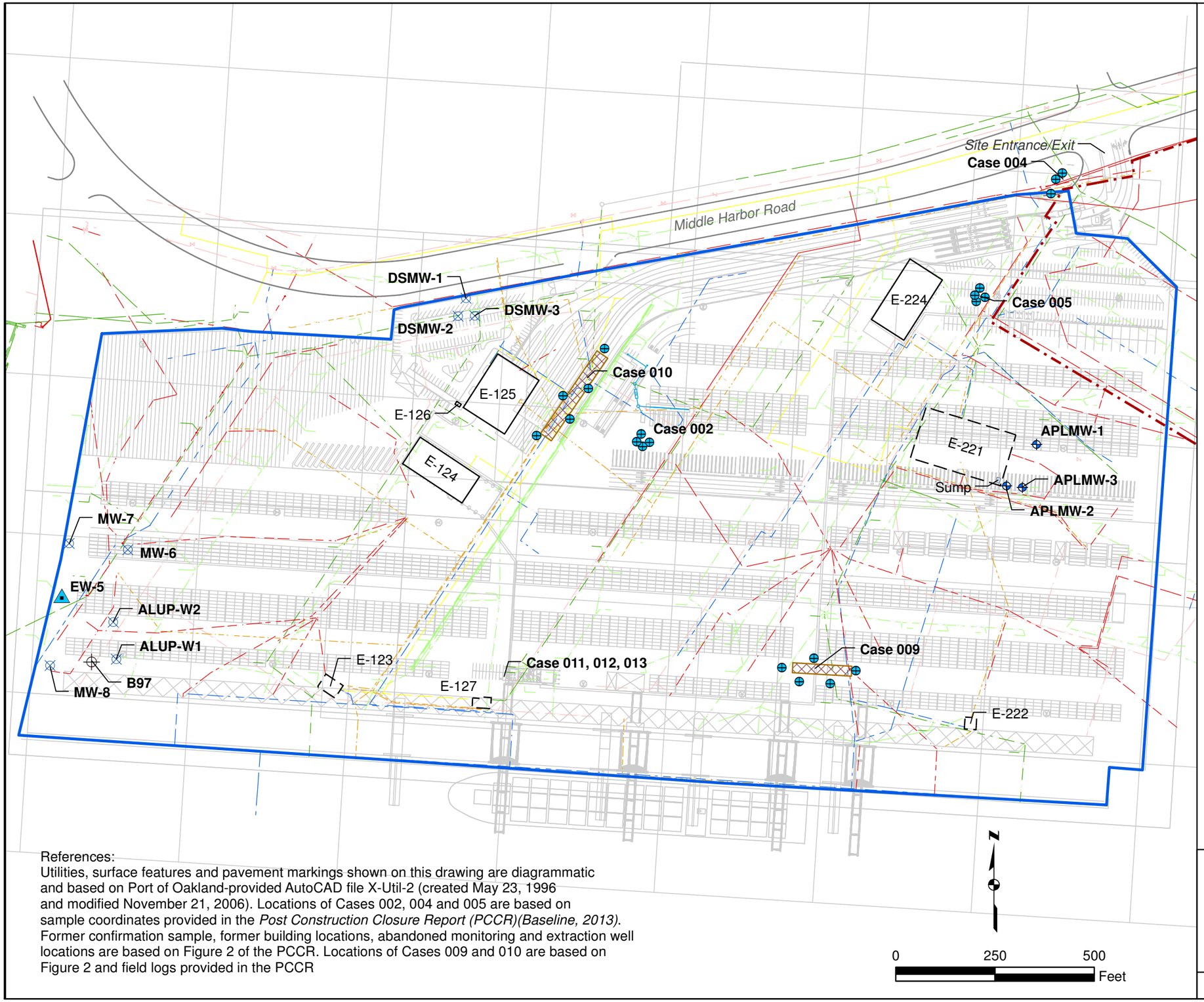
SITE LOCATION MAP
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/25/2015 | Project No. OD14170810

amec foster wheeler

Figure 1

Friday, June 26, 2015 11:13:39 AM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure1-SiteLocationMap.mxd



References:
Utilities, surface features and pavement markings shown on this drawing are diagrammatic and based on Port of Oakland-provided AutoCAD file X-Util-2 (created May 23, 1996 and modified November 21, 2006). Locations of Cases 002, 004 and 005 are based on sample coordinates provided in the *Post Construction Closure Report (PCCR)(Baseline, 2013)*. Former confirmation sample, former building locations, abandoned monitoring and extraction well locations are based on Figure 2 of the PCCR. Locations of Cases 009 and 010 are based on Figure 2 and field logs provided in the PCCR

EXPLANATION

- Boring Location
- Monitoring Well Location
- Previous Sample Location
- Abandoned Monitoring Well Location
- Extraction Well Location
- Existing Building Location
- Former Building Location
- Former Trench Location
- Redevelopment Boundary
- Deed Restriction Boundary, Former UP Roundhouse Area

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

Notes:

The information shown on this figure, including utility locations, is diagrammatic and not to scale. This figure is not intended to locate existing utilities. All utility locations will be field verified. Screened back lines represent existing surface features and pavement markings at the site as shown by Port of Oakland provided information. Existing surface features, and pavement markings may not match the figure.

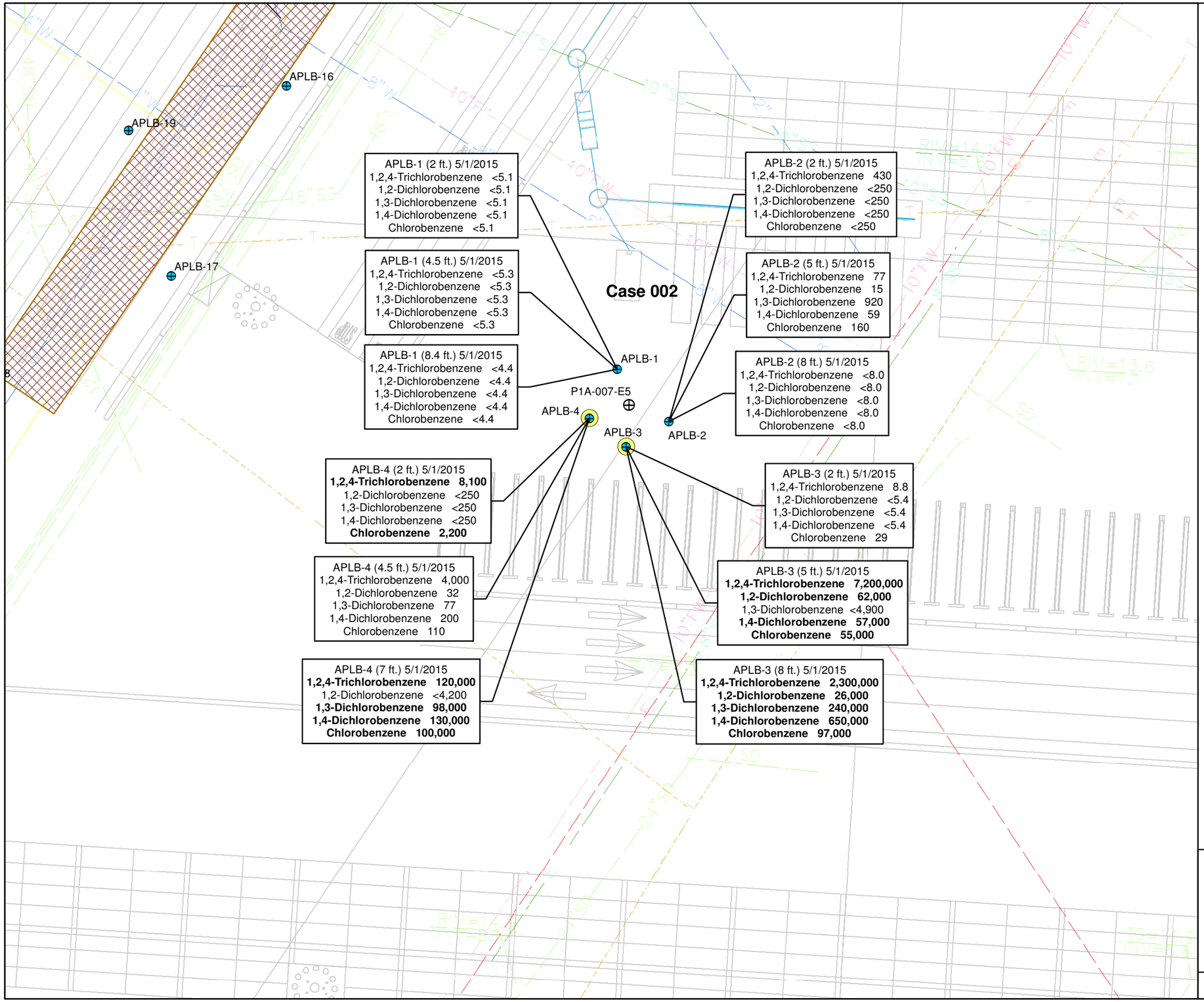
CASE LOCATIONS
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 07/30/2015 | Project No. OD14170810

Figure 2

Thursday, July 30, 2015 3:26:01 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure2-ProposedLocations.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (ug/kg)

1,2,4-Trichlorobenzene	7,600
1,2-Dichlorobenzene	1,600
1,3-Dichlorobenzene	7,400
1,4-Dichlorobenzene	1,800
Chlorobenzene	1,500

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-2 - Boring Identification
APLB-2 (2 ft.) 5/1/2015 - Sample Identification and Sample Date
<5.4 - Analytical Result in ug/kg

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

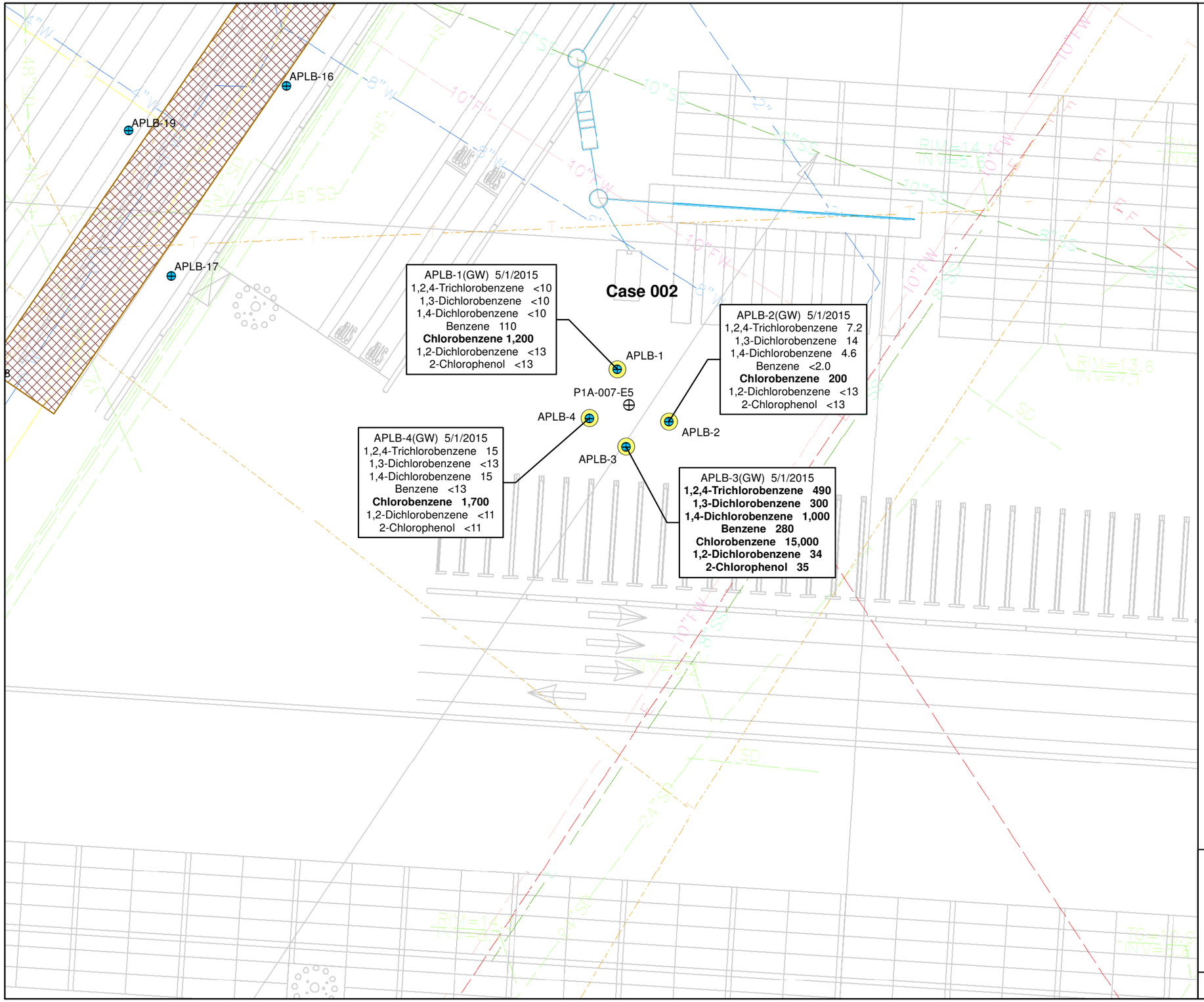
CASE 002 BORING LOCATIONS AND ESL EXCEEDANCES - SOIL
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/26/2015 | Project No. OD14170810

amec foster wheeler

Figure **3A**

Friday, June 26, 2015 11:45:28 AM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure3A-Case002Soil.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (ug/L)

1,2,4-Trichlorobenzene	25
1,3-Dichlorobenzene	65
1,4-Dichlorobenzene	15
Benzene	270
Chlorobenzene	25
1,2-Dichlorobenzene	14
2-Chlorophenol	1.8

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-2 - Boring Identification
APLB-2(GW) 5/1/2015 - Sample Identification and Sample Date
7.2 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

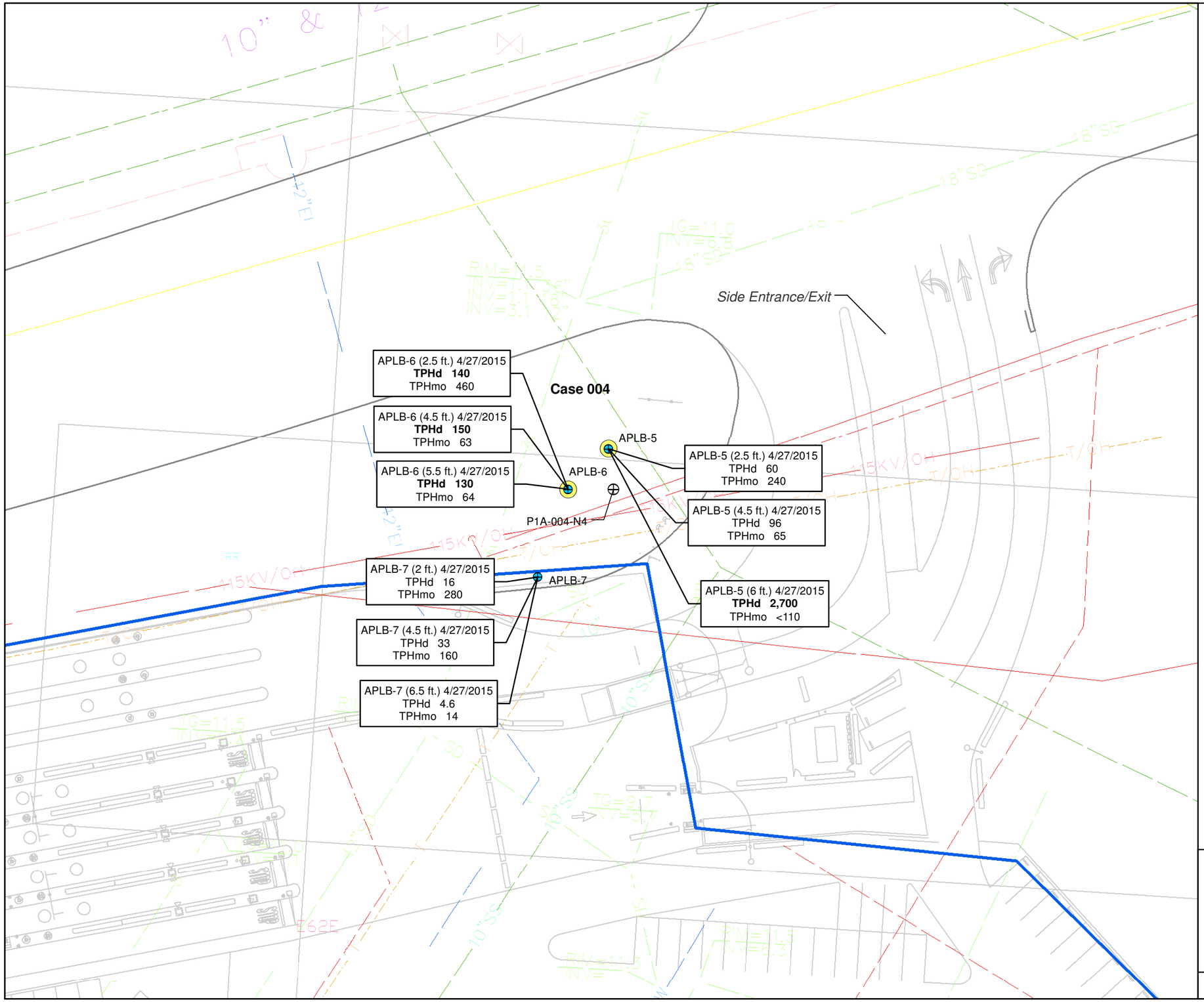
CASE 002 BORING LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/26/2015 | Project No. OD14170810

amec foster wheeler

Figure **3B**

Friday, June 26, 2015 11:52:45 AM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure3B-Case002GW.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (mg/kg)

TPHd 110
TPH mo 500

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-5 - Boring Identification
APLB-5 (2.5 ft.) 5/1/2015 - Sample Identification and Sample Date
60 - Analytical Result in mg/kg

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

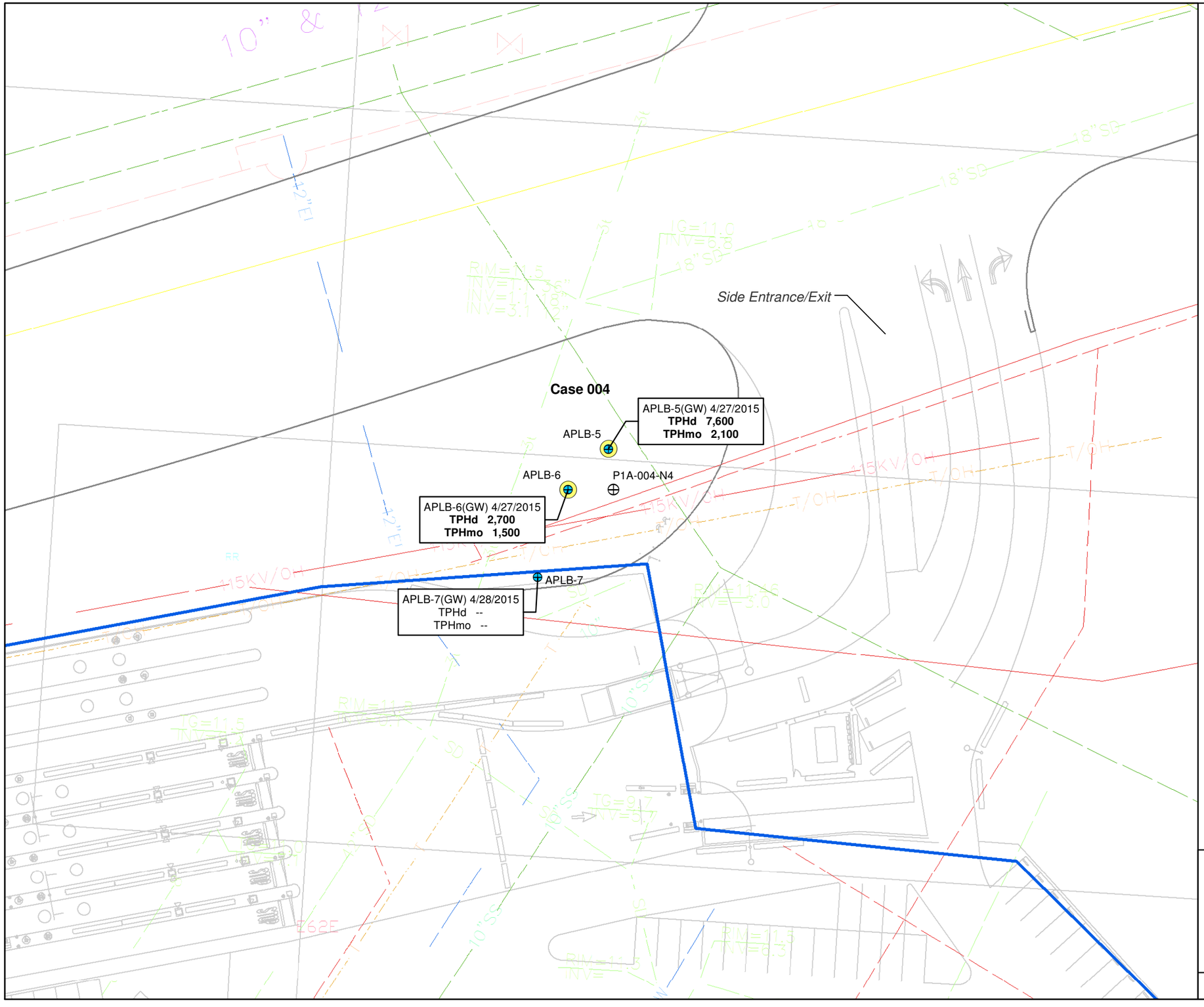
CASE 004 BORING LOCATIONS AND ESL EXCEEDANCES - SOIL
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 06/25/2015 | Project No. OD14170810

Figure 4A

Thursday, June 25, 2015 5:57:15 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure4A-Case004Soil.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (ug/L)

TPHd	640
TPHmo	640

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-5 - Boring Identification
APLB-5(GW) 5/1/2015 - Sample Identification and Sample Date
7,600 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

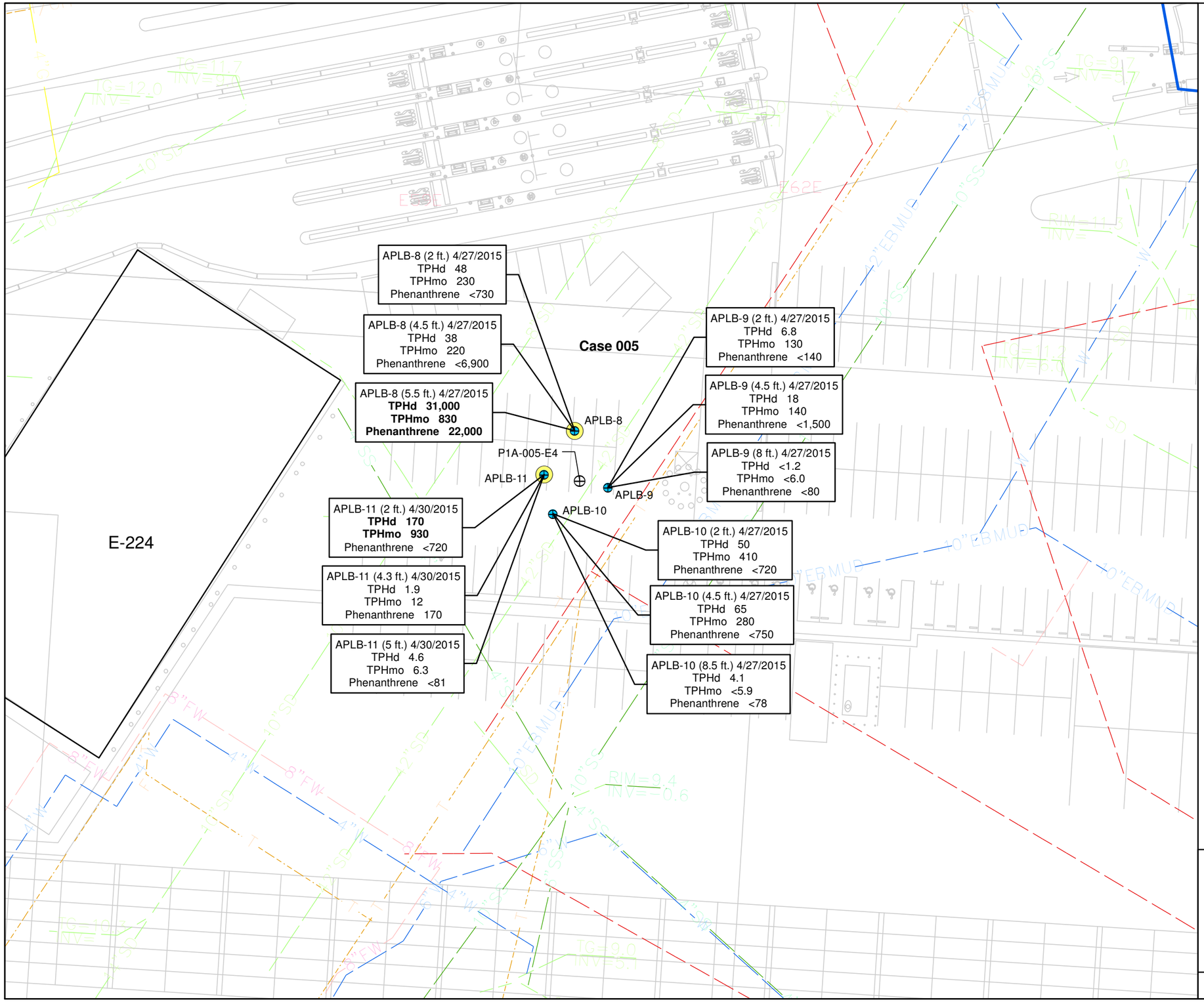
CASE 004 BORING LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 06/26/2015 | Project No. OD14170810

Figure **4B**

Friday, June 26, 2015 11:55:12 AM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure4B-Case004GW.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs)

TPHd	110	mg/kg
TPH mo	500	mg/kg
Phenanthrene	11,000	ug/kg

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-8 - Boring Identification
APLB-8 (2 ft.) 5/1/2015 - Sample Identification and Sample Date
6.8 - Analytical Result in ug/kg
(Phenanthrene results in ug/kg)

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

CASE 005 BORING LOCATIONS AND ESL EXCEEDANCES - SOIL
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/25/2015 | Project No. OD14170810

amec foster wheeler

Figure **5A**

Thursday, June 25, 2015 5:55:09 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure5A-Case005Soil.mxd

Case 005

APLB-11(GW) 4/30/2015
TPHd 590
TPHG <50

APLB-8

APLB-8(GW) 4/27/2015
TPHd 8,400
TPHG 9,100

APLB-11

P1A-005-E4

APLB-10

APLB-9

APLB-9(GW) 4/28/2015
TPHd 520
TPHG <50

APLB-10(GW) 4/27/2015
TPHd 270
TPHG <50

E-224

EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (ug/L)

TPHd	640
TPHg	500

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-8 - Boring Identification
APLB-8(GW) 5/1/2015 - Sample Identification and Sample Date
8,400 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

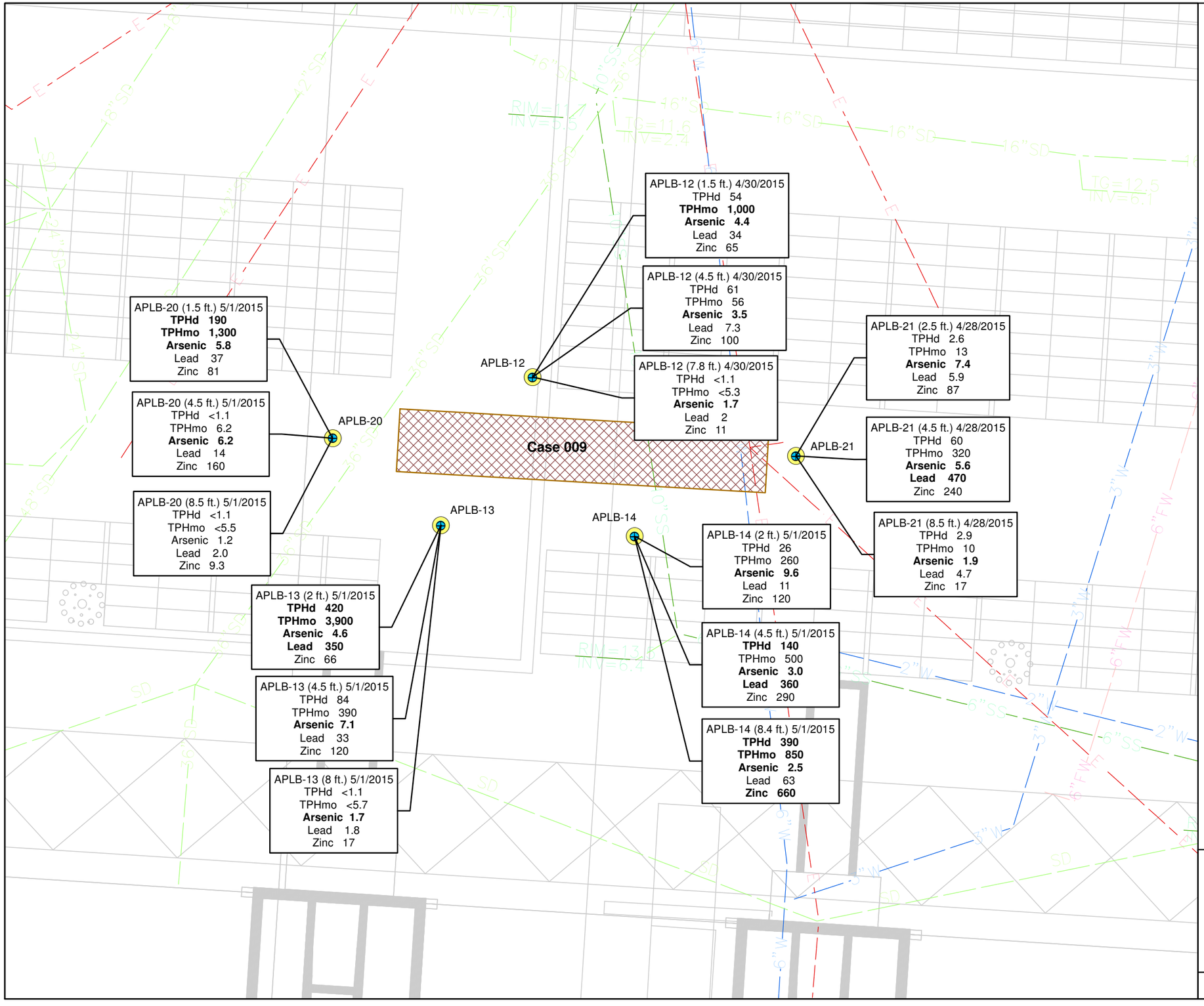
CASE 005 BORING LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/26/2015 | Project No. OD14170810

amec foster wheeler

Figure **5B**

Friday, June 26, 2015 12:02:27 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure5B-Case005GW.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance

Environmental Screening Levels (ESLs) (mg/kg)

TPHd	110
TPHmo	500
Arsenic	1.6
Lead	320
Zinc	600

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-14 - Boring Identification
APLB-14 (2 ft.) 5/1/2015 - Sample Identification and Sample Date
26 - Analytical Result in ug/kg

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

CASE 009 BORING LOCATIONS AND ESL EXCEEDANCES - SOIL

Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 06/26/2015 | Project No. OD14170810

Figure **6A**

Friday, June 26, 2015 1:55:16 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure6A-Case009Soil.mxd

APLB-12(GW) 4/30/2015
TPHd 1,400
TPHmo 2,300
Barium 540
Selenium <10

APLB-12

APLB-20

APLB-20(GW) 5/1/2015
TPHd 920
TPHmo 1,300
Barium 590
Selenium <10

Case 009

APLB-21(GW) 4/28/2015
TPHd <50
TPHmo 460
Barium 1,400
Selenium <10

APLB-21

APLB-13

APLB-13(GW) 5/1/2015
TPHd 2,800
TPHmo 1,100
Barium 190
Selenium 52

APLB-14

APLB-14(GW) 5/1/2015
TPHd 2,800
TPHmo 4,100
Barium 770
Selenium <10

EXPLANATION

- Boring Location
- Sample Location with Exceedance

Environmental Screening Levels (ESLs) (ug/L)

TPHd	640
TPHg	640
Barium	1,000
Selenium	5.0

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-21 - Boring Identification
APLB-21(GW) 5/1/2015 - Sample Identification and Sample Date
<50 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80
Feet

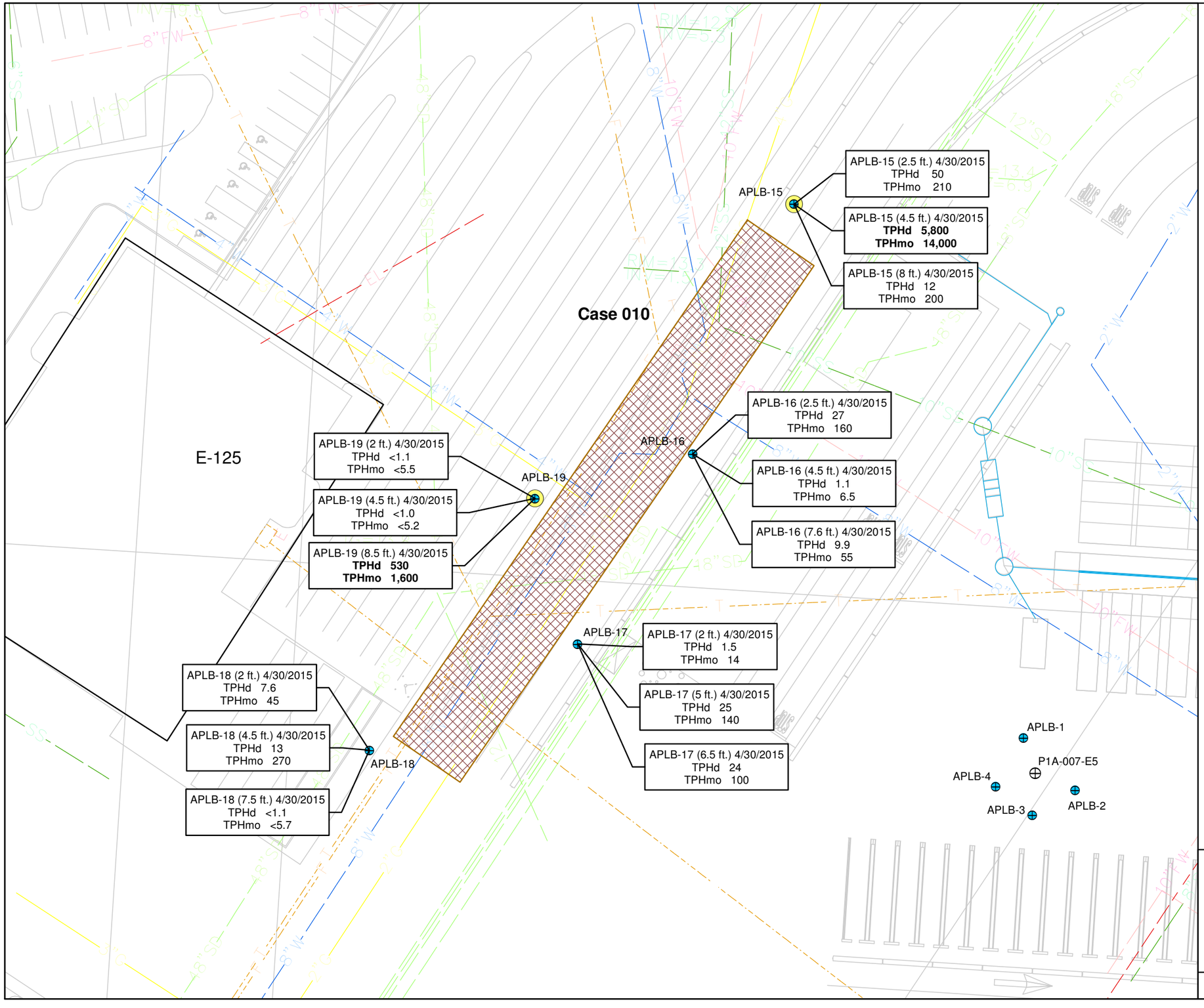
CASE 009 BORING LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 06/26/2015 | Project No. OD14170810

Figure **6B**

Friday, June 26, 2015 12:05:15 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure6B-Case009GW.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (mg/kg)

TPHd	110
TPHmo	500

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-15 - Boring Identification
APLB-15 (2.5 ft.) 5/1/2015 - Sample Identification and Sample Date
50 - Analytical Result in mg/kg

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

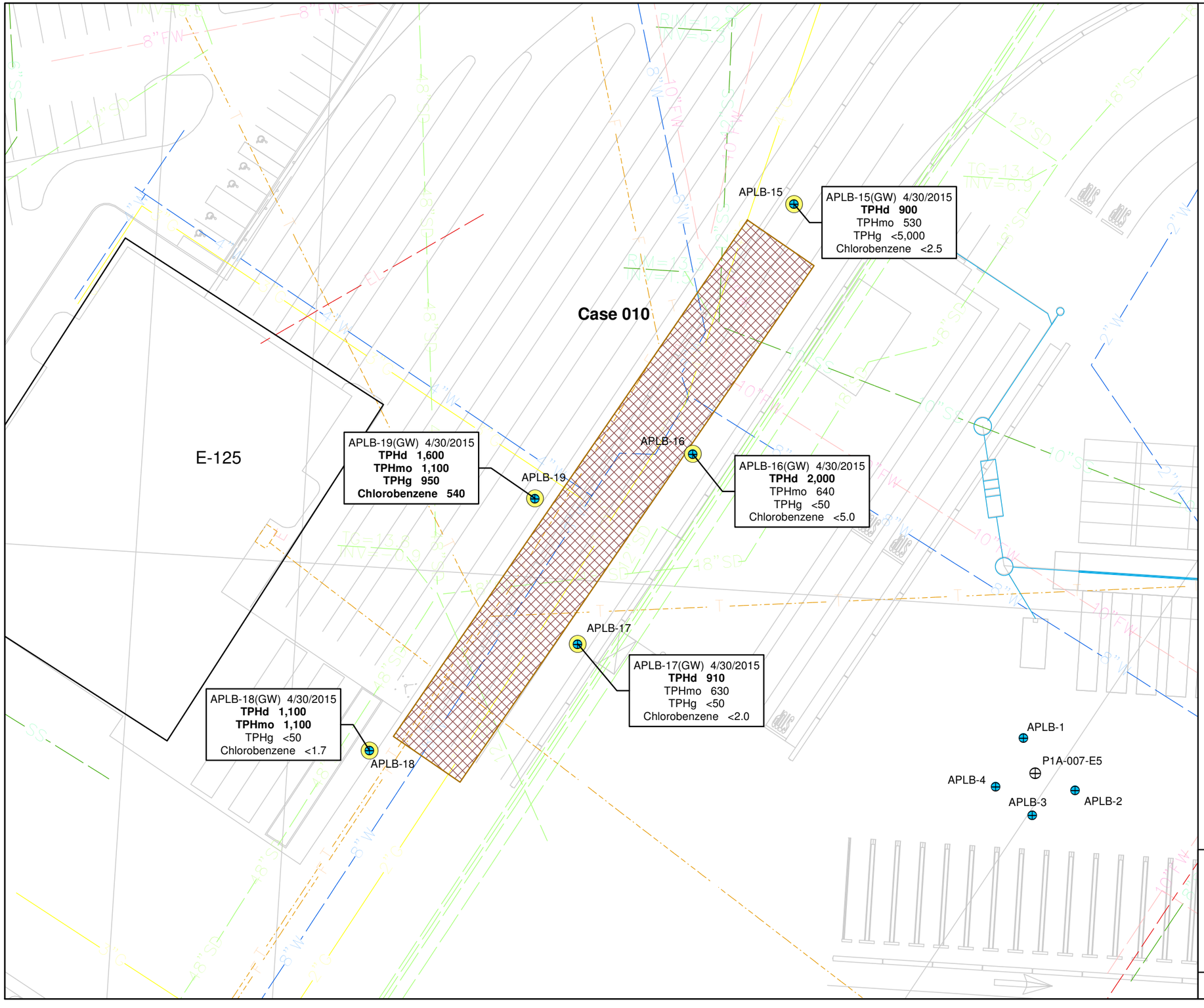
CASE 010 BORING LOCATIONS AND ESL EXCEEDANCES - SOIL
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/25/2015 | Project No. OD14170810

amec foster wheeler

Figure **7A**

Friday, June 26, 2015 12:15:14 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure7A-Case010Soil.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance
- Previous Sample Location

Environmental Screening Levels (ESLs) (ug/L)

TPHd	640
TPHmo	640
TPHg	500
Chlorobenzene	25

Results shown in bold font indicate that detected concentration exceeds ESL

APLB-15 - Boring Identification
APLB-15(GW) 5/1/2015 - Sample Identification and Sample Date
<5,000 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

CASE 010 BORING LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/26/2015 | Project No. OD14170810

amec foster wheeler

Figure **7B**

Friday, June 26, 2015 12:10:16 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure7B-Case010GW.mxd

E-221

APLMW-1

APLMW-1 (4 ft.) 5/14/2015
TPHd 9.6 mg/kg
TPHmo 65 mg/kg

APLMW-1 (7.5 ft.) 5/14/2015
TPHd 300 mg/kg
TPHmo 520 mg/kg

APLMW-2

APLMW-2 (4.5 ft.) 5/15/2015
TPHd 380 mg/kg
TPHmo 220 mg/kg

APLMW-2 (4.5 ft.) 5/15/2015
Benzo(b)fluoranthene 39 ug/kg
Benzo(a)pyrene 34 ug/kg
Indeno(1,2,3-cd)pyrene 22 ug/kg

APLMW-2 (8.2 ft.) 5/15/2015
TPHd 3.2 mg/kg
TPHmo 8.4 mg/kg

APLMW-3

APLMW-3 (4 ft.) 5/14/2015
TPHd 150 mg/kg
TPHmo 900 mg/kg

APLMW-3 (4 ft.) 5/14/2015
Benzo(b)fluoranthene 2,600 ug/kg
Benzo(a)pyrene 2,600 ug/kg
Indeno(1,2,3-cd)pyrene 1,700 ug/kg

APLMW-3 (7 ft.) 5/14/2015
TPHd 460 mg/kg
TPHmo 1,400 mg/kg

APLMW-3 (7 ft.) 5/14/2015
Benzo(b)fluoranthene 66 ug/kg
Benzo(a)pyrene 51 ug/kg
Indeno(1,2,3-cd)pyrene 35 ug/kg

EXPLANATION

Boring Location

Sample Location with Exceedance

Environmental Screening Levels (ESLs)

Total Petroleum Hydrocarbons (mg/kg)

TPHd	110
TPHmo	500

PAHs (ug/kg)

Benzo(b)fluoranthene	1,300
Benzo(a)pyrene	130
Indeno(1,2,3-cd)pyrene	1,300

Results shown in bold font indicate that detected concentration exceeds ESL

APLMW-1 - Boring Identification
APLMW-1 (4 ft.) 5/1/2015 - Sample Identification and Sample Date
9.6 - Analytical Result in mg/kg or ug/kg

Existing Building Location

Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80
Feet

BUILDING E-221 WELL LOCATIONS AND ESL EXCEEDANCES - SOIL

Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

Date: 06/29/2015 | Project No. OD14170810

amec foster wheeler

Figure **8A**

Thursday, July 30, 2015 3:41:38 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure8A-BldgE221Soil.mxd



EXPLANATION

- Boring Location
- Sample Location with Exceedance

Environmental Screening Levels (ESLs) (ug/L)

TPHd	640
TPHmo	640

Results shown in bold font indicate that detected concentration exceeds ESL

APLMW-1 - Boring Identification
APLMW-1(GW) 5/1/2015 - Sample Identification and Sample Date
<300 - Analytical Result in ug/L

- Existing Building Location
- Former Trench Location

Subsurface Utilities

- W — Water Supply
- SS — Sanitary Sewer
- T — Communications
- E — Electrical
- FW — Fire Service
- G — Gas
- SD — Storm Drain

N

0 40 80 Feet

BUILDING E-221 WELL LOCATIONS AND ESL EXCEEDANCES - GROUNDWATER
Post-Construction Field Investigation Report
Former APL Terminal, Port of Oakland
Oakland, California

amec foster wheeler

Date: 06/26/2015 | Project No. OD14170810

Figure **8B**

Thursday, July 30, 2015 3:41:10 PM
P:\OD14170810_Former APL Terminal_Port of Oakland\GIS\Projects\Report\Figure8B-BldgE221GW.mxd

amec foster wheeler

APPENDIX A

Drilling Permits

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 04/20/2015 By jamesy

Permit Numbers: W2015-0325 to W2015-0328
Permits Valid from 04/27/2015 to 05/08/2015

Application Id: 1429053027529 **City of Project Site:** Oakland
Site Location: 1395 Middle Harbor Rd, Oakland, CA
Project Start Date: 04/27/2015 **Completion Date:** 05/08/2015
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: AMEC - Bill Feller **Phone:** 707-793-3891
1670 Corporate Cir, #101, Petaluma, CA 94954
Property Owner: Port Associate Environmental Scientist John **Phone:** 510-627-1373
Prall
530 Water St, Oakland, CA 94607
Client: ** same as Property Owner **

Total Due: $1456.00
Receipt Number: WR2015-0180 **Total Amount Paid:** $1456.00
Payer Name : AMEC Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 3 Wells
Driller: National - Lic #: 953646 - Method: other **Work Total: $1191.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015-0325	04/20/2015	07/26/2015	APLMW1	8.00 in.	2.00 in.	2.00 ft	20.00 ft
W2015-0326	04/20/2015	07/26/2015	APLMW2	8.00 in.	2.00 in.	2.00 ft	20.00 ft
W2015-0327	04/20/2015	07/26/2015	APLMW3	8.00 in.	2.00 in.	2.00 ft	20.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.

6. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

8. Minimum surface seal thickness is two inches of cement grout placed by tremie.

9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

Borehole(s) for Investigation-Environmental/Monitorinig Study - 21 Boreholes
Driller: National - Lic #: 953646 - Method: other **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2015-0328	04/20/2015	07/26/2015	21	2.00 in.	15.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit

application on site shall result in a fine of $500.00.

6. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

APPENDIX B

Boring Logs

Date 5/14/15
Driller National
Drilling Method HSA/Direct Push
Sampler Acetate Liner
Hole Dia. 8 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.32
Northing 2117244.08 **Easting** 6042548.71

Well Construction Details

Top of PVC Casing Elev. **13.10 ft.**

GROUND SURFACE

8-inch Diameter Borehole: 0 to 15.5 feet bgs

Cement Grout: 1 to 3 feet bgs

Bentonite Chips: 3 to 4.5 feet bgs

2-inch Schedule 40 PVC Blank: 0.3 to 5 feet bgs

#2/12 Cemex Sand Filter Pack: 4.5 to 15.5 feet bgs

2-inch Diameter Schedule 40 PVC with 0.010 inch slots: 5 to 15 feet bgs

2-inch Diameter Schedule 40 PVC Threaded End Cap.

PID Reading (ppm)	Sample Number	Depth (ft.)	Sample
	APLMW-1	0	
0			
0		(4)	
		5	
65.3		(7.5)	
		10	
0.1			
		15	

Asphalt

OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 4/4) Medium dense, moist, 60% sand, 20% gravel, 20% fines (fill)

VERY DARK GRAYISH BROWN SANDY SILT WITH GRAVEL (ML) (2.5Y 3/2) Medium firm, moist, 50 to 70% fines, 20 to 30% sand, 10 to 20% gravel (fill)

Degraded asphalt

OLIVE TO GREENISH GRAY SILTY SAND WITH GRAVEL (SM) (5Y 5/3 TO 5GY 5/1) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines (fill)

GREENISH GRAY SILTY GRAVEL WITH SAND (GM) (5GY 5/1) Medium dense, wet, 50% gravel, 35 to 40% sand, 15% fines, strong petroleum odor

DARK GREENISH GRAY CLAYEY SAND (SC) lense, Bay Mud Deposits

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, Bay Mud Sand Deposits

DARK GREENISH GRAY SANDY SILT (ML) (5GY 4/1) Soft, wet, 60 to 80% fines, 20 to 40% sand, Bay Mud Deposits

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, fibrous plant/peat material, Bay Mud Deposits

Direct push boring advanced to 15 feet. Ream hole with 8 inch HSA to 15.5 feet. Driller notes clay present to bottom of boring.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Well Construction Details and Log of Boring APLMW-1
Former APL Terminal
Port of Oakland
Oakland, California

B-1

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Well Construction Details

Top of PVC Casing Elev. **12.35 ft.**

GROUND SURFACE

8-inch Diameter Borehole: 0 to 16.3 feet bgs

Cement Grout: 1 to 3 feet bgs

Bentonite Chips: 3 to 4.5 feet bgs

2-inch Schedule 40 PVC Blank: 0.3 to 6 feet bgs

#2/12 Cemex Sand Filter Pack: 4.5 to 16.3 feet bgs

2-inch Diameter Schedule 40 PVC with 0.010 inch slots: 6 to 16 feet bgs

2-inch Diameter Schedule 40 PVC Threaded End Cap.

Date 5/15/15
Driller National
Drilling Method HSA/Direct Push
Sampler Acetate Liner
Hole Dia. 8 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 12.64
Northing 2117140.13 **Easting** 6042473.04

PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
	APLMW-2	0	Asphalt
1.4			VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines (fill)
			@3.7 ft.: 4 inch broken concrete
14.2		(4.5) 5	GREENISH GRAY SILTY SAND WITH GRAVEL (SM) (5GY 5/1) Medium dense, moist, 60% sand, 25% fines, 15% gravel, petroleum odor (fill)
0.4			GREENISH GRAY CLAYEY SAND WITH GRAVEL (SC) (5GY 5/1) Medium dense, moist, 50% sand, 25% gravel, 25% fines (fill)
0		(8.2)	DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium stiff, moist, Bay Mud Deposits
			DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, Bay Mud Sand Deposits
		10	DARK GREENISH GRAY SILT (ML) (5GY 4/1) Medium firm, wet, Bay Mud Deposits
			DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Lense, Bay Mud Deposits
0			DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, Bay Mud Sand Deposits
			DARK GREENISH GRAY ELASTIC SILT (MH) (5GY 4/1) Soft, wet, Bay Mud Deposits
			DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist, fibrous plant materials, Bay Mud Deposits
		15	

Direct push boring advanced to 15 feet. Ream hole with 8 inch HSA to 16.3 feet. Driller notes clay present to bottom of boring.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Well Construction Details and Log of Boring APLMW-2
Former APL Terminal
Port of Oakland
Oakland, California

B-2

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Well Construction Details

Top of PVC Casing Elev. **12.03 ft.**

GROUND SURFACE

8-inch Diameter Borehole: 0 to 15.8 feet bgs

Cement Grout: 1 to 3 feet bgs

Bentonite Chips: 3 to 4.5 feet bgs

2-inch Schedule 40 PVC Blank: 0.5 to 5.5 feet bgs

#2/12 Cemex Sand Filter Pack: 4.5 to 15.8 feet bgs

2-inch Diameter Schedule 40 PVC with 0.010 inch slots: 5.5 to 15.5 feet bgs

2-inch Diameter Schedule 40 PVC Threaded End Cap.

PID Reading (ppm)	Sample Number	Depth (ft.)	Sample
	APLMW-3	0	
0.2			
0.3		(4)	
		5	
4.3		(7)	
		10	
0			
		15	

Asphalt

VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel up to 2 in., 20% fines (fill)

@4.7 ft.: Change to BLACK (5Y 2.5/2)

GREENISH GRAY SILTY GRAVEL WITH SAND (GM) (5GY 5/1) Medium dense, wet, 50% sand, 30% fines 20% gravel, petroleum odor (fill)

GREENISH GRAY CLAYEY SAND (SC) (5GY 5/1) Medium dense, wet, Bay Mud Deposits

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, Bay Mud Sand Deposits

DARK GREENISH GRAY ELASTIC SILT (MH) (5GY 4/1) Soft, wet, Bay Mud Deposits

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist to wet, fibrous plant materials, Bay Mud Deposits

Direct push boring advanced to 15 feet. Ream hole with 8 inch HSA to 15.8 feet. Driller notes clay present to bottom of boring.

Date 5/14/15
Driller National
Drilling Method HSA/Direct Push
Sampler Acetate Liner
Hole Dia. 8 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 12.52
Northing 2117136.36 **Easting** 6042513.12

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

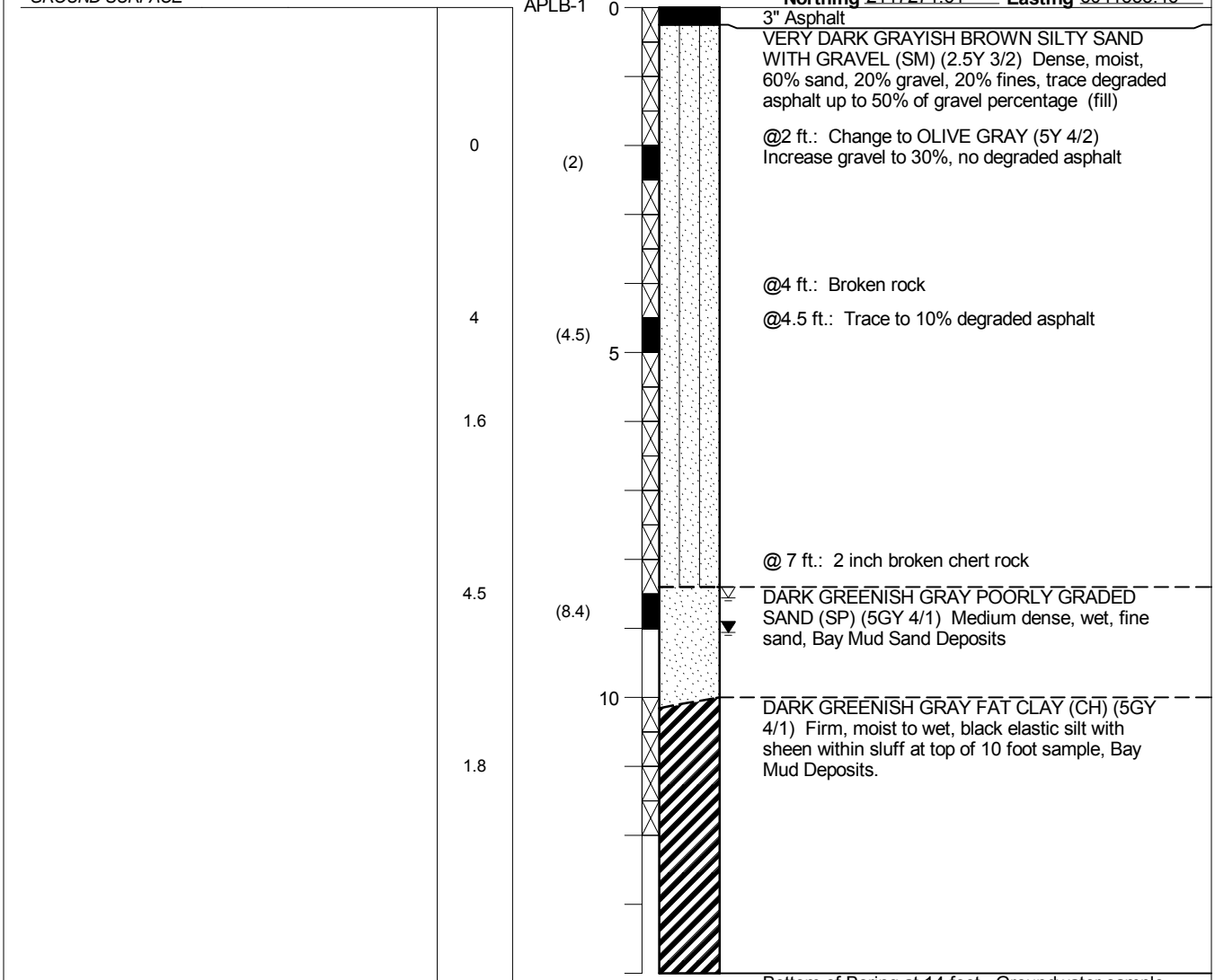
Well Construction Details and Log of Boring APLMW-3

Former APL Terminal
Port of Oakland
Oakland, California

B-3

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 14.08
Northing 2117271.61 **Easting** 6041553.46



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-1
Former APL Terminal
Port of Oakland
Oakland, California

B-4

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.95
Northing 2117250.56 **Easting** 6041574.26

PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
GROUND SURFACE			
	APLB-2	0	3" Asphalt VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines, trace to 10% degraded asphalt gravel (fill)
0.5		(2)	@2 ft.: Decrease in percentage of asphalt gravel
7.2			
11		5	DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, moist, fine sand (fill)
		(5)	BLACK SILTY SAND WITH GRAVEL (SM) (5Y 2/5) Medium dense, moist, 60% sand, 20% gravel, 20% fines (fill)
0		(8)	@ 8 ft.: Wet
		10	DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits
1.7			DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, Bay Mud Deposits.
		15	Bottom of Boring at 15 feet. Groundwater sample APLB-2(GW) collected. Boring backfilled with grout on 5/1/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-2
Former APL Terminal
Port of Oakland
Oakland, California

B-5

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.89
Northing 2117240.51 **Easting** 6041557.01

Sample Number	Depth (ft.)	Sample	PID Reading (ppm)	
				GROUND SURFACE
APLB-3	0			3" Asphalt VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines, trace degraded asphalt gravel (fill)
	(2)		1.5	@3.2 ft.: 6 inch broken rock
	5		395.3	OLIVE POORLY GRADED SAND WITH GRAVEL (SP) (5YR 4/4) Medium dense, moist, 85% sand, 15% gravel, strong solvent odor (fill)
	(5)			VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines (fill)
				Creosote saturated wood, strong creosote odor (fill)
			370.5	VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50 to 60% sand, 20 to 30% gravel, 20% fines (fill)
	(8)			BLACK SILTY SAND WITH GRAVEL (SM) (5Y 2.5/1) Medium dense, wet, 60% sand, 20% gravel, 20% fines, strong solvent odor (fill)
	10			DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits
			42.2	DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, Bay Mud Deposits.
				DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits
				DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, Bay Mud Deposits.
	15			Bottom of Boring at 15 feet. Groundwater sample APLB-3(GW) collected. Boring backfilled with grout on 5/1/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

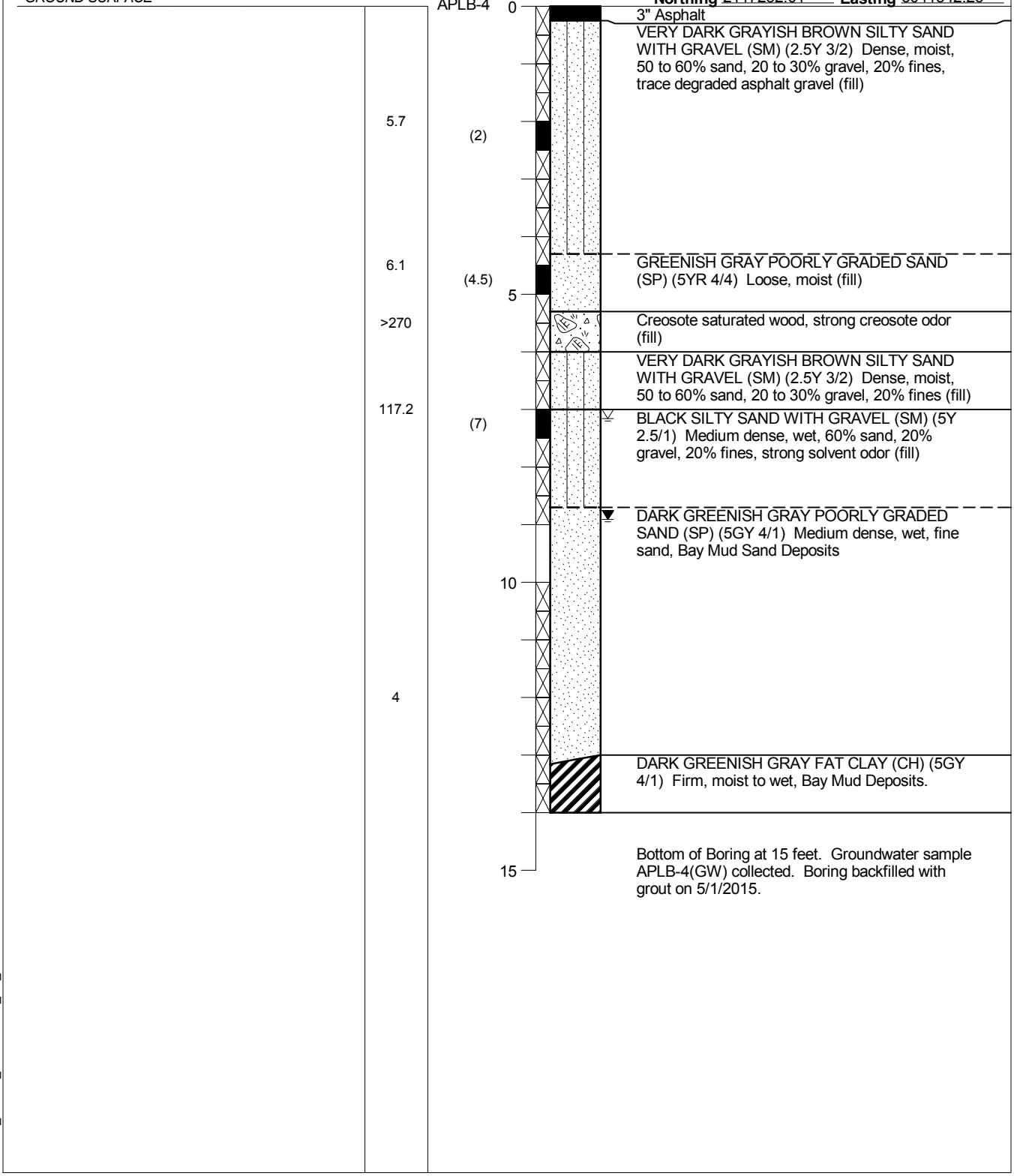
amec

Log of Boring APLB-3
Former APL Terminal
Port of Oakland
Oakland, California

B-6

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.98
Northing 2117252.01 **Easting** 6041542.26



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-4
Former APL Terminal
Port of Oakland
Oakland, California

B-7

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.16
Northing 2117927.2 **Easting** 6042613.89

	PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
GROUND SURFACE		APLB-5	0	OLIVE SILTY GRAVEL WITH SAND (GM) (2.5Y 4/6) Dense, moist, 40% gravel, 30% sand, 30% fines (fill)
	0			
	0		(2.5)	OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 4/3) Medium dense, moist, 40% sand, 40% fines, 20% gravel (fill)
	0		(4.5) 5	
	0.3			
	14.5		(6)	DARK GREENISH GRAY WELL GRADED SAND WITH GRAVEL (SW) (5GY 4/1) Medium dense, wet, 20% sand, 20% sub rounded gravel, petroleum odor, Bay Mud derived fill (?)
				DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits
				DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet Bay Mud Deposits.
			10	Bottom of Boring at 10 feet. Groundwater sample APLB-5(GW) collected. Boring backfilled with grout on 4/27/2015.

Boring hand augered from 0 to 2 feet.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-5
Former APL Terminal
Port of Oakland
Oakland, California

B-8

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.43
Northing 2117910.97 **Easting** 6042597.64

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
		APLB-6	0		DARK BROWN SILTY GRAVEL WITH SAND (GM) (2.5Y 4/4) Dense, moist to dry, 40% gravel, 30% sand, 30% fines (fill)
	0		(2.5)		OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 4/3) Medium dense, moist, 40% sand, 40% fines, 20% gravel (fill)
	0.7		(4.5)		
			5		LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Medium dense, moist, 90% fine sand, 10% fines
	0.1		(5.5)		@ 5.5 ft.: Wet
	0.6				DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, shell fragments, Bay Mud Sand Deposits
					@ 7.2 ft.: 1 inch FAT CLAY lense
					DARK GRAY TO DARK GREENISH GRAY FAT CLAY (CH) (5Y 4/1 to 5GY 4/1) Firm, moist to wet Bay Mud Deposits.
			10		Bottom of Boring at 10 feet. Groundwater sample APLB-6(GW) collected. Boring backfilled with grout on 4/27/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-6
Former APL Terminal
Port of Oakland
Oakland, California

B-9

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.91
Northing 2117875.71 **Easting** 6042585.41

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
		APLB-7	0	3 inches Asphalt
	0		(2)	VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 40% sand, 30% gravel, 30% fines (fill) @1.5 ft.: Change to OLIVE BROWN (2.5Y 4/3) 50% sand, 25% gravel, 25% fines Gravels up to 3 inches cave into 4 ft deep hand auger borehole beginning 2.5 feet. Borehole collapses to 3 feet. Drillers push rods beginning 3 feet. @ 3.5 ft.: Change to DARK YELLOWISH BROWN (10YR 5/2) Medium dense, moist, highly oxidized sand, gravels, and fines of similar lithology
	0		(4.5) 5	BLACK SILTY SAND (SM) (2.5Y N2/) Medium dense, moist, 60 to 70% fine sand, 30 to 40% fines (fill) @5.5 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) 80% sand, 20% silt
	0		(6.5)	DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits DARK GREENISH GRAY SILT (CH) (5GY 4/1) Firm, moist to wet Bay Mud Deposits.
	0			DARK GRAY TO DARK GREENISH GRAY FAT CLAY (CH) (5Y 4/1 to 5GY 4/1) Firm, moist to wet, Bay Mud Deposits.
	0		10	Bottom of Boring at 11.5 feet. Partial groundwater sample APLB-7(GW) collected. Boring backfilled with grout on 4/28/2015.

Boring hand augered from 0 to 4 feet.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-7
Former APL Terminal
Port of Oakland
Oakland, California

B-10

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.19
Northing 2117637.7 **Easting** 6042406.01

PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
GROUND SURFACE				
	APLB-8	0		3 inches Asphalt VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (GM) (2.5Y 3/2) Dense, moist, 50% sand, 25% gravel, 25% fines (fill)
0		(2)		OLIVE BROWN POORLY GRADED SAND WITH GRAVEL (SP) (2.5Y 4/4) Medium dense, moist (fill)
0.2		(4.5)		
		5		@ 5.3 ft.: 2 inch layer of brick fragments
57		(5.5)		DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Medium dense, wet, fine sand, Bay Mud Sand Deposits
26.2				DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, Bay Mud Deposits.
		10		Bottom of Boring at 10 feet. Groundwater sample APLB-8(GW) collected. Boring backfilled with grout on 4/27/2015.

Boring hand augered from 0 to 5 feet.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-8
Former APL Terminal
Port of Oakland
Oakland, California

B-11

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.3
Northing 2117614.85 **Easting** 6042419.39

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
		APLB-9	0	3 inches Asphalt VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 40% sand, 30% gravel, 30% fines (fill)
	0		(2)	OLIVE BROWN POORLY GRADED SAND WITH GRAVEL (SP) (2.5Y 4/4) Medium dense, moist, 60 to 70% fine sand, 20 to 30% gravel, 10% fines, (fill)
	0		(4.5) 5	LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/6) Medium dense, moist, 80% fine sand, 20% fines (fill)
	0		(8)	DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Medium dense, wet, 80 to 90% sand, 10 to 20% fines, Bay Mud Sand Deposits
			10	DARK GRAY TO DARK GREENISH GRAY FAT CLAY (CH) (5G 4/1 to 5GY 4/1) soft, moist to wet, Bay Mud Deposits.
	0		15	Bottom of Boring at 15 feet. Partial groundwater sample APLB-9(GW) collected. Boring backfilled with grout on 4/28/2015.

Boring hand augered from 0 to 5 feet.

BORING_WELL3_AMEC_OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

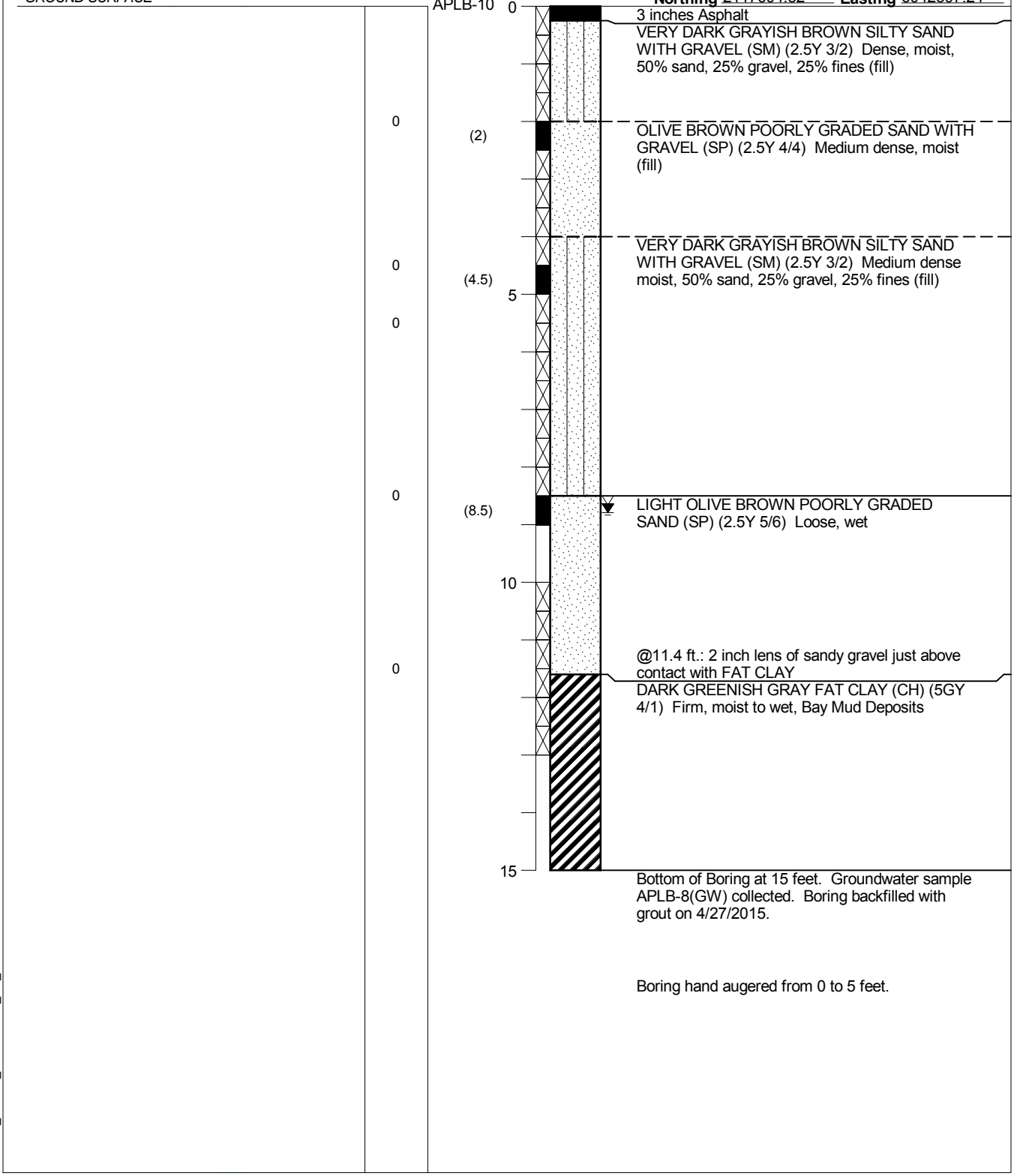
amec

Log of Boring APLB-9
Former APL Terminal
Port of Oakland
Oakland, California

B-12

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/27/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.45
Northing 2117604.32 **Easting** 6042397.24



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-10
Former APL Terminal
Port of Oakland
Oakland, California

B-13

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 11.19
Northing 2117620.07 **Easting** 6042393.67

	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
GROUND SURFACE		APLB-11	0		3 inches Asphalt
	0				DARK OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 4/4) Dense, moist, 50% sand, 30% fines, 20% gravel, rare brick fragments (fill)
	0		(2)		@ 3 ft.: Hand auger refusal due to rock.
	0		(4.3)		DARK YELLOWISH BROWN SILTY SAND WITH GRAVEL (SM) (10YR 4/6) Medium dense, moist, 50 to 60% sand, 20 to 30% fines, 10 to 20% gravel, (fill)
	0		5 (5)		DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, 90% fine sand, Bay Mud Sand Deposits
	0		10		DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Firm, moist to wet, Bay Mud Deposits
					Bottom of Boring at 10 feet. Groundwater sample APLB-11(GW) collected. Boring backfilled with grout on 4/30/2015.
					Boring hand augered from 0 to 3 feet.

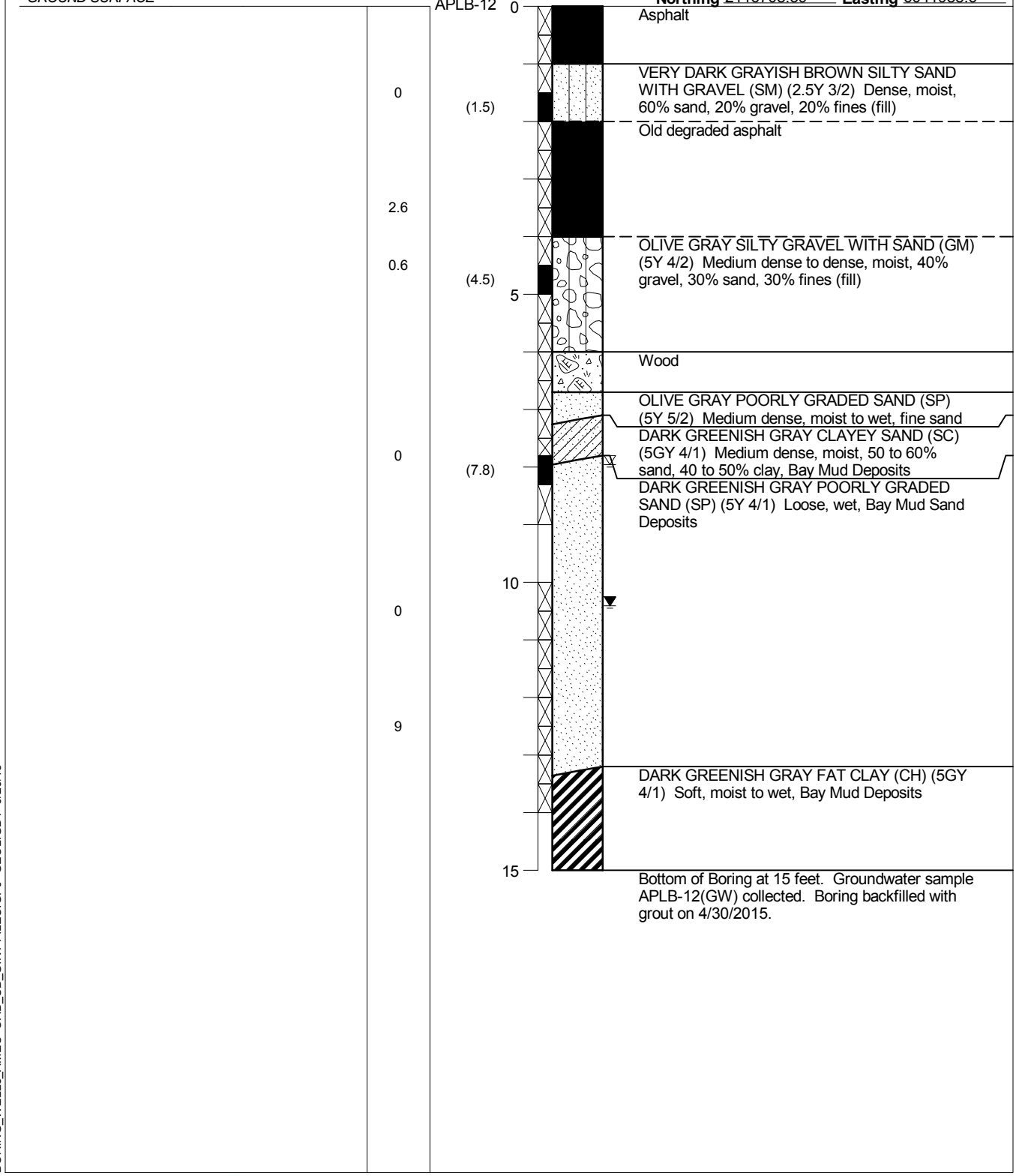
BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

Log of Boring APLB-11
Former APL Terminal
Port of Oakland
Oakland, California

B-14

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 14.28
Northing 2116708.39 **Easting** 6041988.6



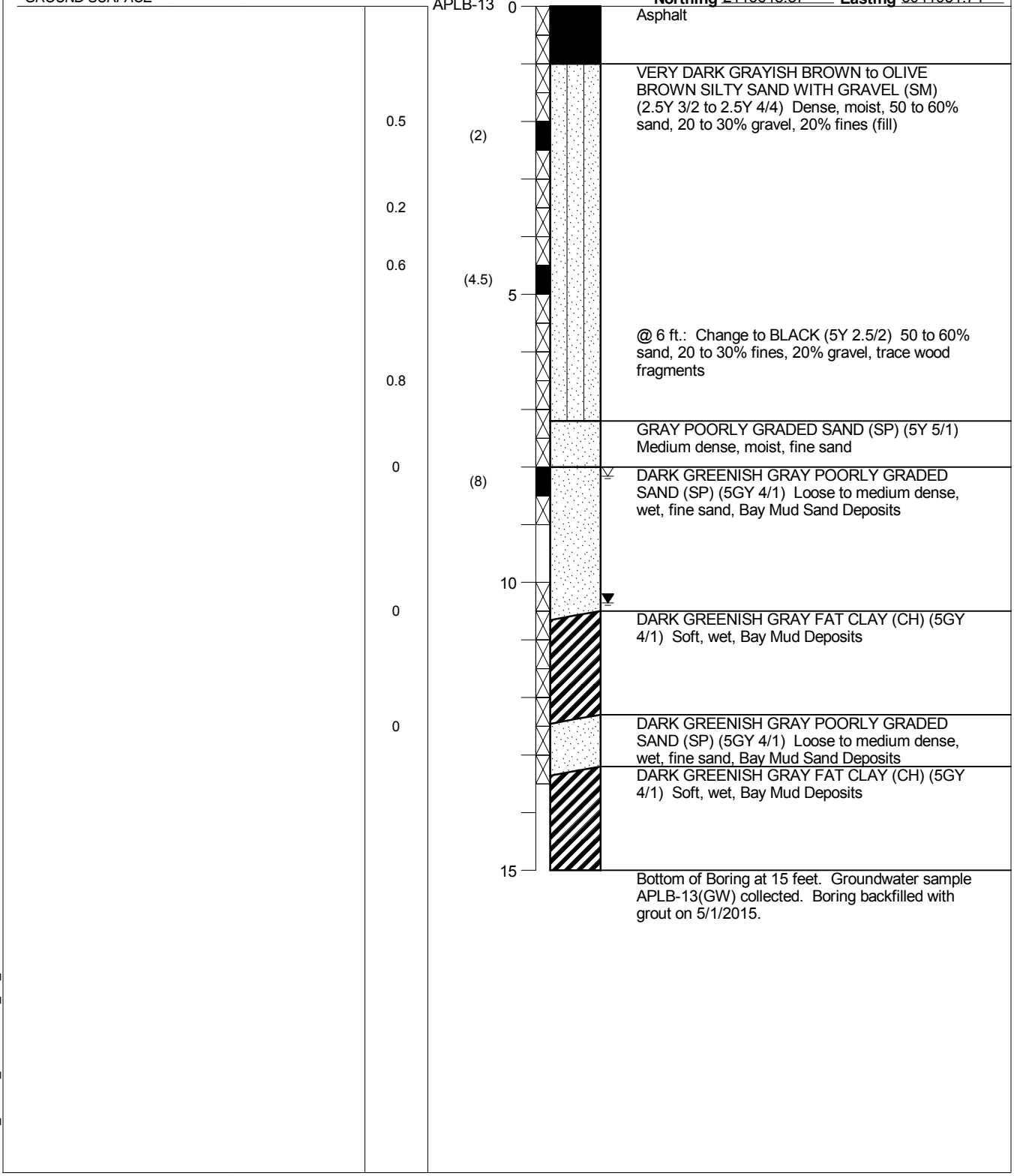
BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

Log of Boring APLB-12
Former APL Terminal
Port of Oakland
Oakland, California

B-15

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.83
Northing 2116648.87 **Easting** 6041951.74



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

Log of Boring APLB-13
Former APL Terminal
Port of Oakland
Oakland, California

B-16

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.88
Northing 2116644.47 **Easting** 6042029.63

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
		APLB-14	0		Asphalt
	0		(2)		VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50% sand, 25% gravel, 25 fines (fill) @ 2.5 ft.: Change to OLIVE GRAY (5Y 4/2) 40% sand, 30 to 40% gravel, 20 to 30% fines
	0				
	0.6		(4.5)		OLIVE GRAY SILTY SAND (SM) (5Y 5/2) Medium dense, moist, 80% fine sand, 20% fines (fill)
			5		
	0.3				DARK OLIVE GRAY SILTY SAND WITH GRAVEL (SM) (5Y 3/2) Medium dense, moist, 40 to 50% sand, 30 to 40% gravel, 20% fines, trace wood fragments and degraded asphalt (fill)
					DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, moist, fine sand, (Bay Dredge Fill)
					DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist, (Bay Dredge Fill)
	29.2		(8.4)		DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, moist, fine sand, (Bay Dredge Fill)
					DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist, (Bay Dredge Fill)
			10		DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, moist, fine sand, (Bay Dredge Fill)
					DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Medium dense, moist (fill) @ 8 ft.: Brick fragment DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits
			15		Bottom of Boring at 15 feet. Groundwater sample APLB-14(GW) collected. Boring backfilled with grout on 5/1/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

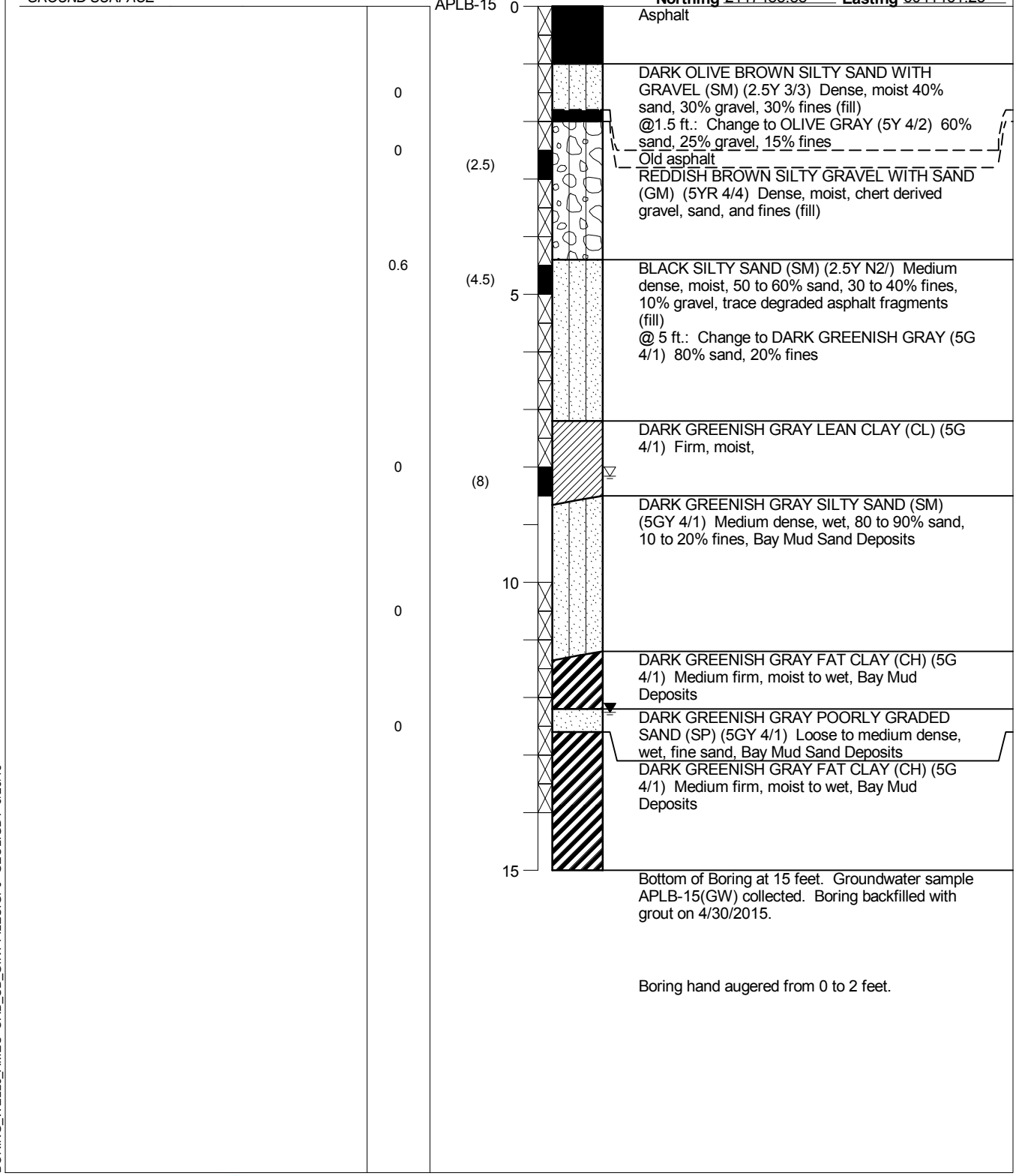
amec

Log of Boring APLB-14
Former APL Terminal
Port of Oakland
Oakland, California

B-17

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 12.75
Northing 2117485.88 **Easting** 6041461.23



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

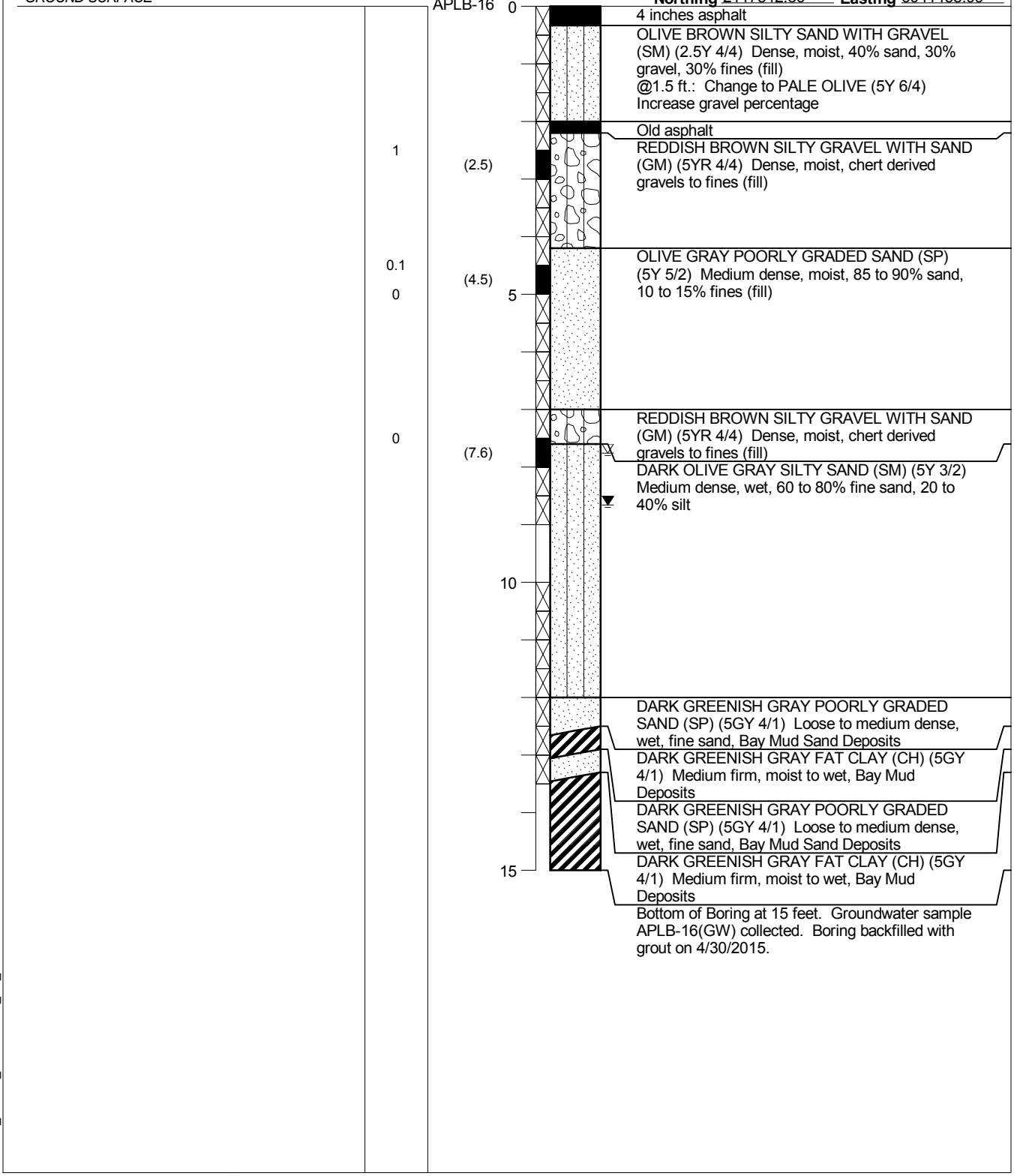
amec

Log of Boring APLB-15
Former APL Terminal
Port of Oakland
Oakland, California

B-18

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 12.75
Northing 2117342.36 **Easting** 6041458.99



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

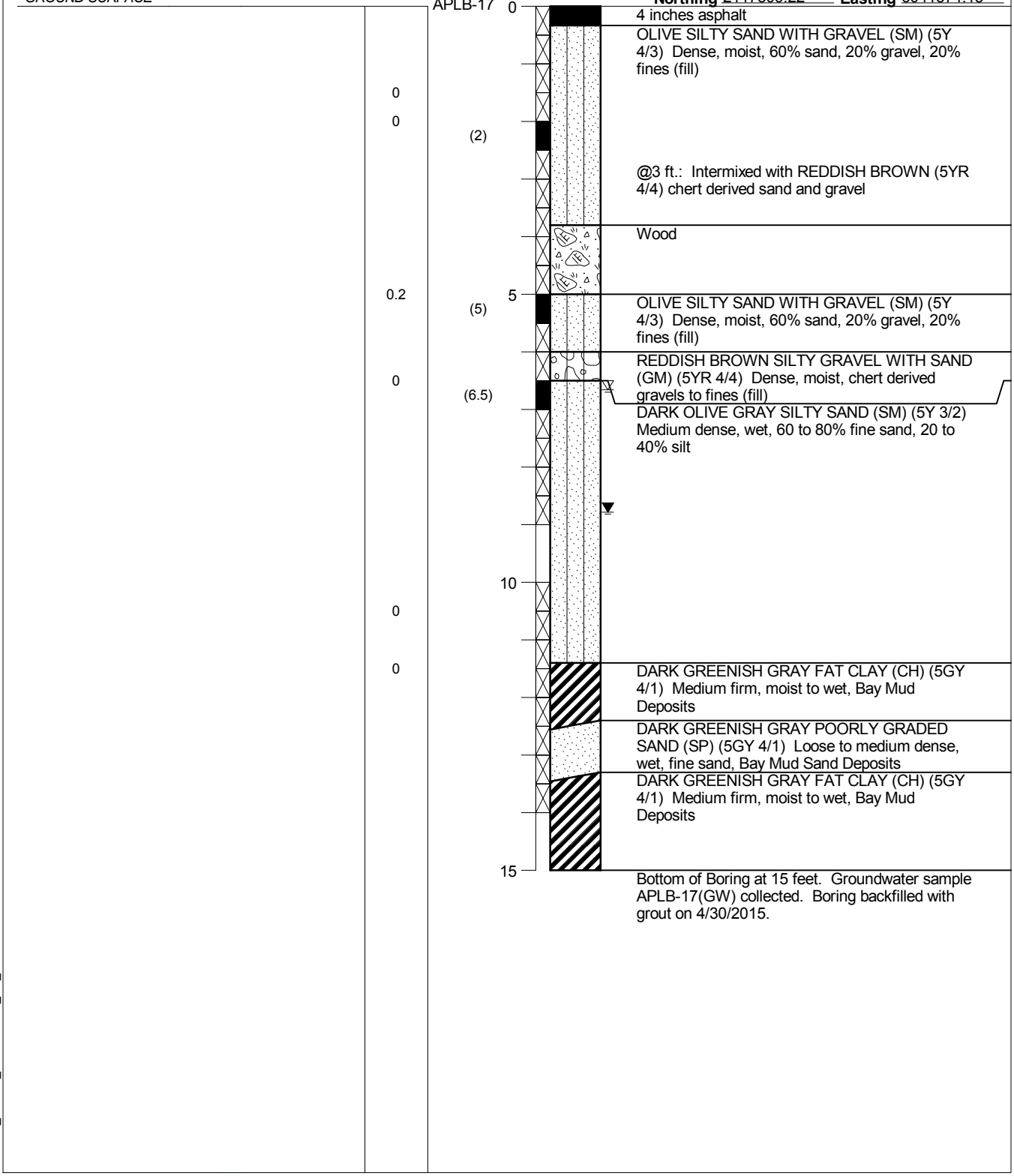
amec

Log of Boring APLB-16
Former APL Terminal
Port of Oakland
Oakland, California

B-19

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.07
Northing 2117309.22 **Easting** 6041374.15



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

amec

Log of Boring APLB-17
Former APL Terminal
Port of Oakland
Oakland, California

B-20

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.65
Northing 2117266.55 **Easting** 6041290.32

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample
	0	APLB-18	0	
			(2)	
	0		(4.5)	
	0		5	
	0		(7.5)	
			10	
			15	

4 inches asphalt

OLIVE SILTY SAND WITH GRAVEL (SM) (5Y 4/3) Dense, moist, 60% sand, 20% gravel, 20% fines (fill)

Old asphalt

OLIVE to REDDISH BROWN SILTY GRAVEL WITH SAND (GM) (5Y 4/3 to 5YR 4/4) Dense, moist, gravels and fines derived from chert and weathered/oxidized rock (fill)

Degraded asphalt

BROWN SILTY SAND (SM) (10YR 4/3) Medium dense, moist, 60 to 70% fine sand, 30 to 40% silt

OLIVE POORLY GRADED SAND (SP) (5Y 4/3) Medium dense, moist, 90% fine sand, 10% fines

@7.5 ft.: Wet

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist to wet, Bay Mud Deposits

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist to wet, Bay Mud Deposits

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits

Bottom of Boring at 15 feet. Groundwater sample APLB-18(GW) collected. Boring backfilled with grout on 4/30/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

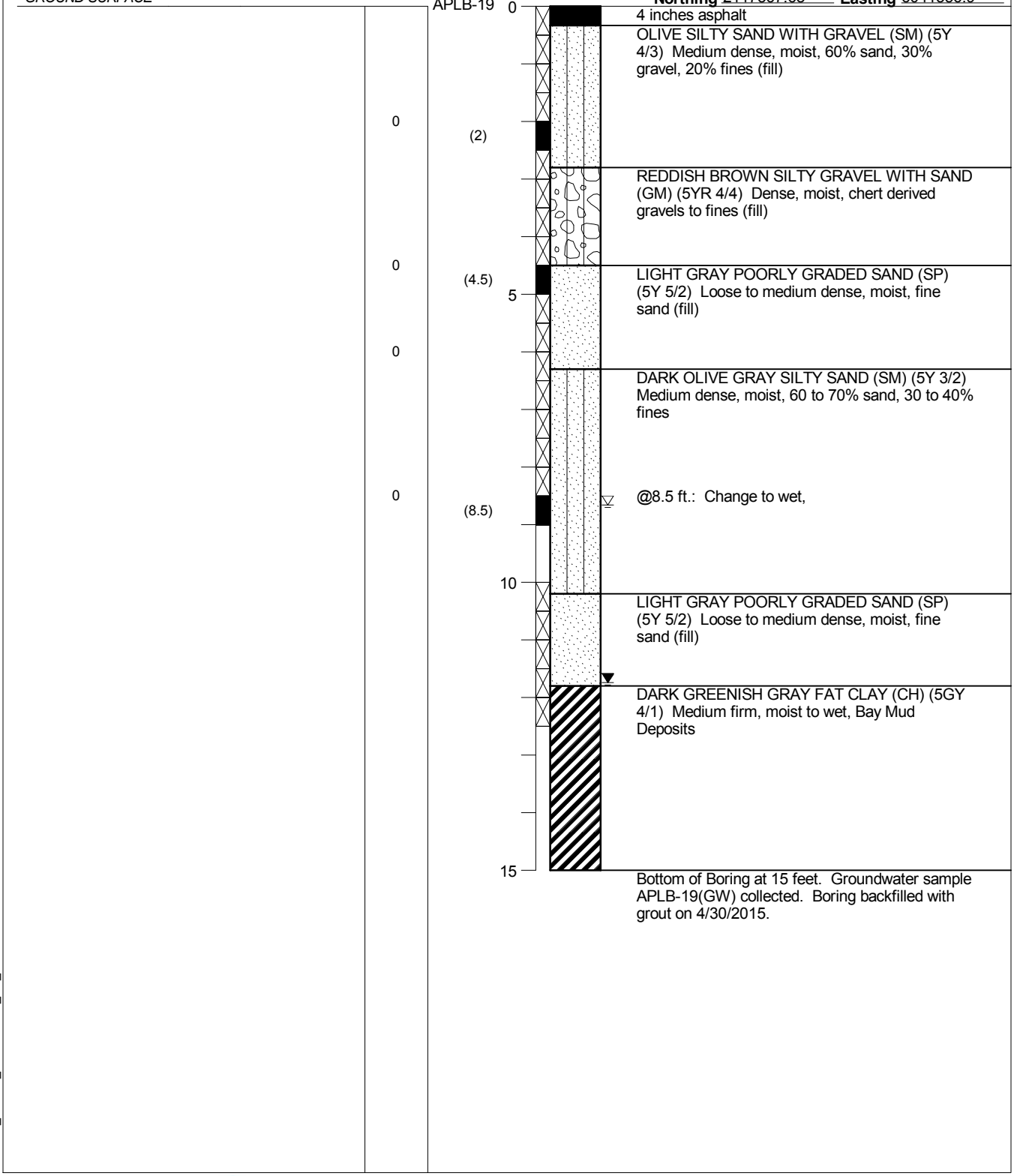
amec

Log of Boring APLB-18
Former APL Terminal
Port of Oakland
Oakland, California

B-21

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/30/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 13.74
Northing 2117367.68 **Easting** 6041356.9



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

Log of Boring APLB-19
Former APL Terminal
Port of Oakland
Oakland, California

B-22

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 5/1/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 14.15
Northing 2116683.85 **Easting** 6041908.15

	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
GROUND SURFACE		APLB-20	0		Asphalt
	0.2		(1.5)		VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Dense, moist, 50% sand, 25% gravel, 25% fines (fill)
					Old degraded asphalt
	0		(4.5)		DARK YELLOWISH BROWN SILTY SAND WITH GRAVEL (SM) (10YR 4/6) Dense, moist 40 to 50% sand, 20 to 30% gravel, 20% fines (fill)
			5		@ 5 ft.: Wood debris
					DARK REDDISH BROWN SILTY GRAVEL WITH SAND (GM) (5YR 3/3) Dense, moist, chert derived gravels to fines (fill)
					DARK OLIVE GRAY SILTY SAND WITH GRAVEL (SM) (5Y 3/2) Medium dense, moist, 40 to 50% sand, 30 to 40% gravel, 20% fines (fill)
					DARK GREENISH GRAY POORLY GRADED SAND (SP) Medium dense, moist, Bay Mud Sand Deposits
	0		(8.5)		DARK GREENISH GRAY SILT (ML) (5GY 4/1) Medium firm, moist, Bay Mud Deposits
					DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits
			10		
					DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist to wet, Bay Mud Deposits
					DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose to medium dense, wet, fine sand, Bay Mud Sand Deposits
			15		Bottom of Boring at 15 feet. Groundwater sample APLB-20(GW) collected. Boring backfilled with grout on 5/1/2015.

BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

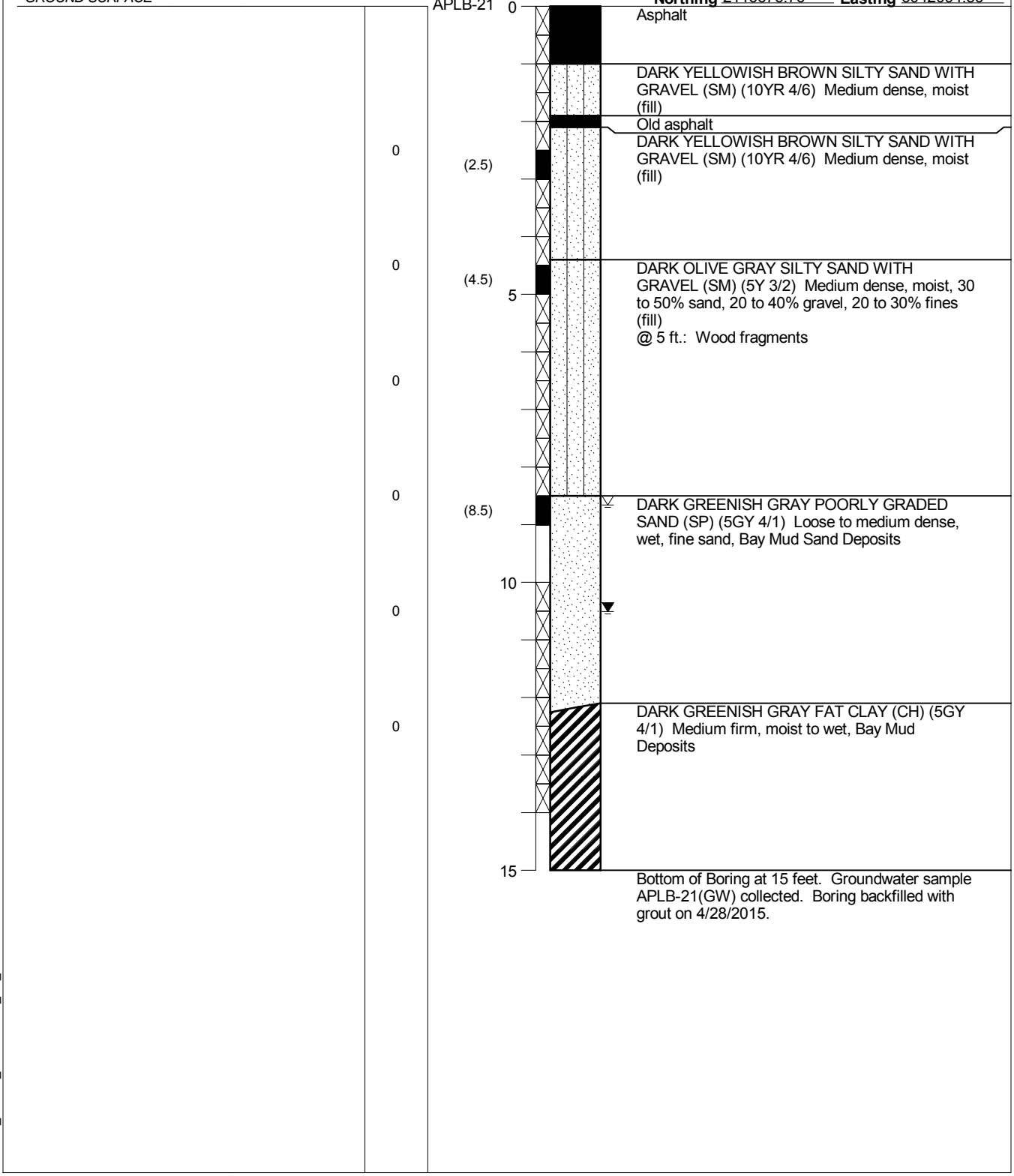
amec

Log of Boring APLB-20
Former APL Terminal
Port of Oakland
Oakland, California

B-23

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

Date 4/28/15
Driller National
Drilling Method Direct Push
Sampler Acetate Liner
Hole Dia. 2 inches
Logged by WJF **Datum** NAD83/NAVD88
Surface Elevation 14.25
Northing 2116676.76 **Easting** 6042094.56



BORING_WELL3_AMEC OAB_SB_GINT FILES.GPJ GEOL.GDT 6/26/15

Log of Boring APLB-21
Former APL Terminal
Port of Oakland
Oakland, California

B-24

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
WJF	OD14170810.03	MJH	6/15		

APPENDIX C

Groundwater Development and Sampling Forms

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-1 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Korday (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1
Total Depth of Casing (TD in ft BTOC): 15
Water Level Depth (WL in ft BTOC): 8.90
No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:
☐ Submersible - Type:
☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):
☐ Near Top Other:
Depth in feet (BTOC): 15
Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 8.90) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	8.12	2110	21.8	>1,000
3	8.06	2021	21.5	>1,000
6	8.03	2022	21.4	>1,000
9	7.98	2035	21.3	>1,000
12	7.96	2032	21.3	808
15	7.95	2042	21.2	638

PURGE TIME

Purge Start: 1050
Purge Stop: 1105
Elapsed: 15

PURGE RATE

~~GPM:~~
GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):
Dark Gray, silty, strong gas odor. 10 PPM at top of casing.

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1106

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB- (GW)	3-40ml	8260B	HCL	C&T	
	2-liter	8270 C	ø		
	~~1-liter~~	~~TPH-D, M.O.~~	~~ø~~		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Dupl. Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL 13-2 (GW)

Well Type: ☐ Monitor ☐ Extraction ☒ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Yoday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 8.78

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 8.78) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.16	7342	23.4	>1,000
3	7.12	7532	22.9	>1,000
6	7.06	7613	22.4	835
9	7.06	7643	22.3	359
12	7.05	7611	22.1	342
15	7.04	7515	22.3	281
18	7.04	7541	22.3	231
21	7.05	7567	22.2	187

PURGE TIME

Purge Start: 1330

Purge Stop: 1351

Elapsed:

PURGE RATE

~~GPM:~~ 200 ml/min

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Medium Grey, silty, 18 PPM at TOC

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1352

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-2 (GW)	3-40ml	8260B	HCL	C&T	
	2-liters	8270C	ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-3 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Kordby (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 8.35

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 8.35) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.30	7324	22.5	>1,000
3	7.20	7710	22.2	>1,000
6	7.17	7740	21.8	>1,000
9	7.16	7764	21.6	>1,000
12	7.15	7743	21.6	>1,000
15	7.14	7745	21.6	>1,000
18	7.14	7742	21.5	620

PURGE TIME

Purge Start: 1235

Purge Stop: 1243

Elapsed: 18

PURGE RATE

~~GPM:~~ 200 ml/min.

GPM:

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):

Medium gray, silty, strong odor
14 PPM at TOC!

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1244

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-3(GW)	3-40ml	8260B	HCL	C&T	
	2-liter	8270C	Ø		
	~~1-liter~~	~~TPH D., M.O.~~	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-4 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Recorded By: Steve Kirday (Signature)

Date: 5-1-15

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 8.75

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 8.75) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	8.00	2645	22.3	>1,000
3	7.67	2782	22.1	>1,000
6	7.61	2844	21.6	>1,000
9	7.56	2896	21.6	459
12	7.55	2926	21.3	301
15	7.54	2933	21.4	198
18	7.53	2942	21.6	

PURGE TIME

Purge Start: 1150

Purge Stop: 1208

Elapsed: 18

PURGE RATE

~~GPM:~~ 200 ml/min

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Medium Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1209

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-4 (GW)	3-40ml	8260B	HCL	C&T	
	~~1-liter~~	~~TPH D, M.O.~~	ø		
	~~2-liter~~	~~8270C~~	ø		
	2-liter	8270C	ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-5

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☐ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-27-15

Recorded By: Steve Koday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):

Total Depth of Casing (TD in ft BTOC):

Water Level Depth (WL in ft BTOC):

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PURGE VOLUME CALCULATION

(30.0 - 10.0) X 1 ² X 3 X 0.0408 = 5.90 gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 10

Screen Interval in feet (BTOC): from to

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.01	4925	20.9	>1,000

PURGE TIME

Purge Start: 0830

Purge Stop: 0833

Elapsed:

PURGE RATE

~~GPM:~~ 150 ml/min.

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Dark Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☑ Bailer - Type: Peristaltic pump

Sample Time: 0845

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APL-5	3-40ml	8260B	HCL	C&T	
	1-liter		Ø		
	2-liter		Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-6

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☐ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-27-15

Recorded By: Steve Kodlay (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 10

Water Level Depth (WL in ft BTOC): 6.36

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 10

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(10.0 - 6.36) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.13	3400	20.6	>1,000
3	7.07	3208	20.4	>1,000
6	7.05	3241	19.9	131
9	7.02	3261	19.9	70.3
12	7.03	3254	19.8	28.3

PURGE TIME

Purge Start: 0924

Purge Stop:

Elapsed:

PURGE RATE

~~GPM:~~ 150 ml/min.

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Dark Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☑ Bailer - Type: Peristaltic pump

Sample Time: 0937

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APL B-6 (GW)	3-40ml	8260B	HCL	C&T	
	1-liter		Ø		
	2-liter		Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-7

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☐ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-28-15

Recorded By: Steve Kodlay (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 11.5

Water Level Depth (WL in ft BTOC): 8.50

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PURGE VOLUME CALCULATION

(11.5 - 8.50) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 11.5

Screen Interval in feet (BTOC): from to

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial				

PURGE TIME

Purge Start:

Purge Stop:

Elapsed:

PURGE RATE

GPM:

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Enough water to submit VOA's only

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic Pump

Sample Time: 0715

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APL B7 GW	3-40ml	8260B	HCL	C&T	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-7 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring
☐ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-27-15

Recorded By: Steve Koday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1
Total Depth of Casing (TD in ft BTOC): 11.5
Water Level Depth (WL in ft BTOC): 8.70
No. of Well Volumes to be purged (# V): _____

PURGE METHOD

☐ Bailer - Type:
☐ Submersible - Type:
☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☐ Near Bottom ☐ Mid Point of Screen (Depth): _____
☐ Near Top Other:
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from _____ to _____

PURGE VOLUME CALCULATION

(11.5 - 8.70) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial				

PURGE TIME

Purge Start: 1115
Purge Stop: _____
Elapsed: _____

PURGE RATE

GPM: _____
GPM: _____

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):
not enough water to purge or sample

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☑ Bailer - Type: Peristaltic Pump

Sample Time: _____

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APL B7 GW	3-40ml	82603	HCL	C&T	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-8

Well Type: ☐ Monitor ☐ Extraction ☒ Boring ☒ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4/27/18

Recorded By: _____ (Signature)

Sampled By: WP (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
Total Depth of Casing (TD in ft BTOC):
Water Level Depth (WL in ft BTOC):
No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:
☐ Submersible - Type:
☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):
☐ Near Top Other:
Depth in feet (BTOC): 10
Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(10 - 5.70) X ___ ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	6.78	3377	21.3	>1,000
1 Liter	6.57	3998	20.4	254
2 Liter	6.54	4100	20.7	70.0
3 Liter	6.53	4312	20.7	28.0
4 Liter	6.52	4321	20.7	9.03

PURGE TIME

Purge Start: 1610
Purge Stop: 1630
Elapsed:

PURGE RATE

GPM: 200 ml
GPM: 200 ml

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):
sheen

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic Pump

Sample Time: 1633

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLBB GW	6 40A	VOCs / TPH G	HCl	C&T	
	2 liter A	SOCs	—		
	1 Liter A	TPHD/MO	—		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-9 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-28-15

Recorded By: Steve Worley (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 8.65

No. of Well Volumes to be purged (# V): _____

PURGE METHOD

☐ Bailer - Type: _____

☐ Submersible - Type: _____

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☐ Near Bottom ☐ Mid Point of Screen (Depth): _____

☐ Near Top Other: _____

Depth in feet (BTOC): _____

Screen Interval in feet (BTOC): from _____ to _____

PURGE VOLUME CALCULATION

(15 - 8.65) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial				

PURGE TIME

Purge Start: 0813

Purge Stop: 0815

Elapsed: 2

PURGE RATE

GPM: _____

GPM: _____

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):

Enough water to fill VOA's and 3/4 of a liter

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: _____

Sample Time: 0815

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB9GW	3-40ml	8260B	HCL	C&T	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-9

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☐ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-27-15

Recorded By: Steve Korday (Signature)

Sampled By: SK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC):

Water Level Depth (WL in ft BTOC):

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☐ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC):

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 -) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	☑ °C Temp. ☐ °F	Turbidity (NTU)
Initial				

PURGE TIME

Purge Start:

Purge Stop:

Elapsed:

PURGE RATE

GPM:

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
				C&T	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B10

Well Type: ☐ Monitor ☐ Extraction ☒ Boring ☒ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4/27/17

Recorded By: _____ (Signature)

Sampled By: GDE (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1 11

Total Depth of Casing (TD in ft BTOC): 18

Water Level Depth (WL in ft BTOC): 8.63

No. of Well Volumes to be purged (# V): _____

PURGE METHOD

☐ Bailer - Type: _____

☐ Submersible - Type: _____

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☐ Near Bottom ☐ Mid Point of Screen (Depth): _____

☐ Near Top Other: _____

Depth in feet (BTOC): _____

Screen Interval in feet (BTOC): from _____ to _____

PURGE VOLUME CALCULATION

(_____ - _____) X ____ ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.17	17.718	21.1	365
300 MT	6.90	17.661	19.9	
1 Liter	6.89	17.661	20.0	16.8
2 Liter	6.84	17.685	20.1	7.03
3 Liter	6.83	17.874	20.0	4.24
4 Liter	6.84	17.937	20.0	3.14

PURGE TIME

Purge Start: 1517

Purge Stop: 1537

Elapsed: 20

PURGE RATE

GPM: 300 ml / 250

GPM: 200

PURGE VOLUME

Volume: 4 Liter ~~gallons~~ Liters

Observations During Purging (Well Condition, Color, Odor):

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic

Sample Time: 1540

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-10 GW	6 VOA	VOCs / TPH G	HCl	C&T	
	2 Liter A	SOCs	-		
	1 Liter A	TPH d/mO	-		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-11 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Korlay (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 10.0

Water Level Depth (WL in ft BTOC): 5.84

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(10.0 - 5.84) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial	6.01	4632	20.8	>1,000
3	6.25	4371	20.8	456
6	6.38	4284	20.9	24.0
9	6.39	4308	20.8	8.36
12	6.39	4315	20.7	4.87
15	6.37	4325	20.8	5.44

PURGE TIME

Purge Start: 0827

Purge Stop: 0842

Elapsed:

PURGE RATE

~~GPM:~~ 200 ml/min.

GPM:

PURGE VOLUME

Volume: 3,000 ~~gallons~~ ml.

Observations During Purging (Well Condition, Color, Odor):

Medium silty gray, bay mud odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic pump

Sample Time: 0843

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-11 (GW)	3-40ml	8260B	HCL	C&T	
	3-40m	TPH Gas	HCL		
	2-1 liter	8270c SVOC's	Ø		
	1-liter	TPH D, M.O.	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.
APLB-11(GW)	Dup 4/30/15-1

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-12 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Kodey (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 10.25

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 10.25) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	6.60	13903	26.5	>1,000
3	6.60	14626	24.8	452
6	6.62	14584	24.3	135
9	6.63	14493	24.2	70.8
12	6.63	14503	24.0	30.6
15	6.62	14515	23.8	21.4

PURGE TIME

Purge Start: 1637

Purge Stop: 1652

Elapsed: 15

PURGE RATE

~~GPM~~: 200 ml/min.

GPM:

PURGE VOLUME

Volume: ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):

Md. Gray, silty.

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1653

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-12(GW)	1-liter	TPH D, M.O.	Ø	C&T	
	1-500ml	CAM 17 metals	Ø		Filtered

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-13 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Koday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 10.20

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 10.20) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	6.91	15195	20.5	>1,000
3	6.93	15315	20.3	769
6	6.96	15282	20.3	186
9	6.96	15211	20.2	97.3
12	6.97	15201	20.2	28.6

PURGE TIME

Purge Start: 0840

Purge Stop: 0852

Elapsed: 12

PURGE RATE

~~GPM:~~ 200 ml./min.

GPM:

PURGE VOLUME

Volume: 2,400 ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):

Medium Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 0853

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-13 (GW)	1-500ml	CAM 17 Metals	Ø	C&T	Filtered
	1-liter	TPHD, M.O.	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-14 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Kurley (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 9.75

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 9.75) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	Temp. ☐ °C ☐ °F	Turbidity (NTU)
Initial	7.06	9636	20.9	>1,000
3	7.10	9835	20.7	553
6	7.15	9834	20.6	84.1
9	7.12	9803	20.6	17.5
12	7.15	9801	20.4	7.92

PURGE TIME

Purge Start: 0805

Purge Stop: 0817

Elapsed: 12

PURGE RATE

~~GPM:~~ 200 ml/min.

GPM:

PURGE VOLUME

Volume: 2,400 ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):

Medium Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 0818

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-14(GW)	1-500ml	CAM 17 metals	Ø	C&T	Filtered
	1-liter	TPH D, M.O.	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-15 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Korday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15.0

Water Level Depth (WL in ft BTOC): 12.10

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15.0 - 12.10) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	6.68	17782	20.5	>1,000
3				

PURGE TIME

Purge Start: 1035

Purge Stop: 1038

Elapsed: 3

PURGE RATE

~~GPM:~~ 200 ml/min.

GPM:

Dry @ 600 ml.

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):

Medium gray, silty

Dry after 3 minutes, letting recover

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1055

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-15 (GW)	3-40ml	8260B	HCL	C&T	
	3-40ml	TPH G	HCL		
	1-1liter	TPH D, M.O.	Ø		
	2-1liter	8270C SVOC's	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-16 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring
☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Kodlay (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1
Total Depth of Casing (TD in ft BTOC): 15.0
Water Level Depth (WL in ft BTOC): 8.50
No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:
☐ Submersible - Type:
☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):
☐ Near Top Other:
Depth in feet (BTOC): 15.0
Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15.0 - 8.50) X 1 ² X 3 X 0.0408 = _____ gals
TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	☑ °C Temp. ☐ °F	Turbidity (NTU)
Initial	6.60	3879	24.6	>1,000
3	6.65	3387	24.6	>1,000
6	6.67	3404	24.4	>1,000
9	6.68	3422	23.9	313
12	6.66	3481	23.1	558
15	6.65	3493	22.9	246
18	6.64	3520	22.6	211

PURGE TIME

Purge Start: 1144
Purge Stop: 1202
Elapsed:

PURGE RATE

~~GPM:~~ 200 ml./min.
GPM:

PURGE VOLUME

Volume: 3,600 ml. ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):
Dk. Gray, silty. Bay mud, sulphur odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic Pump

Sample Time: 1203

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-16 (GW)	3-40ml	8260B	HCL	C&T	
	1-1liter	8270C SVOC's	Ø		
	2-1liter	TPH D, M.O.	Ø		
	3-40ml	TPH G	HCL		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-17 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Worley (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 8.62

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 8.62) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial	6.64	4781	23.4	>1,000
3	6.71	4017	23.5	>1,000
6	6.71	4447	23.7	>1,000
9	6.71	4433	23.7	667
12	6.70	4445	23.2	431
15	6.69	4497	23.2	349
18	6.67	4465	23.1	278

PURGE TIME

Purge Start: 1307

Purge Stop: 1325

Elapsed:

PURGE RATE

GPM: 200 ml/min.

GPM:

PURGE VOLUME

Volume: 3,600 ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):

Lt. Gray,

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1326

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-17 (GW)	3-40ml	8260B	HCL	C&T	
	3-40ml	TPH Gas	HCL		
	1-liter	8270C SVOC's	Ø		
	2-liter	TPH D, M.O.	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-18 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 9-30-15

Recorded By: Steve Korday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15.0

Water Level Depth (WL in ft BTOC): 9.27

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15.0 - 9.27) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	6.63	9303	24.1	>1,000
3	6.77	8735	23.6	>1,000
6	6.77	7470	23.2	>1,000
9	6.76	7147	22.5	>1,000
12	6.74	7332	22.4	>1,000
15	6.74	7350	22.5	>1,000
18	6.74	7347	22.4	>1,000

PURGE TIME

Purge Start: 1507

Purge Stop: 1525

Elapsed: 18

PURGE RATE

~~GPM:~~ 200 ml/min

GPM:

PURGE VOLUME

Volume: 3,600 ~~gallons~~ mL

Observations During Purging (Well Condition, Color, Odor):

Dk. Gray, silty, sulphur odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1526

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APL B-18 (GW)	3-40ml	8260B	HCL	C&T	
	3-40ml	TPH Gas	HCL		
	1-liter	TPH D, M.O.	ø		
	2-liter	8270C SVOC's	ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APLB-19 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4-30-15

Recorded By: Steve Kirday (Signature)

Sampled By: SJK (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15.0

Water Level Depth (WL in ft BTOC): 11.58

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15.0 - 11.58) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.08	3532	23.6	>1,000
3	7.18	3500	22.7	>1,000
6	7.22	3493	22.5	587
9	7.27	3486	22.3	307
12	7.29	3480	22.7	264
15	7.29	3490	22.3	206

PURGE TIME

Purge Start: 1400

Purge Stop: 1415

Elapsed:

PURGE RATE

GPM: 200 ml/min.

GPM:

PURGE VOLUME

Volume: 3,000 ml. ~~gallons~~

Observations During Purging (Well Condition, Color, Odor):

Md. Silty Gray, strong gas odor with sheen.

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 1416

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB-19(GW)	3-40ml	8260B	HCL	C&T	
	3-40ml	TPH Gas	HCL		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-20 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 5-1-15

Recorded By: Steve Kurlay (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15

Water Level Depth (WL in ft BTOC): 9.90

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15

Screen Interval in feet (BTOC): from to

PURGE VOLUME CALCULATION

(15 - 9.90) X 1 ² X 3 X 0.0408 = gals

TD (feet) WL (Feet) D (Inches) # V Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Liters or Minutes	pH	Conductivity (µS)	Temp. ☑ °C ☐ °F	Turbidity (NTU)
Initial	7.13	12725	21.3	>1,000
3	7.10	12619	21.1	354
6	7.08	12541	20.8	26.0
9	7.08	12539	20.7	14.8
12	7.08	12534	20.8	9.47

PURGE TIME

Purge Start: 0920

Purge Stop: 0932

Elapsed: 12

PURGE RATE

~~GPM:~~ 200 ml/min

GPM:

PURGE VOLUME

Volume: gallons

Observations During Purging (Well Condition, Color, Odor):

Dark Gray, silty, bay mud/sulphur odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type:

Sample Time: 0933

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APBL-20 (GW)	1-500 ml	CAM 17 Metals	Ø	C&T	Filtered
	1-liter	TPH D, M.O.	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Foster Wheeler Environment & Infrastructure

Well/Boring Number: APL B-21 (GW)

Well Type: ☐ Monitor ☐ Extraction ☑ Boring ☑ PVC ☐ St. Steel ☐ Other

Job Name: Former APL Terminal

Job Number: OD14170810.03

Date: 4/28/15

Recorded By: Steve Korday (Signature)

Sampled By: SJK (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 1

Total Depth of Casing (TD in ft BTOC): 15.0

Water Level Depth (WL in ft BTOC): 10.35

No. of Well Volumes to be purged (# V):

PURGE METHOD

☐ Bailer - Type:

☐ Submersible - Type:

☒ Other - Type: Peristaltic Pump

PURGE VOLUME CALCULATION

(15.0 - 10.35) X 1 ² X 3 X 0.0408 = _____ gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

PUMP INTAKE SETTING

☑ Near Bottom ☐ Mid Point of Screen (Depth):

☐ Near Top Other:

Depth in feet (BTOC): 15.0

Screen Interval in feet (BTOC): from ____ to ____

Field Parameter Measurement (circle gallons or minutes)

Liters or (Minutes)	pH	Conductivity (µS)	☑ °C ☐ °F Temp.	Turbidity (NTU)
Initial	6.64	11388	19.9	>1,000
3	6.74	11614	20.3	>1,000
6	6.72	11607	20.6	326
9	6.72	11639	20.7	418
12	6.72	11753	20.6	470
15	6.72	11765	20.7	532

PURGE TIME

Purge Start: 0940

Purge Stop: 0955

Elapsed: 15

PURGE RATE

GPM:

GPM:

PURGE VOLUME

Volume: _____ gallons

Observations During Purging (Well Condition, Color, Odor):

Dark Gray, silty

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

☐ Bailer - Type: Peristaltic Pump

Sample Time: 0956

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLB21GW	1-500ml	CAM 17 Metals	Ø	C&T	Filtered
	1-liter	TPH D, MO	Ø		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

GROUNDWATER SAMPLING FORM

AMEC Environment & Infrastructure

Well Number: APLMW-81

Well Type: [X] Monitor [ ] Extraction [ ] Other ___ [ ] PVC [ ] St. Steel [ ] Other ___

Job Name: Former AFA Terminal

Job Number: 0014170810.03

Recorded By: (Signature)

Date: 5/23/18

Sampled By: (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2

Total Depth of Casing (TD in ft BTOC): ~~16.3~~ 15.2

Water Level Depth (WL in ft BTOC): 8.00

No. of Well Volumes to be purged (# V): Low flow

PURGE METHOD

[ ] Bailer - Type:

[ ] Submersible - Type:

[X] Other - Type: Geosquirt

PURGE VOLUME CALCULATION

(15.2 - 8.00) X 2 ² X 3 X 0.0408 = 3.5 gals

TD (feet) | WL (Feet) | D (inches) | # V | Calculated Purge Volume

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Mid Point of Screen (Depth): ___

[ ] Near Top [ ] Other: ___

Depth in feet (BTOC): 14 BGS

Screen Interval in feet (BTOC): from 5 to 15

Field Parameter-Measurement (circle gallons or minutes)

~~Gallons~~ or Minutes	pH	Conductivity (µS)	[ ] °C Temp. [ ] °F	Turbidity (NTU)
Initial	6.99	31463	20.85	>100
5	7.26	16428	21.29	210
10	7.24	8976	21.81	105
15	7.25	8178	22.02	42
20	7.32	8090	22.01	19.3
25	7.34	7461	22.08	14.2
30	7.33	4342	22.25	19.3

8.28
8.38
8.42
8.46

PURGE TIME

Purge Start: 0855

Purge Stop: 0925

Elapsed: 30

PURGE RATE

GPM: ~0.400 mL/min

GPM: 400 mL/min

PURGE VOLUME

Volume: 4 gal gallons

Observations During Purging (Well Condition, Color, Odor):

Greenish Gray silty after flow

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [X] Other Drum

WELL SAMPLING

0927

~~[ ] Bailer - Type:~~ Geosquirt pump

Sample Time: ~~Geosquirt pump~~

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLMW-81(GW)	3 voa	BTEX/MTBE	HCl	CBT	
	2 L(GW)	Partial Naphthalene	—	↓	
	1 L aw	TPH d -MO	—		
	3 voa	TPHg	HCl		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Dupl. Sample No.
NA	

Blank Samples

Type	Sample No.
NA	

Other Samples

Type	Sample No.
NA	

amec

AMEC Environment & Infrastructure

GROUNDWATER SAMPLING FORM

Job Name: Forma APL terminal

Job Number: 09141720810.03

Recorded By: (Signature)

Well Number: APLmw-2

Well Type: [X] Monitor [ ] Extraction [ ] Other ___ [ ] PVC [ ] St. Steel [ ] Other ___

Date: 5/23/15

Sampled By: WSP (Initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2

Total Depth of Casing (TD in ft BTOC): 16.0

Water Level Depth (WL in ft BTOC): 7.32

No. of Well Volumes to be purged (# V): Low flow

PURGE METHOD

[ ] Bailer - Type:

[ ] Submersible - Type:

[X] Other - Type: Geo pump

PUMP INTAKE SETTING

[ ] Near Bottom [X] Mid Point of Screen (Depth): 11

[ ] Near Top Other:

Depth in feet (BTOC):

Screen Interval in feet (BTOC): from 5.7 to 10.7

PURGE VOLUME CALCULATION

(16.0 - 7.32) X 2 ² X 3 X 0.0408 = 4.2 gals

TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

Minimum 5

Field Parameter Measurement (circle gallons or minutes)

~~Gallons~~ or Minutes	pH	Conductivity (µS)	[ ] °C Temp. [ ] °F	Turbidity (NTU)
Initial	6.70	12738	19.20	690
~~7.35~~	~~7.35~~	~~6.74~~	~~11613~~	~~19.64~~ ~~192~~
7.45 10	6.74	10583	19.96	9.49
7.51 15	6.75	9929	20.04	8.49
7.52 20	6.74	9398	20.03	3.87
7.53 25	6.73	9387	20.03	3.97
7.58 30	6.71	9392	20.03	1.76

PURGE TIME

Purge Start: 1025

Purge Stop: 1055

Elapsed: 30

PURGE RATE

GPM: 300ml/min

GPM:

PURGE VOLUME

Volume: 2.5 gallons

Observations During Purging (Well Condition, Color, Odor): clear.

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [X] Other Drum

WELL SAMPLING

[ ] Bailer - Type: Geo pump

Sample Time: 1057

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLmw-2(GW)	3 VOA	BTEX / MTBE	HCl	C-ST	
	2 L Amb	PAHs + alkylated homologues	↓		
	1 L Amb	TPH dro	↓		
	3 VOA	TPHg	HCl		

QUALITY CONTROL SAMPLES

Duplicate Samples 1105

Original Sample No.	Dupl. Sample No.
APLmw-2(GW)	DUP052315

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

GROUNDWATER SAMPLING FORM

amec

AMEC Environment & Infrastructure

Well Number: APL MW-3

Well Type: [X] Monitor [ ] Extraction [ ] Other
[ ] PVC [ ] St. Steel [ ] Other

Job Name: Form APL Terminal

Job Number: 00141708 10 .03

Date: 5/23/11

Recorded By: [signature] (Signature)

Sampled By: WP (initials)

Reviewed By:

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 16
Water Level Depth (WL in ft BTOC): 7.32
No. of Well Volumes to be purged (# V): Low flow

PURGE METHOD

[ ] Bailer - Type:
[ ] Submersible - Type: Grundfos pump
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [X] Mid Point of Screen (Depth): 11
[ ] Near Top Other:
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from 6 to 16

PURGE VOLUME CALCULATION

(16.3 TD (feet) - 6.98 WL (Feet)) X 3 # V ² X 3 D (Inches) X 0.0408 = 4.6 gals Calculated Purge Volume

Field Parameter Measurement (circle gallons or minutes)

Gallons or Minutes	pH	Conductivity (µS)	Temp. [✓] °C [ ] °F	Turbidity (NTU)
Initial	6.87	10603	19.46	5.32
5	6.89	7764	20.13	20.3
10	6.85	6364	20.45	22.5
15	6.83	5868	20.55	16.0
20	6.81	5902	20.62	9.25
25	6.68	6236	20.60	6.95
30	6.70	6358	20.58	4.97
35	6.67	6591	20.56	2.65

DTW
7.12
7.18
7.32
7.51
7.52

minutes

PURGE TIME

Purge Start: 1143
Purge Stop: 1213
Elapsed:

PURGE RATE

GPM: 500 mL/min
GPM: 400 mL/min

PURGE VOLUME

Volume: 4.6 = 3 wv gallons

Observations During Purging (Well Condition, Color, Odor):
clear

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [X] Other Drum

WELL SAMPLING

[ ] Bailer - Type: Grundfos Sample

Sample Time: 1220

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
APLMW-3 (GW)	3 x 40 mL Amb	BTEX (w/SBC)	HCl	CAS	
	2 x 40 mL Amb	PAHs + Naph	—		
	1 L Amb	TPH d (no)	—		
	3 x 40 mL	TPHg	HCl		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Dupl. Sample No.

Blank Samples 1155

Type	Sample No.
TB	TB052316

Other Samples TB051

Type	Sample No.
Rinsate water	RW052316

AMEC Foster Wheeler

WELL DEVELOPMENT FORM

Job Number: 0214170810.03 Bail/Swab/Geopump Pump

Project: Farm AP1 Terminal Development Method Well No. AP1MW-1

Personnel: Bill Faw Total Depth: 15.3 Date: 5/21/15

Time	Depth to water ft.	Gallons Removed	Turbidity (Ntu)	pH	Temp C	Electrical Conductivity	Recovery Rate Inches/min	Recovery Rate gpm	
0743	7.98								initial Light sheen Bail
0754		initial	884	7.41	19.13	22586	NA	NA	
0758	8.55	1.5	>1000	7.64	20.12	7392			
0805	8.55	2.5	>1000	7.40	20.44	5399			
	8.57								Swab 15 revs
0820	8.57	4	>1000	7.21	19.44	4608			Bail
0841		7	>1000	7.27	20.66	2698			1 GPM → 600 mL/min
0845		7	>1000	7.18	20.56	3242			can't get WL down well w/ pumps
0853		8.5	759	7.15	21.34	2838			calc pump is 900 mL/min
0857		9.5	398	7.16	21.48	2551			
0901		10	158	7.19	21.62	2471			600 ml/min
0906		10.5	9.32	7.19	21.78	2800			
0911		11.5	1.71	7.14	21.83	2681			7000 ml/min
0916		12.5	0.90	7.14	22.13	2533			
0921		13	0.26	7.15	22.00	2605			
0926		14	0.18	7.12	22.10	2571			
0927	8.85								stop 14 gallons

1.19 = 1 WV

11.9 = 10 WV

Subtotal Gallons Removed: —

Total Gallons Removed: 14

11.8 well volumes

Reviewed by _____

AMEC Foster Wheeler

WELL DEVELOPMENT FORM

Job Number: 0041708(0.03

Project: Farm APC terminal Development Method Well No. APMW-2

Personnel: B. Falk Total Depth: 16.0 Date: 5/21/14

Time	Depth to water ft.	Gallons Removed	Turbidity (Ntu)	pH	Temp C	Electrical Conductivity	Recovery Rate Inches/min	Recovery Rate gpm	
1158	7.34								initial
1205	↓	—	430	7.74	20.27	26182	NA	NA	Bailing mod ~~light~~ sheen
1210	8.11	2	>1000	7.49	20.48	18968			
1218	—	4	>1000	7.34	20.01	13964			
1227	7.71								Surge 15" vert
1233	—	6	>1000	7.22	20.38	16684			Bailing
1237	13.06	8	>1000	7.20	20.28	20216			↓
1245	8.81								
1301			>1000	7.02	22.26	20838			pumping 500 mL/min
1306		9	470	7.10	21.65	13946			
1311		10.5 ~~11 gal~~	113	7.13	20.85	12677			1400 ml/min
1316		~~4~~	170	7.07	20.81	13828			500 ml/min
1321		11.5	135	7.14	21.03	14678			
1326		12	105	7.30	20.81	15813			450 ml/min
1331		13.5	133	7.21	20.48	14453			1200 ml/min / 600 ml/min
1336		15	>1000	7.22	~~18.27~~ 20.27	18211			~~600 ml/min~~ - Packer DRY
1336		Shut	over -	let	recover				
1355	12.20	(restart	pump	1356)					
1357			378	7.07	20.47	12517			900 mL/min

Subtotal Gallons Removed: 15

Total Gallons Removed: —

1WV = 1.41 Gal

3WV = 14.1 Gal

12 WV removed

Reviewed by _____

AMEC Foster Wheeler

WELL DEVELOPMENT FORM

2012

Job Number: 0D1417081O.03

Project: Farm Art Terminal Development Method Well No. APLMW-2

Personnel: B. Folk Total Depth: 16.0 Date: 5/21/15

Time	Depth to water ft.	Gallons Removed	Turbidity (Ntu)	pH	Temp C	Electrical Conductivity	Recovery Rate Inches/min	Recovery Rate gpm	
1401		17	>1000	7.29	20.93	20564	NA	NA	Dry

Subtotal Gallons Removed: 2

Total Gallons Removed: 17

12 WW removed

Reviewed by _____

AMEC Foster Wheeler

WELL DEVELOPMENT FORM

Job Number: 0D14170810.03

Project: Form APL Terminal Development Method Well No. APL MW-3

Personnel: Bill Falk Total Depth: 16.3 Date: 5/21/14

Time	Depth to water ft.	Gallons Removed	Turbidity (Ntu)	pH	Temp C	Electrical Conductivity	Recovery Rate Inches/min	Recovery Rate gpm	
0949	6.94	initial					NA	NA	Bail
0957		initial	157	7.23	19.25	21223			
1000	7.50	1.5	698	7.39	19.60	9377			
1007	7.60	3 gal	>1000	7.26	19.86	7815			
1010	7.78	4 gal	>1000	7.23	19.83	8082			
1017									Swabbed 15 reps
1021		6 gal	>1000	7.19	19.90	8946			Bail
1026	10.58	8 gal	>1000	7.18	19.93	13389			
1036	7.79								
1047		8 gal	757	7.18	19.88	10089			pump 1200 mL/min
1052		10 gal	155	7.08	20.28	8217			
1057		~~12.5~~ 11.5 gal	115	7.05	20.31	8254			1400 mL/min
1102		13 gal	128	7.09	20.52	9414			1200 mL/min
1107		15 gal	~~>1000~~ 20.63	7.23	20.64	11968			
1111		16 gal SFO	pump	-	let	recharge			Let rech. recharge at 16.2 ft
~~1116~~ 1116		16.25	864	7.15	20.68	11088			800 mL/min
1121		17.5	>1000	7.14	20.69	10989			≤ 500 mL/min
1126		18.5	>1000	7.30	20.70	12905			
1130		19 gal	>1000	7.48	20.66	13870			pump removed

1400 = 1.53
1000 = 15.3

Subtotal Gallons Removed: 19

Total Gallons Removed: —

Reviewed by _____

AMEC Foster Wheeler

WELL DEVELOPMENT FORM

Job Number: 0D1417 0810.03

Project: Form APC terminal Development Method Well No. APLMW-3 conf

Personnel: B. Fehl Total Depth: 16.3 Date: 5/21/18

Time	Depth to water ft.	Gallons Removed	Turbidity (Ntu)	pH	Temp C	Electrical Conductivity	Recovery Rate Inches/min	Recovery Rate gpm	
1131	Low pump to Sath - (WL 1' above bottom)								
1133		19.5	703	7.10	20.83	9626			
1138		21 gal	>100	7.21	20.12	21101	well dewatered.		
1145	12.78	—	—	—	—	—	—	—	—

13.7 WV removed.

Subtotal Gallons Removed: 2

Total Gallons Removed: 21

Reviewed by _____

amec foster wheeler

APPENDIX D

Survey Data

Chaudhary & Associates, Inc.
211 Gateway Road West, Suite 204
Napa, CA 94558-6279
(707) 255-2729

Project: #15-01-018
Date of Survey: 5/28/15
Client: AMEC
Project Site: Port of Oakland, Former APL Terminal

Name	Northing	Easting	Latitude	Longitude	Elevation [1]	Description
1	2117271.61	6041553.46	37.79591 °	-122.30018 °	10.88	BORE 1 Case 002
2A	2117250.56	6041574.26	37.79585 °	-122.30011 °	10.75	BORE 2 Case 002
3	2117240.51	6041557.01	37.79582 °	-122.30017 °	10.69	BORE 3 Case 002
4	2117252.01	6041542.26	37.79585 °	-122.30022 °	10.78	BORE 4 Case 002
5	2117927.20	6042613.89	37.79776 °	-122.29656 °	7.96	BORE 5 Case 004
6	2117910.97	6042597.64	37.79772 °	-122.29661 °	8.23	BORE 6 Case 004
7	2117875.71	6042585.41	37.79762 °	-122.29665 °	8.71	BORE 7 Case 004
8	2117637.70	6042406.01	37.79696 °	-122.29726 °	7.99	BORE 8 Case 005
9	2117614.85	6042419.39	37.79689 °	-122.29721 °	8.10	BORE 9 Case 005
10A	2117604.32	6042397.24	37.79686 °	-122.29729 °	8.25	BORE 10 Case 005
11	2117620.07	6042393.67	37.79691 °	-122.29730 °	7.99	2' OFFSET BORE 11 Case 005
12	2116708.39	6041988.60	37.79438 °	-122.29864 °	11.08	BORE 12 Case 009
13	2116648.87	6041951.74	37.79422 °	-122.29876 °	10.63	BORE 13 Case 009
14	2116644.47	6042029.63	37.79421 °	-122.29849 °	10.68	BORE 14 Case 009
15	2117485.88	6041461.23	37.79649 °	-122.30052 °	9.55	BORE 15 Case 010
16	2117342.36	6041458.99	37.79609 °	-122.30052 °	9.55	OFF SET TO 16 Case 010
17	2117309.22	6041374.15	37.79600 °	-122.30081 °	9.87	BORE 17 Case 010
18	2117266.55	6041290.32	37.79588 °	-122.30109 °	10.45	BORE 18 Case 010
19	2117367.68	6041356.90	37.79616 °	-122.30087 °	10.54	BORE 19 Case 010
20	2116683.85	6041908.15	37.79431 °	-122.29892 °	10.95	BORE 20 Case 009
21	2116676.76	6042094.56	37.79430 °	-122.29827 °	11.05	BORE 21 Case 009
51	2117244.08	6042548.71	37.79588 °	-122.29674 °	9.90	APL MW-1 Notch on Pipe
52	2117140.13	6042473.04	37.79559 °	-122.29699 °	9.15	APL MW-2 Notch on Pipe
53	2117136.36	6042513.12	37.79558 °	-122.29685 °	8.83	APL MW-3 Notch on Pipe
51					10.12	APL MW-1 GND
52					9.44	APL MW-2 GND
53					9.32	APL MW-3 GND
101	2117290.27	6041364.12	37.79595 °	-122.30084 °	9.79	PK & SHINNER

Horizontal Datum: NAD 83, Zone 3, CSDS-VSN (California Survey & Drafting Supply-Virtual Survey Network)
Vertical Datum: NAVD 88 (VSN Network Elevation held on Point No. 101). Elevation 12.99 feet - 3.20 (Port of Oakland MSL Datum) = 9.79 feet.
GND = Ground
Note: [1] Elevations of borings and MWs are relative to Point No. 101 and are reported with reference to the Port of Oakland MSL Datum as described under Vertical Datum above.

amec foster wheeler

APPENDIX E

Laboratory Analytical Reports and Chain-of-Custody Forms


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266374
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Former APC Terminal
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLB-5(GW)	266374-001
APLB-6(GW)	266374-002
APLB-9(4.5)	266374-003
APLB-9(8)	266374-004
APLB-10(2)	266374-005
APLB-10(4.5)	266374-006
APLB-10(8.5)	266374-007
APLB-10(GW)	266374-008
APLB-8(2)	266374-009
APLB-8(4.5)	266374-010
APLB-8(5.5)	266374-011
APLB-8(GW)	266374-012
APLB-5(2.5)	266374-013
APLB-5(4.5)	266374-014
APLB-5(6)	266374-015
APLB-6(2.5)	266374-016
APLB-6(4.5)	266374-017
APLB-6(5.5)	266374-018
APLB-7(2)	266374-019
APLB-7(4.5)	266374-020
APLB-7(6.5)	266374-021
APLB-9(2)	266374-022

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 05/06/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266374**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APC Terminal**
Request Date:	**04/27/15**
Samples Received:	**04/27/15**

This data package contains sample and QC results for eighteen soil samples and four water samples, requested for the above referenced project on 04/27/15. See attached cooler receipt form for any sample receipt problems or discrepancies. Revised 05/06/15 to correct sample IDs.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Soil:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
Many samples were diluted due to the dark and viscous nature of the sample extracts.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:
High responses were observed for a number of analytes in the CCV analyzed 04/28/15 16:49; these analytes were not detected at or above the RL in the associated samples.

High surrogate recovery was observed for bromofluorobenzene in APLB-10(GW) (lab # 266374-008); no target analytes were detected in the sample.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:
High responses were observed for bromomethane and methylene chloride in the CCV analyzed 04/28/15 12:43; these analytes were not detected at or above the RL in the associated samples.

Matrix spikes were not performed for this analysis in batch 222648 due to insufficient sample amount.

Matrix spikes were not performed for this analysis in batch 222639 due to insufficient sample amount.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266374**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APC Terminal**
Request Date:	**04/27/15**
Samples Received:	**04/27/15**

Volatile Organics by GC/MS (EPA 8260B) Soil:
APLB-8(5.5) (lab # 266374-011) and APLB-5(6) (lab # 266374-015) were diluted due to high hydrocarbons.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Water:
APLB-5(GW) (lab # 266374-001) was diluted due to the viscous nature of the sample extract.

APLB-8(GW) (lab # 266374-012) was diluted due to high non-target analytes.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Soil:
Matrix spikes QC785801,QC785802 (batch 222651) were not reported because the parent sample required a dilution that would have diluted out the spikes.

Many samples were diluted due to the dark and viscous nature of the sample extracts.

APLB-8(5.5) (lab # 266374-011) and APLB-5(6) (lab # 266374-015) were diluted due to high non-target analytes.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

266374

Subject: FW: OD14170810.03 - C&T Data (266374)
From: "Heassler, Mary Jo" <maryjo.heassler@amecfw.com>
Date: 5/5/2015 7:38 AM
To: Will Rice <will.rice@ctberk.com>

From: Heassler, Mary Jo
Sent: Tuesday, May 05, 2015 7:37 AM
To: 'mike.dahlquist@ctberk.com'
Cc: Nanstad, David S; Feller, William J.; Carroll, Zachary T
Subject: RE: OD14170810.03 - C&T Data (266374)

We need the following changes to AMEC IDs also we will need an EDD.
Samples collected on 4/27/15
APLB-5(6.5) to 5(6)
APLB-6(6.5) to 6(5.5)
APLB-7(7.5) to 7(6.5)
APLB-8(6.5) to 8(5.5)
APLB-9(9) to 9(8)
APLB-10(9.5) to 10(8.5)

Please cc the persons on the cc list in your response. Thanks

---

From: Mike J. Dahlquist [mailto:mike.dahlquist@ctberk.com]
Sent: Monday, May 04, 2015 5:06 PM
To: Heassler, Mary Jo
Subject: OD14170810.03 - C&T Data (266374)

Hi Mary Jo,

Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in the EDD.

Please find attached the following file:
• PDF Level III Deliverable

You may also access this data at https://labline.ctberk.com/
Email was also sent to: JPrall@portoakland.com, david.nanstad@amecfw.com, william.feller@amecfw.com, zachary.carroll@amecfw.com

C&T sends its e-reports via the Internet as Portable Document Format (PDF) files. Reports in this format, when accompanied by a signed cover page, are considered official reports. **No hardcopy reports will be sent either by fax or U.S. Postal Service unless otherwise requested.** You may distribute your PDF files electronically or as printed hardcopies, as long as they are distributed in their entirety.

Seq. No. 3155

Lab:

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

26637y

CHAIN OF CUSTODY FORM

amec

Samplers: Bill Keller / Steve Kirby

Job Number: 09141708 10.03

Name/Location: Form APL Terminal

Project Manager: Dave Nakstad

Recorder: (Signature Required)

| | MATRIX | | | # CONTAINERS | | | | | | | | | | | | ANALYSIS REQUESTED | | | | | | | | | | | |

266374

Seq. No. 3156

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

amec

Samplers: Billeck

Job Number: 08141080.03

Name/Location: Form AR Terminal

Project Manager: Dave Nagstad

Recorder: (Signature Required)

MATRIX			# CONTAINERS					SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED				
Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL	Tedlar		YR	MO	DAY	TIME		DEPTH	8260	8270	TITLE 22 METALS	5 PAH d/so	TPH 6
11	X		1				6	ARLB-8(6.5)	15	04	27	1600			X	X		X	X
12	X		3			6		ARLB-8(GW)	15	04	27	1633			X	X		X	X
									15	04	27	—							
									15	04	27	—							

ADDITIONAL INFORMATION

REPORT TO: Mary Jo Heuseler

PO#:

TAT:

Comments: Field Filtered Y/N

CHAIN OF CUSTODY RECORD

Billeck		Amec	4/27/15 1800
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
	MD	CT	4/27/15 1800
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
	BL	CT	4/27/15 1800
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Cooler w Ice

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy

F1008-I

Seq. No. 3157

266374

CHAIN OF CUSTODY FORM

3 of 3

amec

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Billeke

Job Number: 0D14170810 03

Name/Location: Former APC Terminal

Project Manager: Dave Nunstedt

Recorder: (Signature Required)

| | MATRIX | | | # CONTAINERS | | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | | |

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 266374 Date Received 4/27/15 Number of coolers 2
Client AMEC Project Former APC Terminal

Date Opened 4/27 By (print) BL (sign) [signature] 2
Date Logged in [signature] By (print) [signature] (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES ~~NO~~
Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ YES NO
6. Indicate the packing in cooler: (if other, describe) _____

☒ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? 2320
9. Did all bottles arrive unbroken/unopened? _____ YES NO
10. Are there any missing / extra samples? _____ YES NO
11. Are samples in the appropriate containers for indicated tests? _____ YES NO
12. Are sample labels present, in good condition and complete? _____ YES NO
13. Do the sample labels agree with custody papers? _____ YES NO
14. Was sufficient amount of sample sent for tests requested? _____ YES NO
15. Are the samples appropriately preserved? _____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A
17. Did you document your preservative check? _____ YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A BL
21. Was the client contacted concerning this sample delivery? _____ YES NO
If YES, Who was called? _____ By _____ Date: _____

COMMENTS
See Attached

Rev 10, 9/12

266374

COMMENTS

10.) -007: received 1 extra terracore container

12.) -007: no sampling time on 8oz jar
-013: sample label time '0755' does not match COC sampling time '0751'. Sample label ID on terracore containers incomplete. Matched sampling time to 8oz jar container to identify sample ID

13.) -005: sample label ID 'APLB-9(2)' on 8oz jar container does not match COC sample ID 'APLC-10(2)'. Identified by sampling time '1340'
-015: sample label time '0815' does not match COC sampling time '0810'
-016: sample label ID 'APLB-5(2.5) does not match COC sample ID 'APLB-6(2.5)'. Identified by sampling time '0850'
-017: sample label ID 'APLB-5(4.5) does not match COC sample ID 'APLB-6(4.5)'. Identified by sampling time '0855'
-022: sample label ID 'APLB-9(2.5) does not match COC sample ID 'APLB-9(2)'. Identified by sampling time '1210'

4/27/15 BL

Curtis & Tompkins, Ltd.

Detections Summary for 266374

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Former APC Terminal

Client Sample ID : APLB-5(GW) Laboratory Sample ID : 266374-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7,600		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	2,100		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-6(GW) Laboratory Sample ID : 266374-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,700	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,500		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-9(4.5) Laboratory Sample ID : 266374-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	18	Y	5.4	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	140		27	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-9(8) Laboratory Sample ID : 266374-004

No Detections

Client Sample ID : APLB-10(2) Laboratory Sample ID : 266374-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	50	Y	5.4	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	410		27	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-10(4.5) Laboratory Sample ID : 266374-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	65	Y	5.6	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	280		28	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-10(8.5) Laboratory Sample ID : 266374-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.1	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-10(GW) Laboratory Sample ID : 266374-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	270	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-8(2) Laboratory Sample ID : 266374-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	48	Y	5.5	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	230		27	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-8(4.5) Laboratory Sample ID : 266374-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	38	Y	5.2	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	220		26	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-8(5.5) Laboratory Sample ID : 266374-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	430	Y	24	mg/Kg	Dry	100.0	EPA 8015B	EPA 5035
Diesel C10-C24	31,000		120	mg/Kg	Dry	100.0	EPA 8015B	EPA 3550B
Motor Oil C24-C36	830		590	mg/Kg	Dry	100.0	EPA 8015B	EPA 3550B
sec-Butylbenzene	780		230	ug/Kg	Dry	38.64	EPA 8260B	EPA 5035
n-Butylbenzene	1,000		230	ug/Kg	Dry	38.64	EPA 8260B	EPA 5035
Acenaphthene	4,600		1,600	ug/Kg	Dry	20.00	EPA 8270C	EPA 3550B
Fluorene	9,500		1,600	ug/Kg	Dry	20.00	EPA 8270C	EPA 3550B
Phenanthrene	22,000		1,600	ug/Kg	Dry	20.00	EPA 8270C	EPA 3550B

Client Sample ID : APLB-8(GW) Laboratory Sample ID : 266374-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	9,100	Y	2,500	ug/L	As Recd	50.00	EPA 8015B	EPA 5030B
Diesel C10-C24	8,400		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	560	Y	300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
MTBE	1.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
n-Butylbenzene	0.5		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : APLB-5(2.5) Laboratory Sample ID : 266374-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	60	Y	5.2	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	240		26	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Toluene	4.7		4.5	ug/Kg	Dry	0.8475	EPA 8260B	EPA 5035

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-5(4.5) Laboratory Sample ID : 266374-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	96	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	65		5.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-5(6) Laboratory Sample ID : 266374-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,700		23	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B

Client Sample ID : APLB-6(2.5) Laboratory Sample ID : 266374-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	140	Y	2.1	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	460		11	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-6(4.5) Laboratory Sample ID : 266374-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	150	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	63		5.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-6(5.5) Laboratory Sample ID : 266374-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	130	Y	2.3	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	64		12	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
Benzo(g,h,i)perylene	230		230	ug/Kg	Dry	3.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-7(2) Laboratory Sample ID : 266374-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y	3.1	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	280		16	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-7(4.5) Laboratory Sample ID : 266374-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	33	Y	3.5	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	160		17	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-7(6.5) Laboratory Sample ID : 266374-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.6	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	14		5.9	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-9(2) Laboratory Sample ID : 266374-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.8	Y	2.1	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	130		10	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 266374

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/27/15
Units:	ug/L	Received:	04/27/15
Batch#:	222653	Analyzed:	04/28/15

Field ID: APLB-10(GW) Lab ID: 266374-008
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	80-132

Field ID: APLB-8(GW) Lab ID: 266374-012
Type: SAMPLE Diln Fac: 50.00

Analyte	Result	RL
Gasoline C7-C12	9,100 Y	2,500

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	80-132

Type: BLANK Diln Fac: 1.000
Lab ID: QC785806

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC785807	Batch#:	222653
Matrix:	Water	Analyzed:	04/28/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	891.7	89	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	80-132

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222653
MSS Lab ID:	266286-002	Sampled:	04/22/15
Matrix:	Water	Received:	04/23/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Type: MS Lab ID: QC785808

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<10.56	2,000	1,765	88	76-120

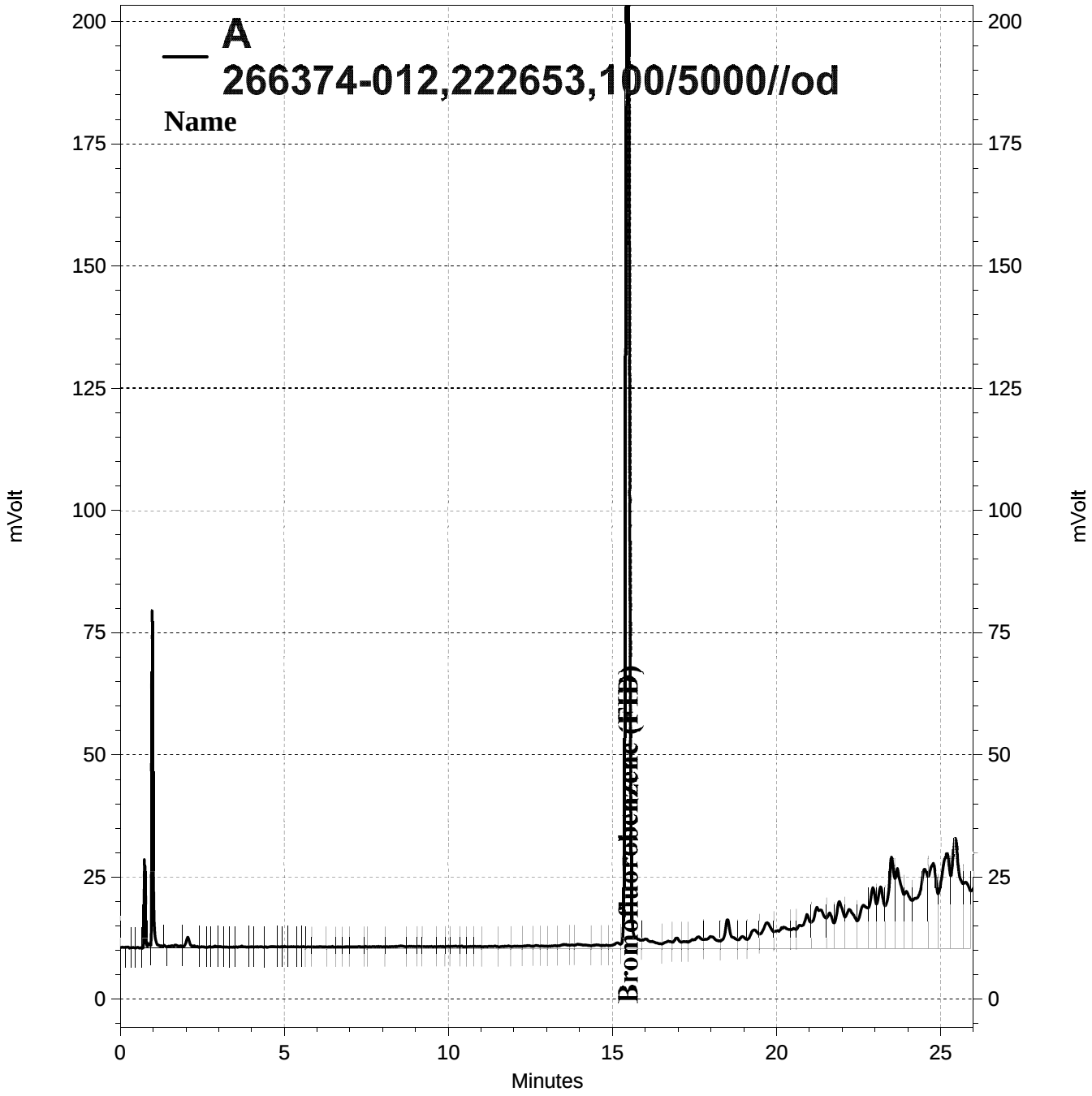
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	80-132

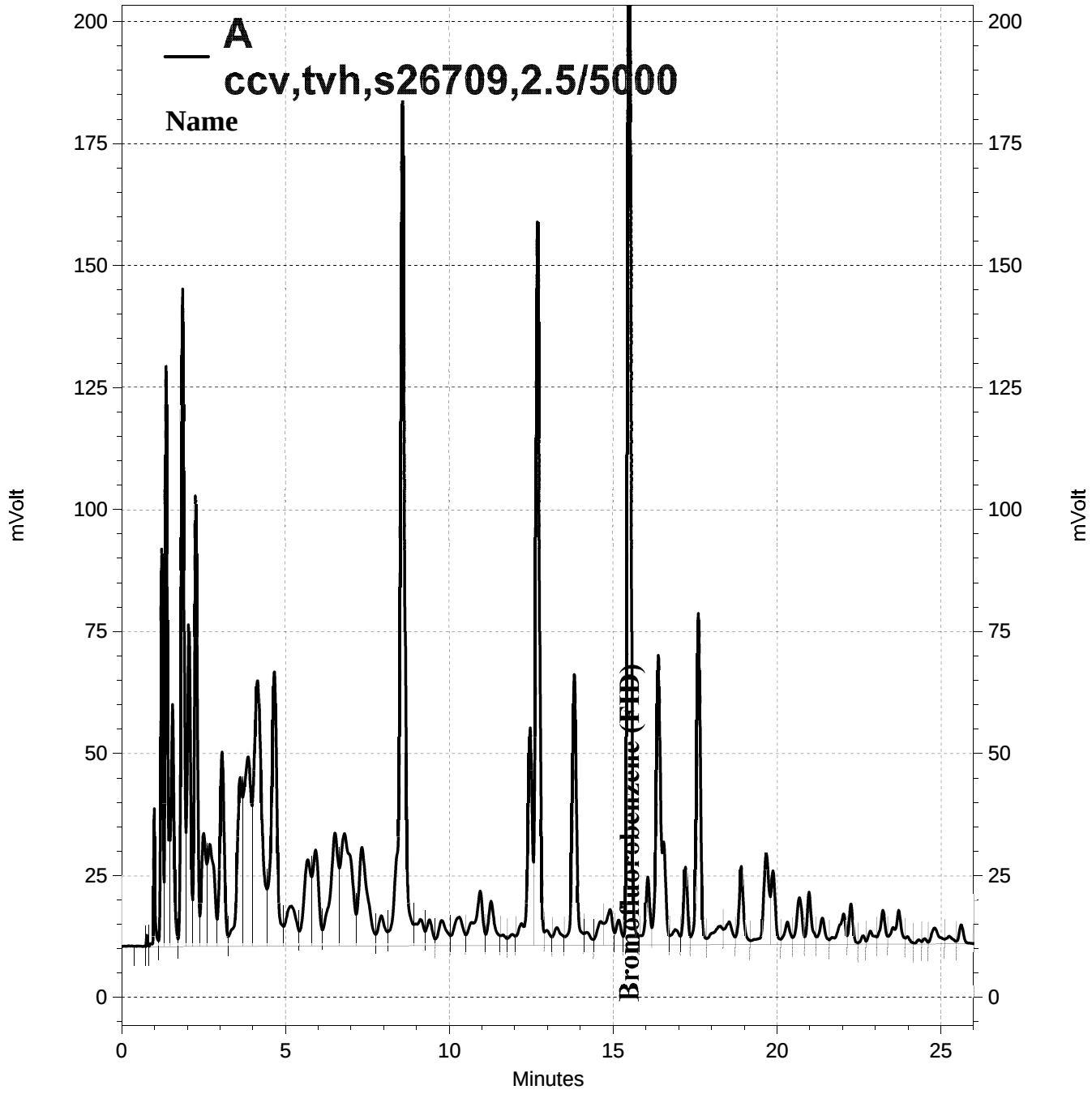
Type: MSD Lab ID: QC785809

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,623	81	76-120	8	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	80-132

RPD= Relative Percent Difference


A
266374-012,222653,100/5000//od
Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
5
10
15
20
25
0
25
50
75
100
125
150
175
200
\\Lims\gdrive\ezchrom\Projects\GC07\Data\118-016, A



\\Lims\gdrive\ezchrom\Projects\GC07\Data\118-003, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCVOA Water: EPA 8015B

Inst : GC07
Calnum : 325099925001
Units : ng

Name : tvh/bfb_069
Date : 10-MAR-2015 19:46
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069_011	325099925011	TVH_14	10-MAR-2015 19:46	S26765 (1000X), S26658 (5000X)
L2	069_012	325099925012	TVH_15	10-MAR-2015 20:22	S26764 (1000X), S26658 (5000X)
L3	069_013	325099925013	TVH_16	10-MAR-2015 20:58	S26763 (1000X), S26658 (5000X)
L4	069_014	325099925014	TVH_17	10-MAR-2015 21:34	S26761 (2000X), S26658 (5000X)
L5	069_015	325099925015	TVH_18	10-MAR-2015 22:11	S26761 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	2900.5	2369.9	2305.6	2167.8	2176.1	AVRG		4.19E-4		2384.0	13	0.995	20	
Bromofluorobenzene (FID)	A	2083.0	2044.6	2051.0	2166.9	2281.1	AVRG		4.71E-4		2125.3	5	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	**22**	2500.0	-1	10000	-3	25000	-9	50000	-9
Bromofluorobenzene (FID)	A	900.00	-2	900.00	-4	900.00	-3	900.00	2	900.00	7

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

325099925001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCVOA Water
EPA 8015B

Inst : GC07 Name : tvh/bfb_069
Calnum : 325099925001 Cal Date : 10-MAR-2015

ICV 325099925017 (069_017 10-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9097	ng	-9	15	

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266374 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : QC785807 IDF : 1.0
Seqnum : 325170381003.5 File : 118_003 Time : 28-APR-2015 08:55
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (2000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2125.7	5000	4458	ng	-11	15	u
Bromofluorobenzene (FID)	A	2125.3	1901.2	900.0	805.1	ng	-11	15	u

ERR 04/29/15 : ccv/lcs,qc785807,222653 [general version]

Analyst: ERR Date: 04/29/15 Reviewer: EAH Date: 05/04/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325170381009 File : 118_009 Time : 28-APR-2015 16:34
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2104.2	10000	8826	ng	-12	15	
Bromofluorobenzene (FID)	A	2125.3	2001.4	900.0	847.5	ng	-6	15	

Analyst: ERR Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325170381011 File : 118_011 Time : 28-APR-2015 17:46
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2091.2	10000	8772	ng	-12	15	
Bromofluorobenzene (FID)	A	2125.3	2065.4	900.0	874.6	ng	-3	15	

Analyst: ERR Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325170381017 File : 118_017 Time : 28-APR-2015 21:23
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (666.7X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2121.2	15000	13350	ng	-11	15	
Bromofluorobenzene (FID)	A	2125.3	2134.4	900.0	903.9	ng	0	15	

EAH 04/29/15 : Corrected automatically drawn baseline for Ch. A.

Analyst: ERR Date: 04/29/15 Reviewer: EAH Date: 04/29/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325099925

Instrument : GC07 Begun : 03/10/15 09:25
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	069_001	X	CMARKER			03/10/15 09:25	1.0	1 2	
002	069_002	CCV	BTXE			03/10/15 10:02	1.0	3 2	
003	069_003	CCV	TVH			03/10/15 10:38	1.0	4 2	
004	069_004	CCV	BTXE			03/10/15 11:14	1.0	3 2	
005	069_005	X	IB			03/10/15 12:08	1.0	2	
006	069_006	CCV	BTXE			03/10/15 13:23	1.0	3 2	
007	069_007	CCV	TVH			03/10/15 14:01	1.0	4 2	
008	069_008	X	CMARKER			03/10/15 14:37	1.0	1 2	
009	069_009	X	IB			03/10/15 18:34	1.0	2	
010	069_010	IB	CALIB			03/10/15 19:10	1.0	2	
011	069_011	ICAL	TVH_14			03/10/15 19:46	1.0	5 2	
012	069_012	ICAL	TVH_15			03/10/15 20:22	1.0	6 2	
013	069_013	ICAL	TVH_16			03/10/15 20:58	1.0	7 2	
014	069_014	ICAL	TVH_17			03/10/15 21:34	1.0	8 2	
015	069_015	ICAL	TVH_18			03/10/15 22:11	1.0	8 2	
016	069_016	X	IB			03/10/15 22:47	1.0	2	
017	069_017	ICV	TVH			03/10/15 23:23	1.0	9 2	
018	069_018	X	ICV			03/10/15 23:59	1.0	9 2	
019	069_019	CMARKER	CMARK			03/11/15 00:35	1.0	1 2	

ERR 03/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Reviewed by: ERR Date: 03/11/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26582 5=S26765 6=S26764 7=S26763 8=S26761 9=S26760

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325170381

Instrument : GC07 Begun : 04/28/15 07:41
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	118_001	X	CMARKER			04/28/15 07:41	1.0	1 2	
002	118_002	CCV	BTXE			04/28/15 08:19	1.0	3 2	
003	118_003	CCV/LCS	QC785807	Water	222653	04/28/15 08:55	1.0	4 2	
004	118_004	CCV	BTXE			04/28/15 10:46	1.0	3 2	
005	118_005	BLANK	QC785806	Water	222653	04/28/15 11:22	1.0	2	
006	118_006	MSS	266286-002	Water	222653	04/28/15 14:45	1.0	2	
007	118_007	MS	QC785808	Water	222653	04/28/15 15:21	1.0	4 2	
008	118_008	MSD	QC785809	Water	222653	04/28/15 15:57	1.0	4 2	
009	118_009	CCV	TVH			04/28/15 16:34	1.0	4 2	
010	118_010	X	CMARKER			04/28/15 17:10	1.0	1 2	
011	118_011	CCV	TVH			04/28/15 17:46	1.0	4 2	
012	118_012	SAMPLE	266286-003	Water	222653	04/28/15 18:23	1.0	2	headspace > 1 mL
013	118_013	SAMPLE	266286-004	Water	222653	04/28/15 18:59	1.0	2	headspace > 1 mL
014	118_014	SAMPLE	266342-001	Water	222653	04/28/15 19:35	1.0	2	
015	118_015	SAMPLE	266374-008	Water	222653	04/28/15 20:11	1.0	2	
016	118_016	SAMPLE	266374-012	Water	222653	04/28/15 20:47	50.0	2	diluted (odor)
017	118_017	CCV	TVH			04/28/15 21:23	1.0	4 2	
018	118_018	CCV	TVH			04/28/15 22:00	1.0	4 2	
019	118_019	X	CMARKER			04/28/15 22:36	1.0	1 2	
020	118_020	SAMPLE	266378-001	Water	222653	04/28/15 23:12	1.0	2	
021	118_021	SAMPLE	266378-002	Water	222653	04/28/15 23:48	1.0	2	
022	118_022	SAMPLE	266378-003	Water	222653	04/29/15 00:24	1.0	2	
023	118_023	SAMPLE	266384-001	Water	222653	04/29/15 01:00	1.0	2	
024	118_024	SAMPLE	266384-002	Water	222653	04/29/15 01:36	1.0	2	headspace <= 1 mL
025	118_025	SAMPLE	266377-001	Water	222653	04/29/15 02:12	1.0	2	
026	118_026	SAMPLE	266377-002	Water	222653	04/29/15 02:48	1.0	2	
027	118_027	SAMPLE	266377-003	Water	222653	04/29/15 03:25	1.0	2	
028	118_028	CCV	TVH			04/29/15 04:01	1.0	4 2	
029	118_029	SAMPLE	266393-001	Water	222653	04/29/15 04:37	1.0	2	
030	118_030	SAMPLE	266393-002	Water	222653	04/29/15 05:13	1.0	2	
031	118_031	CCV	TVH			04/29/15 05:49	1.0	4 2	
032	118_032	X	CMARKER			04/29/15 06:25	1.0	1 2	

ERR 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 04/29/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26709

Laboratory Job Number 266374

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-9(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222704
Lab ID:	266374-003	Analyzed:	04/29/15
Moisture:	9%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.18

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	78-138

Field ID:	APLB-9(8)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222704
Lab ID:	266374-004	Analyzed:	04/29/15
Moisture:	16%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	119	78-138

Field ID:	APLB-10(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222704
Lab ID:	266374-005	Analyzed:	04/29/15
Moisture:	6%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.17

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	78-138

Field ID:	APLB-10(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222810
Lab ID:	266374-006	Analyzed:	05/03/15
Moisture:	10%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	78-138

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-10(8.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222704
Lab ID:	266374-007	Analyzed:	04/30/15
Moisture:	15%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	118	78-138

Field ID:	APLB-8(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222810
Lab ID:	266374-009	Analyzed:	05/03/15
Moisture:	8%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	78-138

Field ID:	APLB-8(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222704
Lab ID:	266374-010	Analyzed:	04/30/15
Moisture:	4%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	78-138

Field ID:	APLB-8(5.5)	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	222810
Lab ID:	266374-011	Analyzed:	05/03/15
Moisture:	16%		

Analyte	Result	RL
Gasoline C7-C12	430 Y	24

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	121	78-138

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-9(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222810
Lab ID:	266374-022	Analyzed:	05/03/15
Moisture:	4%		

Analyte	Result	RL
Gasoline C7-C12	ND	0.16

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	78-138

Type:	BLANK	Batch#:	222704
Lab ID:	QC786006	Analyzed:	04/29/15
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	78-138

Type:	BLANK	Batch#:	222810
Lab ID:	QC786439	Analyzed:	05/03/15
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	78-138

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786005	Batch#:	222704
Matrix:	Soil	Analyzed:	04/29/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8990	90	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	78-138

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	266420-002	Batch#:	222704
Matrix:	Soil	Sampled:	04/29/15
Units:	mg/Kg	Received:	04/29/15
Basis:	as received	Analyzed:	04/29/15

Type: MS Lab ID: QC786007

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2034	9.901	8.770	87	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	78-138

Type: MSD Lab ID: QC786008

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.10	9.529	92	50-120	6	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	222810
Units:	mg/Kg	Analyzed:	05/03/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786437

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8714	87	80-121

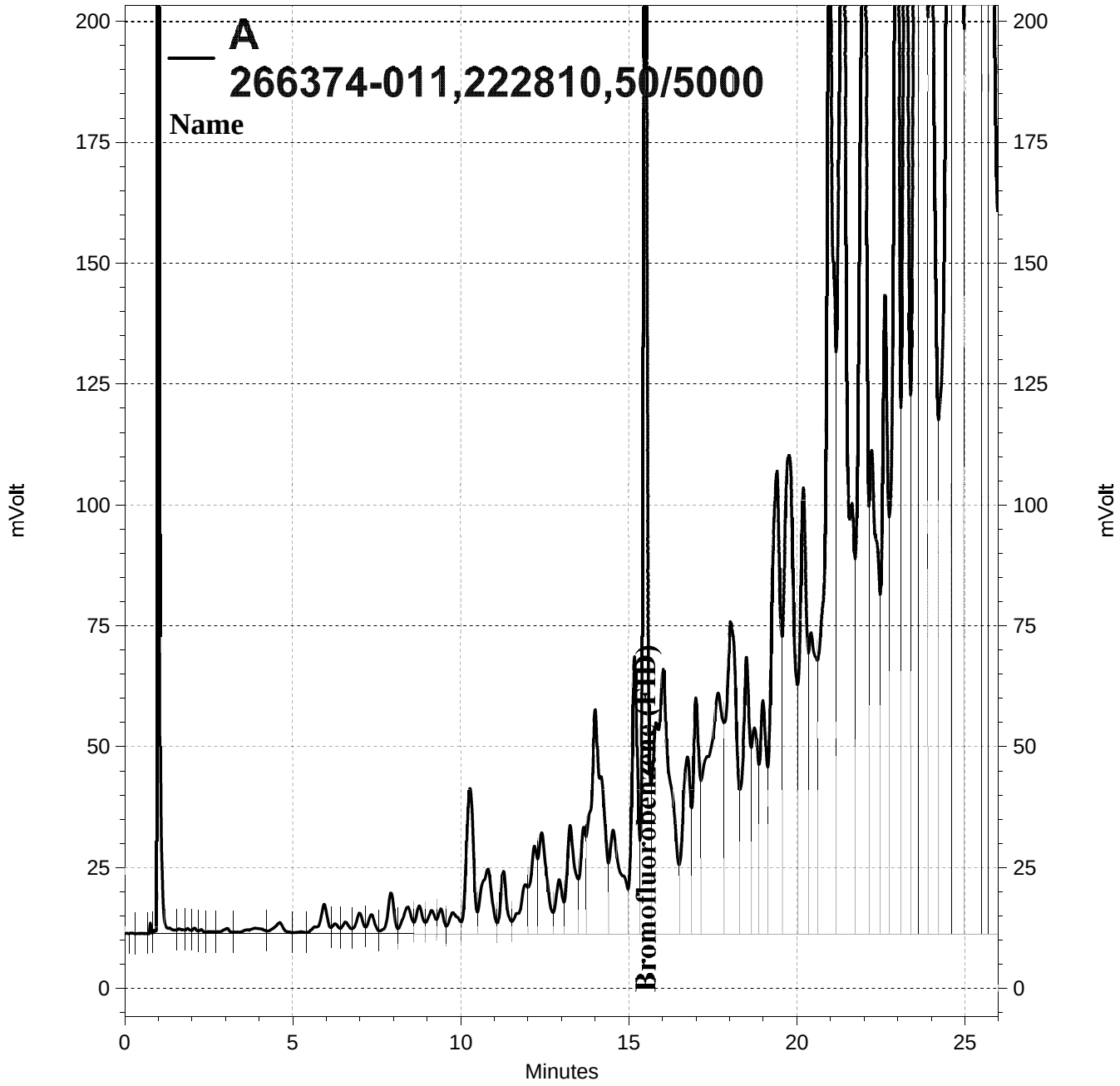
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	78-138

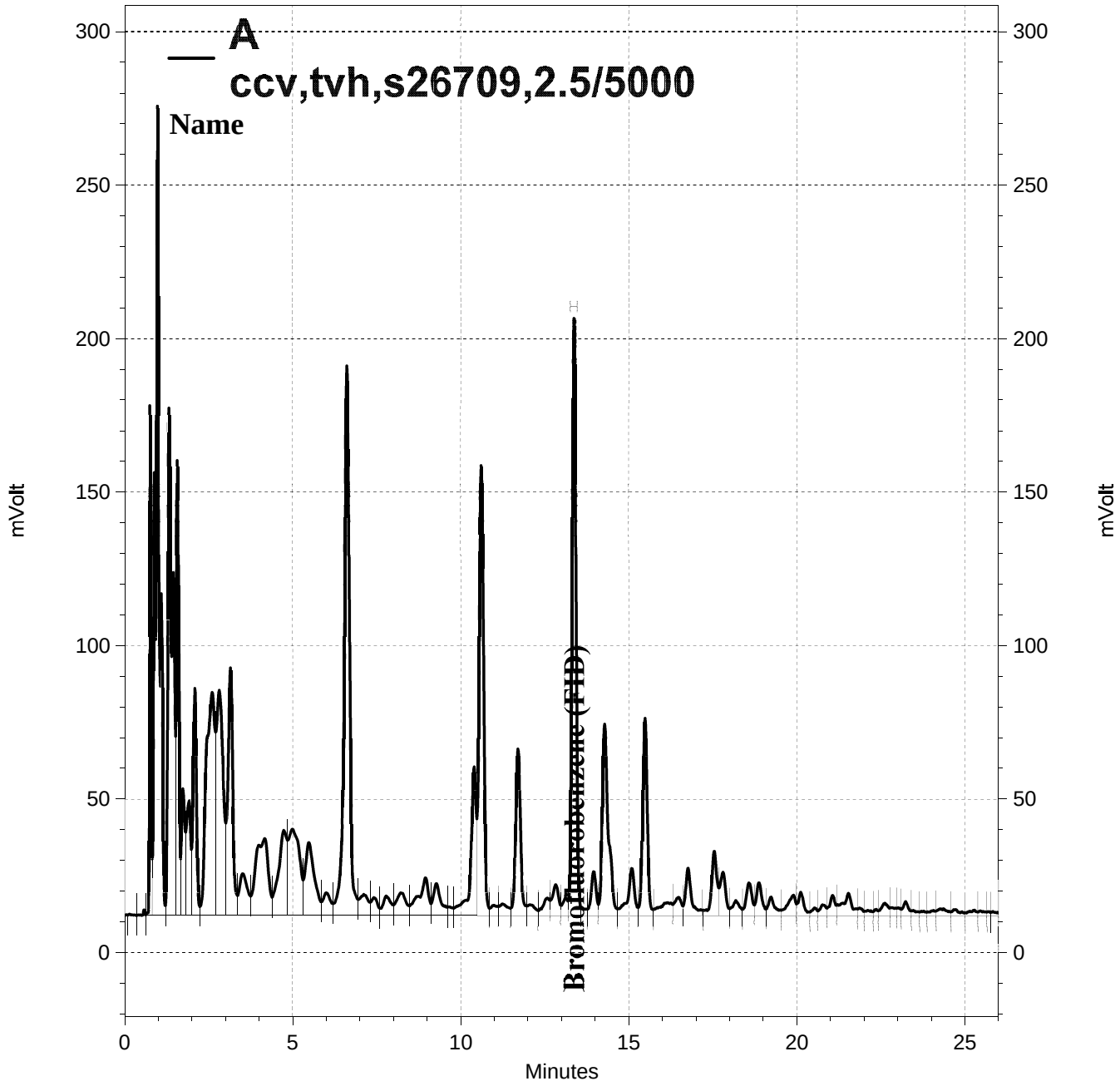
Type: BSD Lab ID: QC786438

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1.000	0.8601	86	80-121	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	85	78-138

RPD= Relative Percent Difference


A
266374-011,222810,50/5000
Name
Bromofluorobenzene (1118)
mVolt
mVolt
Minutes
0
5
10
15
20
25
0
25
50
75
100
125
150
175
200
\\Lims\gdrive\ezchrom\Projects\GC07\Data\123-008, A


A
ccv,tvh,s26709,2.5/5000
Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
300
250
200
150
100
50
0
0
5
10
15
20
25
\\Lims\gdrive\ezchrom\Projects\GC05\Data\119-004, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCVOA Soil: EPA 8015B

Inst : GC05
Calnum : 315090403001
Units : ng

Name : tvh/BFB_062
Date : 04-MAR-2015 06:00
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	062_019	315090403019	TVH_15	04-MAR-2015 06:00	S26764 (1000X), S26658 (5000X)
L2	062_020	315090403020	TVH_16	04-MAR-2015 06:38	S26763 (1000X), S26658 (5000X)
L3	062_021	315090403021	TVH_17	04-MAR-2015 07:16	S26761 (2000X), S26658 (5000X)
L4	062_022	315090403022	TVH_18	04-MAR-2015 07:53	S26761 (1000X), S26658 (5000X)
L5	062_028	315090403028	TVH_14	04-MAR-2015 12:44	S26765 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	3071.8	2632.6	2316.7	2473.8	3553.9	AVRG		3.56E-4		2809.8	18	0.995	20	
Bromofluorobenzene (FID)	A	2056.4	1960.4	1953.0	2504.9	2301.1	AVRG		4.64E-4		2155.2	11	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	2500.0	9	10000	-6	25000	-18	50000	-12	250.00	**26**
Bromofluorobenzene (FID)	A	900.00	-5	900.00	-9	900.00	-9	900.00	16	900.00	7

ERR 03/05/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak in multiple levels.

ERR 03/05/15 : Corrected baseline noise or negative peak in multiple levels.

ERR 03/05/15 : TVH14_L4 low point out high, reran for better fit.

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC05 Name : tvh/BFB_062
Calnum : 315090403001 Cal Date : 04-MAR-2015

ICV 315090403030 (062_030 04-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9289	ng	-7	15	

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCVOA Soil: EPA 8015B

Inst : GC07
Calnum : 325099925001
Units : ng

Name : tvh/bfb_069
Date : 10-MAR-2015 19:46
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069_011	325099925011	TVH_14	10-MAR-2015 19:46	S26765 (1000X), S26658 (5000X)
L2	069_012	325099925012	TVH_15	10-MAR-2015 20:22	S26764 (1000X), S26658 (5000X)
L3	069_013	325099925013	TVH_16	10-MAR-2015 20:58	S26763 (1000X), S26658 (5000X)
L4	069_014	325099925014	TVH_17	10-MAR-2015 21:34	S26761 (2000X), S26658 (5000X)
L5	069_015	325099925015	TVH_18	10-MAR-2015 22:11	S26761 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	2900.5	2369.9	2305.6	2167.8	2176.1	AVRG		4.19E-4		2384.0	13	0.995	20	
Bromofluorobenzene (FID)	A	2083.0	2044.6	2051.0	2166.9	2281.1	AVRG		4.71E-4		2125.3	5	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	**22**	2500.0	-1	10000	-3	25000	-9	50000	-9
Bromofluorobenzene (FID)	A	900.00	-2	900.00	-4	900.00	-3	900.00	2	900.00	7

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

325099925001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC07 Name : tvh/bfb_069
Calnum : 325099925001 Cal Date : 10-MAR-2015

ICV 325099925017 (069_017 10-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9097	ng	-9	15	

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : QC786005 IDF : 1.0
Seqnum : 315172163004.3 File : 119_004 Time : 29-APR-2015 14:39
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S26709 (2000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2526.0	5000	4495	ng	-10	15	u
Bromofluorobenzene (FID)	A	2155.2	1801.9	900.0	752.5	ng	**-16**	15	c- u

ERR 04/30/15 : ccv/lcs,qc786005,222704 [general version]

ERR 04/30/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

ERR 04/30/15 [Bromofluorobenzene (FID) A]: Passes control limits. [general version]

Analyst: ERR Date: 05/04/15 Reviewer: EAH Date: 05/04/15

-=low bias c=CCV u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315172163014 File : 119_014 Time : 29-APR-2015 22:02
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2662.9	10000	9477	ng	-5	15	
Bromofluorobenzene (FID)	A	2155.2	2430.4	900.0	1015	ng	13	15	

Analyst: ERR Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315172163016 File : 119_016 Time : 29-APR-2015 23:17
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2539.0	10000	9037	ng	-10	15	
Bromofluorobenzene (FID)	A	2155.2	2309.1	900.0	964.3	ng	7	15	

ERR 04/30/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

Analyst: ERR Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315172163026 File : 119_026 Time : 30-APR-2015 05:33
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S26709 (666.7X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2573.7	15000	13740	ng	-8	15	
Bromofluorobenzene (FID)	A	2155.2	2373.1	900.0	991.0	ng	10	15	

Analyst: ERR Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC07 Run Name : QC786437 IDF : 1.0
Seqnum : 325178160002.1 File : 123_002 Time : 03-MAY-2015 17:56
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (2000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2077.5	5000	4357	ng	-13	15	u
Bromofluorobenzene (FID)	A	2125.3	1824.4	900.0	772.6	ng	-14	15	u

ERR 05/04/15 : ccv/bs,qc786437,222810 [general version]

Analyst: ERR Date: 05/04/15 Reviewer: EAH Date: 05/04/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCVOA Soil
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325178160015 File : 123_015 Time : 04-MAY-2015 02:03
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2040.2	10000	8558	ng	-14	15	
Bromofluorobenzene (FID)	A	2125.3	1936.2	900.0	819.9	ng	-9	15	

ERR 05/04/15 : Corrected automatically drawn baseline for Ch. A.

Analyst: ERR Date: 05/04/15 Reviewer: EAH Date: 05/04/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315090403

Instrument : GC05 Begun : 03/03/15 18:43
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	062_001	X	IB			03/03/15 18:43	1.0	1	
002	062_002	X	IB			03/03/15 19:21	1.0	1	
003	062_003	IB	CALIB			03/03/15 19:58	1.0	1	
004	062_004	ICAL	BTXE_1			03/03/15 20:36	1.0	2 1	
005	062_005	ICAL	MBTXE_2			03/03/15 21:14	1.0	3 1	
006	062_006	ICAL	MBTXE_3			03/03/15 21:51	1.0	3 1	
007	062_007	ICAL	MBTXE_4			03/03/15 22:29	1.0	3 1	
008	062_008	ICAL	MBTXE_5			03/03/15 23:06	1.0	4 1	
009	062_009	ICAL	MBTXE_6			03/03/15 23:44	1.0	4 1	
010	062_010	ICAL	MBTXE_7			03/04/15 00:22	1.0	4 1	
011	062_011	ICAL	MBTBE_7			03/04/15 00:59	1.0	5 1	
012	062_012	X	IB			03/04/15 01:37	1.0	1	
013	062_013	ICV	MBTXE			03/04/15 02:15	1.0	6 1	
014	062_014	ICV	MBTXE			03/04/15 02:52	1.0	6 1	
015	062_015	X	IB			03/04/15 03:30	1.0	1	
016	062_016	X	IB			03/04/15 04:07	1.0	1	
017	062_017	IB	CALIB			03/04/15 04:45	1.0	1	
018	062_018	X	X			03/04/15 05:23	1.0	7 1	
019	062_019	ICAL	TVH_15			03/04/15 06:00	1.0	8 1	
020	062_020	ICAL	TVH_16			03/04/15 06:38	1.0	9 1	
021	062_021	ICAL	TVH_17			03/04/15 07:16	1.0	10 1	
022	062_022	ICAL	TVH_18			03/04/15 07:53	1.0	10 1	
023	062_023	X	IB			03/04/15 08:31	1.0	1	
024	062_024	ICV	TVH			03/04/15 09:08	1.0	11 1	
025	062_025	X	ICV			03/04/15 09:46	1.0	11 1	
026	062_026	CMARKER	CMARK			03/04/15 10:23	1.0	12 1	
027	062_027	X	CMARKER			03/04/15 11:01	1.0	12 1	
028	062_028	ICAL	TVH_14			03/04/15 12:44	1.0	7 1	
029	062_029	X	IB			03/04/15 13:21	1.0	1	
030	062_030	ICV	TVH			03/04/15 13:59	1.0	11 1	
031	062_031	X	ICV			03/04/15 14:37	1.0	11 1	
032	062_032	X	CMARKER			03/04/15 15:14	1.0	12 1	

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 03/04/15

Standards used: 1=S26658 2=S26340 3=S26339 4=S26338 5=S26368 6=S26659 7=S26765 8=S26764 9=S26763 10=S26761 11=S26760 12=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315172163

Instrument : GC05 Begun : 04/29/15 13:23
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
002	119_002	X	CMARKER				04/29/15 13:23	1.0	1 2	
003	119_003	CCV	BTXE				04/29/15 14:01	1.0	3 2	
004	119_004	CCV/LCS	QC786005		Soil	222704	04/29/15 14:39	1.0	4 2	
005	119_005	CCV	BTXE				04/29/15 15:16	1.0	3 2	
006	119_006	ICV					04/29/15 15:54	1.0	5 2	
007	119_007	BLANK	QC786006		Soil	222704	04/29/15 16:32	1.0	2	
008	119_008	MSS	266420-002		Soil	222704	04/29/15 18:16	1.0	2	
009	119_009	MS	QC786007		Soil	222704	04/29/15 18:53	1.0	4 2	
010	119_010	MSD	QC786008		Soil	222704	04/29/15 19:31	1.0	4 2	
011	119_011	SAMPLE	266374-003		Soil	222704	04/29/15 20:09	1.0	2	
012	119_012	SAMPLE	266374-004		Soil	222704	04/29/15 20:46	1.0	2	
013	119_013	SAMPLE	266374-005		Soil	222704	04/29/15 21:24	1.0	2	
014	119_014	CCV	TVH				04/29/15 22:02	1.0	4 2	
015	119_015	X	CMARKER				04/29/15 22:39	1.0	1 2	
016	119_016	CCV	TVH				04/29/15 23:17	1.0	4 2	
017	119_017	PREPBLK	QC786029	M	Miscell.	222704	04/29/15 23:54	25.0	2	
018	119_018	SAMPLE	266454-001	M	Miscell.	222704	04/30/15 00:32	1000	2	6:GAS:7-12=720000
019	119_019	X	IB				04/30/15 01:10	1.0	2	
020	119_020	SAMPLE	266374-006		Soil	222704	04/30/15 01:47	1.0	2	
021	119_021	SAMPLE	266374-007		Soil	222704	04/30/15 02:25	1.0	2	
022	119_022	SAMPLE	266374-009		Soil	222704	04/30/15 03:02	1.0	2	
023	119_023	SAMPLE	266374-010		Soil	222704	04/30/15 03:40	1.0	2	
024	119_024	SAMPLE	266374-011		Soil	222704	04/30/15 04:18	1.0	2	4:GAS:7-12=540000
025	119_025	SAMPLE	266374-022		Soil	222704	04/30/15 04:55	1.0	2	
026	119_026	CCV	TVH				04/30/15 05:33	1.0	4 2	
027	119_027	CCV	TVH				04/30/15 06:10	1.0	4 2	
028	119_028	X	CMARKER				04/30/15 06:48	1.0	1 2	

ERR 04/29/15 : Run 1 interrupted, sequence begins on run 2

ERR 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 2 through 28.

Reviewed by: ERR Date: 04/30/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26709 5=S26659

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325099925

Instrument : GC07 Begun : 03/10/15 09:25
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	069_001	X	CMARKER			03/10/15 09:25	1.0	1 2	
002	069_002	CCV	BTXE			03/10/15 10:02	1.0	3 2	
003	069_003	CCV	TVH			03/10/15 10:38	1.0	4 2	
004	069_004	CCV	BTXE			03/10/15 11:14	1.0	3 2	
005	069_005	X	IB			03/10/15 12:08	1.0	2	
006	069_006	CCV	BTXE			03/10/15 13:23	1.0	3 2	
007	069_007	CCV	TVH			03/10/15 14:01	1.0	4 2	
008	069_008	X	CMARKER			03/10/15 14:37	1.0	1 2	
009	069_009	X	IB			03/10/15 18:34	1.0	2	
010	069_010	IB	CALIB			03/10/15 19:10	1.0	2	
011	069_011	ICAL	TVH_14			03/10/15 19:46	1.0	5 2	
012	069_012	ICAL	TVH_15			03/10/15 20:22	1.0	6 2	
013	069_013	ICAL	TVH_16			03/10/15 20:58	1.0	7 2	
014	069_014	ICAL	TVH_17			03/10/15 21:34	1.0	8 2	
015	069_015	ICAL	TVH_18			03/10/15 22:11	1.0	8 2	
016	069_016	X	IB			03/10/15 22:47	1.0	2	
017	069_017	ICV	TVH			03/10/15 23:23	1.0	9 2	
018	069_018	X	ICV			03/10/15 23:59	1.0	9 2	
019	069_019	CMARKER	CMARK			03/11/15 00:35	1.0	1 2	

ERR 03/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Reviewed by: ERR Date: 03/11/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26582 5=S26765 6=S26764 7=S26763 8=S26761 9=S26760

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325178160

Instrument : GC07 Begun : 05/03/15 17:20
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	123_001	X	CMARKER				05/03/15 17:20	1.0	1 2	
002	123_002	CCV/BS	QC786437		Soil	222810	05/03/15 17:56	1.0	3 2	
003	123_003	BSD	QC786438		Soil	222810	05/03/15 18:32	1.0	3 2	
004	123_004	BLANK	QC786439		Soil	222810	05/03/15 19:08	1.0	2	
005	123_005	SAMPLE	266374-022		Soil	222810	05/03/15 20:01	1.0	2	
006	123_006	SAMPLE	266374-009		Soil	222810	05/03/15 20:37	1.0	2	
007	123_007	SAMPLE	266374-006		Soil	222810	05/03/15 21:14	1.0	2	
008	123_008	SAMPLE	266374-011	M	Soil	222810	05/03/15 21:50	100.0	2	
009	123_009	SAMPLE	266364-003		Soil	222810	05/03/15 22:26	1.0	2	
010	123_010	SAMPLE	266364-002	M	Soil	222810	05/03/15 23:03	100.0	2	
011	123_011	SAMPLE	266364-004	M	Soil	222810	05/03/15 23:39	25.0	2	
012	123_012	SAMPLE	266364-005	M	Soil	222810	05/04/15 00:15	20.0	2	
013	123_013	IB					05/04/15 00:51	1.0	2	
014	123_014	PREPBLK	QC786443	M	Soil	222810	05/04/15 01:27	25.0	2	
015	123_015	CCV	TVH				05/04/15 02:03	1.0	3 2	
016	123_016	X	CMARKER				05/04/15 02:39	1.0	1 2	
017	123_017	CCV	TVH				05/04/15 03:16	1.0	3 2	
018	123_018	SAMPLE	266462-003		Soil	222810	05/04/15 03:52	1.0	2	1:GAS:7-12=54000
019	123_019	SAMPLE	266462-004		Soil	222810	05/04/15 04:28	1.0	2	3:GAS:7-12=86000
020	123_020	SAMPLE	266462-005		Soil	222810	05/04/15 05:04	1.0	2	4:GAS:7-12=210000
021	123_021	SAMPLE	266462-006		Soil	222810	05/04/15 05:40	1.0	2	
022	123_022	SAMPLE	266462-007		Soil	222810	05/04/15 06:16	1.0	2	
023	123_023	SAMPLE	266462-008		Soil	222810	05/04/15 06:52	1.0	2	4:GAS:7-12=230000
024	123_024	SAMPLE	266462-009		Soil	222810	05/04/15 07:28	1.0	2	4:GAS:7-12=140000
025	123_025	SAMPLE	266462-010		Soil	222810	05/04/15 08:04	1.0	2	
026	123_026	SAMPLE	266462-011		Soil	222810	05/04/15 08:41	1.0	2	3:GAS:7-12=85000
027	123_027	SAMPLE	266462-012		Soil	222810	05/04/15 09:17	1.0	2	4:GAS:7-12=280000
028	123_028	CCV	TVH				05/04/15 09:53	1.0	3 2	
029	123_029	CCV	TVH				05/04/15 10:29	1.0	3 2	
030	123_030	X	CMARKER				05/04/15 11:05	1.0	1 2	

ERR 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Reviewed by: ERR Date: 05/04/15

Standards used: 1=S26730 2=S26658 3=S26709

BK3656 - 10
BOOK PAGE

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample ID	Weight (g)	$NaHSO_4$?	Comments
266387-601 A	1.03		
1 MS	0.99		
1 MSD	0.93		
266388-601	0.99		
266329-603	0.95		
266387-1 A	1.03	NO	ERR 4-29-15 for ETP 4-28-15
266388-1 A	0.99	NO	ERR 4-29-15 for ETP 4-28-15
266325-3 A	0.95	NO	ERR 4-29-15
-3 MS A	1.07	NO	ERR 4-29-15
-3 MSD A	1.06		
~~266573~~ ERR 4-29-15			
266420-2 A	0.94	NO	ERR 4-29-15
-2 MS A	1.01		
-2 MSD A	0.99		
266374-3 B	37.29-30.839-0.42 = 6.03		
-4	36.33-29.863-0.42 = 6.05		
-5	37.50-30.800-0.42 = 6.28		
-6	37.13-30.382-0.42 = 5.83		
-7	37.75-31.118-0.42 = 6.21		
-9	36.43-31.155-0.42 = 4.86		
-10	36.53-30.691-0.42 = 5.42		
-11 - A	38.37-31.520-0.42 = 6.43		
-22 - A	37.17-30.935-0.42 = 5.82		
~~266454-1 A~~ ERR 4-29-15			
266383-1 A	1.02	NO	RPM 4/30/15
2 *	1.03		
3	1.05		MSS
4	1.05		
5	1.07		
266385-1	1.03		
2	0.97		
3	1.08		
266386-1	1.03		
2	0.94		
3	0.94		
4	1.10		
266383-3 MS	1.04		
3 MSD	1.00		

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

52
PROJECT TVH/MBTXE MeOH Prep

Notebook No. BK2938

Continued From Page

Sample	ID	Weight (g)	MeOH lot	MeOH mL	Comments
prep blk	—	—	DL535	5.0 ~~ETP 4/27/15~~ ETP 4/28/15	ETP 4/28/15 for 4/27/15
266359-001	A	5.0		5.0 ETP 4/28/15	
↓	↓	5.0		5.0 ETP 4/28/15	
prep blk	—	—	DL535	5.0	ETP 4/28/15
266325-005	A	5.0		5.0	↓
Prep blank	-	—	DL535	5.0	ERR 4-29-15
266454- 1	B	1.0	↓	↓	↓
266391-1	B	576.40-413.92-0.52=	Client prepped	200 mL	ERR 4-30-15
↓	+6 B	551.30-413.84-0.57=	↓	↓	↓
↓	+8 B	563.75-419.31-0.57=			

Continued on Page

Read and Understood By

Signed Date Signed Date

52
PROJECT TVH/MBTXE MeOH Prep

Notebook No. BK2938
Continued From Page

Sample ID			Weight (g)			MeOH lot	MeOH mL	Comments
prep blk	—		—			DL535	5.0 ~~ETP 4/27/15~~ ETP 4/28/15	ETP 4/28/15
266359-001	A		5.0			↓	5.0 ETP 4/28/15	for 4/27/15
↓	↓		5.0			↓	5.0 ETP 4/28/15	↓
prep blk	—		—			DL535	5.0	ETP 4/28/15
266325-005	A		5.0			↓	5.0	↓
Prep blank	-		-			DL535	5.0	ERR 4-29-15
266454-1	B		1.0			↓	↓	↓
266391-1	B		576.40-413.92-0.57=162.91			Client preps	200 mL	ERR 4-30-15
↓ -6	B		551.30-413.84-0.57=136.89			↓	↓	↓
↓ -8	B		563.75-419.31-0.57=143.87			↓	↓	↓
Prep blank			—			DL535	5.0	ERR 5-1-15
266364-2	C		6.35				6.3	
↓ 4	↓		6.52				5.0	
↓ 5	D ~~DJA~~	ERR 5-1-15	6.00				6.0	ID: D
266396-1	B		5.72			DL535	5.0	ERR 5-1-15
-2	C		6.21					
-3	C		6.41					
-4	C		6.07	DJA 5/4				
-5	D	DJA	~~6.37~~	~~6.21~~	6.37			
-6	C	5/4	~~6.22~~	~~6.37~~	6.22			
-7	C		~~6.06~~	~~6.22~~	6.06			
-8	B		~~6.17~~	~~6.06~~	6.17			
-9	B		~~6.55~~	6.55				
-10	C		~~6.20~~	6.20				
-11	C		~~6.24~~	6.21				

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

BK9655 - 12
BOOK PAGE

TITLE Soil Aliquot TVH PROJECT DATE

Continued from page

Sample ID		Weight (g)	Na2SO4?	Comments
266364-3	D	6.17	NO	Lm 5/3/15
266462-1	B	6.39		
2	C	5.13		
3	B	6.09		
4	C	6.46		
5	C	6.20		
6	B	5.70		
7	B	6.31		
8	C	6.56		
9	B	6.03		
10	B	6.08		
11	B	6.15		
12	B	6.19		

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

BK 36511
BOOK PAGE

TITLE Soil Aliquot TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample ID		Weight (g)	NaSO4?	Comments
266490-001	C	1.03	NO	ERR 5-1-15
1MS		0.95		
1MSD		1.02		
-2		0.94		
266515-1	A	0.92		
-1MS		0.91		
-1MSD		1.03		
-2		0.94		
-3		0.95		
266374-6	C	38.24-31.704-0.42 = 6.12		
-9		36.37-30.855-0.42 = 5.10		
-22		36.85-29.915-0.42 = 6.52		
~~366369-2~~		ERR 5-1-15		
366364-3	C	6.44	NO	ERR 5-1-15

Sample Number	Core	Scale Mass	Vial Mass	Mass (g)	NaSo4?	Extra Sticker	C&T Sticker
266511-011	a	37.10	30.238	**6.43**	no	0.18	0.25
266511-012	a	36.25	30.217	**5.60**	no	0.18	0.25
266511-013	a	35.72	30.012	**5.28**	no	0.18	0.25
266511-014	a	37.29	30.162	**6.70**	no	0.18	0.25
266511-015	a	36.78	30.355	**6.00**	no	0.18	0.25
266511-016	a	35.32	30.148	**4.74**	no	0.18	0.25
266511-017	a	36.10	29.976	**5.69**	no	0.18	0.25
266511-018	a	34.78	29.773	**4.58**	no	0.18	0.25
266511-019	a	36.27	29.997	**5.84**	no	0.18	0.25
266511-020	a	37.31	30.819	**6.06**	no	0.18	0.25
266511-021	a	38.01	31.341	**6.24**	no	0.18	0.25
266511-022	a	34.92	30.001	**4.49**	no	0.18	0.25
266511-023	a	37.81	30.345	**7.04**	no	0.18	0.25
266511-024	a	35.78	30.379	**4.97**	no	0.18	0.25
266511-025	a	36.03	30.885	**4.72**	no	0.18	0.25
266511-026	a	37.48	31.608	**5.44**	no	0.18	0.25
266511-027	a	37.22	31.292	**5.50**	no	0.18	0.25
266511-028	a	37.53	30.992	**6.11**	no	0.18	0.25
266374-006	d	37.06	30.778	**5.85**	no	0.18	0.25

5-3-15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

56
PROJECT 5035 MeOH Prep Log

Notebook No. ~~BK 3088~~ 3087 pg 919

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
3/18/15 Zia	265250-11 D	6.91	5.0	DJ239	—	—	Client Prepped
3/20/15 Zia	265404-13 A	8.34	10.0				
	-14	7.20					
	-15	8.54					
	-16	5.87					
	-17	6.28					
	-18	6.57					
3/26/15 Zia	~~Blank~~	—	10.0	DC			
	~~265577-1 A~~	~~10.00~~	~~10.0~~		Zia 3/26		
4/6/15 Zia	265775-6 C	7.09	5.0	DJ239			Client Prepped
	-9	6.95					
	-14	6.38					
	-18	6.81		DH247			
4/7/15 Zia	265775-10 C	7.13	5.0	DJ239			
	-15	7.22		DE695			
	-19	6.42		DJ239			
4/29/15 Zia	266374-11 F	6.47	5.0				
	-15 C	7.51					
	266364-5 C	5.70	5.7	DL535	523626	0.0057	
	* Blank	—	5.0			0.005	
	266396-1 A	5.60	5.6			0.0056	H.C.
4/30/15 Zia	Blank	—	5.0			0.005	
	266396-2 B	6.30	6.3			0.0063	H.C.
	-3	6.30	6.3			0.0063	
	-4	6.10	6.10			0.0061	
	-5	6.30	6.3			0.0063	
	-6	6.30	6.3			0.0063	
	-7	6.10	6.1			0.0061	
	-11	6.50	6.5			0.0065	
5/1/15 Zia	Blank	—	5.0			0.005	
	266396-5 C	6.20	6.2			0.0062	Re-extracted
5/1/15 KSR	266305-3	6.40	5.0			0.005	
	-4	6.28	5.0				

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

BK 365611
BOOK PAGE

TITLE Soil Aliquot TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample ID		Weight (g)	NaSO4?	Comments
266490-001	C	1.03	NO	ERR 5-1-15
1MS		0.95		
1MSD		1.02		
-2	↓	0.94		
266515-1	A	0.92		
-1MS		0.91		
-1MSD		1.03		
-2		0.94		
-3	↓	0.95		
266374-6	C	38.24-31.704-0.42 = 6.12		
-9		36.37-30.855-0.42 = 5.10		
-22	↓	36.85-29.915-0.42 = 6.52		
~~366364-2~~	ERR 5-1-15			
366364-3	C	6.44	NO	ERR 5-1-15

Sample Number	Core	Scale Mass	Vial Mass	Mass (g)	NaSo4?	Extra Sticker	C&T Sticker
266511-011	a	37.10	30.238	**6.43**	no	0.18	0.25
266511-012	a	36.25	30.217	**5.60**	no	0.18	0.25
266511-013	a	35.72	30.012	**5.28**	no	0.18	0.25
266511-014	a	37.29	30.162	**6.70**	no	0.18	0.25
266511-015	a	36.78	30.355	**6.00**	no	0.18	0.25
266511-016	a	35.32	30.148	**4.74**	no	0.18	0.25
266511-017	a	36.10	29.976	**5.69**	no	0.18	0.25
266511-018	a	34.78	29.773	**4.58**	no	0.18	0.25
266511-019	a	36.27	29.997	**5.84**	no	0.18	0.25
266511-020	a	37.31	30.819	**6.06**	no	0.18	0.25
266511-021	a	38.01	31.341	**6.24**	no	0.18	0.25
266511-022	a	34.92	30.001	**4.49**	no	0.18	0.25
266511-023	a	37.81	30.345	**7.04**	no	0.18	0.25
266511-024	a	35.78	30.379	**4.97**	no	0.18	0.25
266511-025	a	36.03	30.885	**4.72**	no	0.18	0.25
266511-026	a	37.48	31.608	**5.44**	no	0.18	0.25
266511-027	a	37.22	31.292	**5.50**	no	0.18	0.25
266511-028	a	37.53	30.992	**6.11**	no	0.18	0.25
266374-006	d	37.06	30.778	**5.85**	no	0.18	0.25

5-3-15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

Laboratory Job Number 266374

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/27/15
Units:	ug/L	Received:	04/27/15
Diln Fac:	1.000		

Field ID:	APLB-5(GW)	Batch#:	222708
Type:	SAMPLE	Prepared:	04/30/15
Lab ID:	266374-001	Analyzed:	05/01/15

Analyte	Result	RL
Diesel C10-C24	7,600	50
Motor Oil C24-C36	2,100	300

Surrogate	%REC	Limits
o-Terphenyl	85	67-136

Field ID:	APLB-6(GW)	Batch#:	222656
Type:	SAMPLE	Prepared:	04/28/15
Lab ID:	266374-002	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	2,700 Y	50
Motor Oil C24-C36	1,500	300

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	APLB-10(GW)	Batch#:	222656
Type:	SAMPLE	Prepared:	04/28/15
Lab ID:	266374-008	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	270 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	86	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/27/15
Units:	ug/L	Received:	04/27/15
Diln Fac:	1.000		

Field ID:	APLB-8(GW)	Batch#:	222656
Type:	SAMPLE	Prepared:	04/28/15
Lab ID:	266374-012	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	8,400	50
Motor Oil C24-C36	560 Y	300

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Type:	BLANK	Prepared:	04/28/15
Lab ID:	QC785821	Analyzed:	04/29/15
Batch#:	222656		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	86	67-136

Type:	BLANK	Prepared:	04/29/15
Lab ID:	QC786023	Analyzed:	04/30/15
Batch#:	222708		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	94	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222656
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/29/15

Type: BS
Lab ID: QC785822
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,050	82	60-121

Surrogate	%REC	Limits
o-Terphenyl	92	67-136

Type: BSD
Lab ID: QC785823
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,327	93	60-121	13	32

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222708
Units:	ug/L	Prepared:	04/29/15
Diln Fac:	1.000	Analyzed:	05/01/15

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC786024

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,804	72	60-121

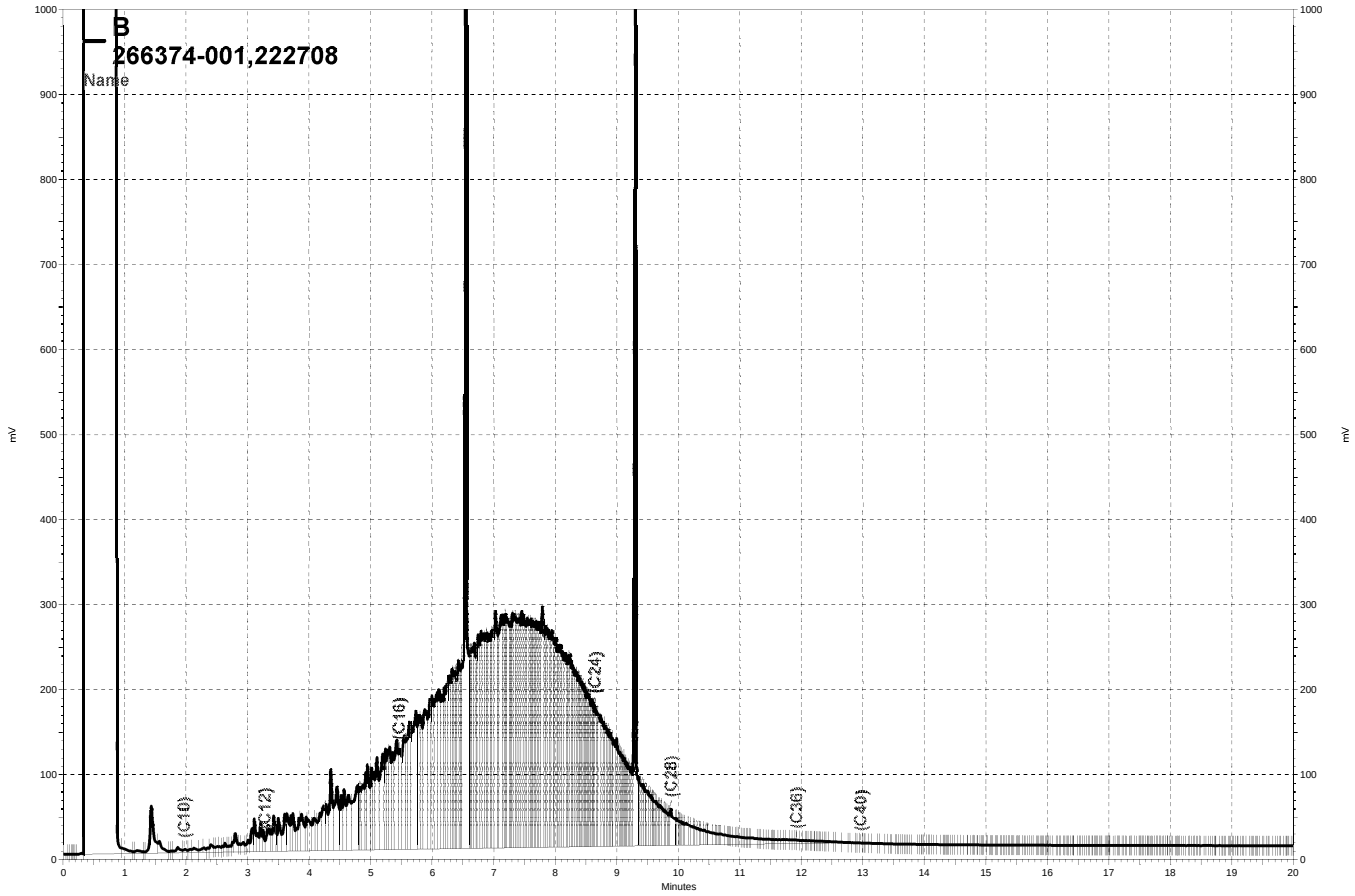
Surrogate	%REC	Limits
o-Terphenyl	78	67-136

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC786025

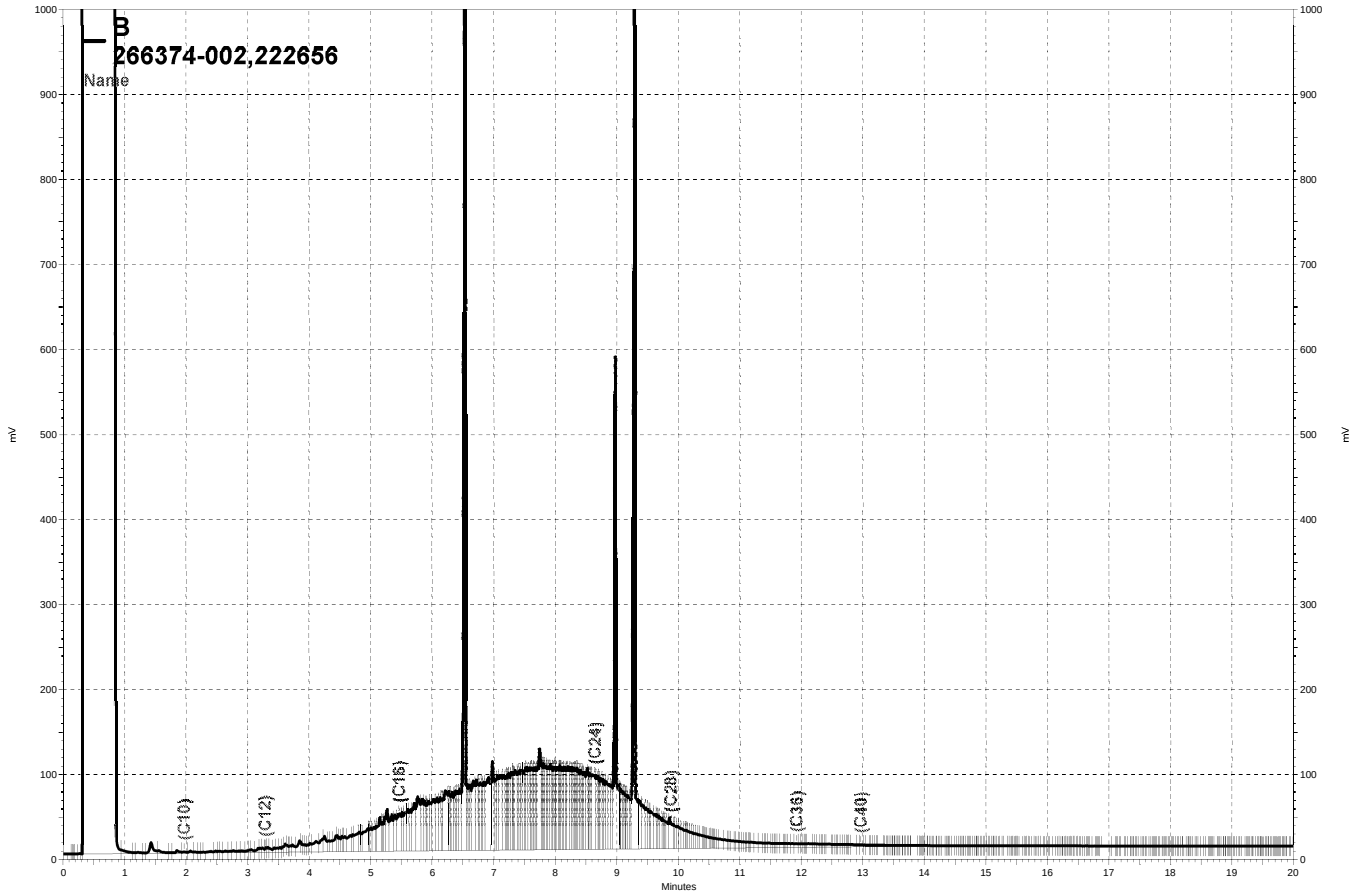
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,955	78	60-121	8	32

Surrogate	%REC	Limits
o-Terphenyl	92	67-136

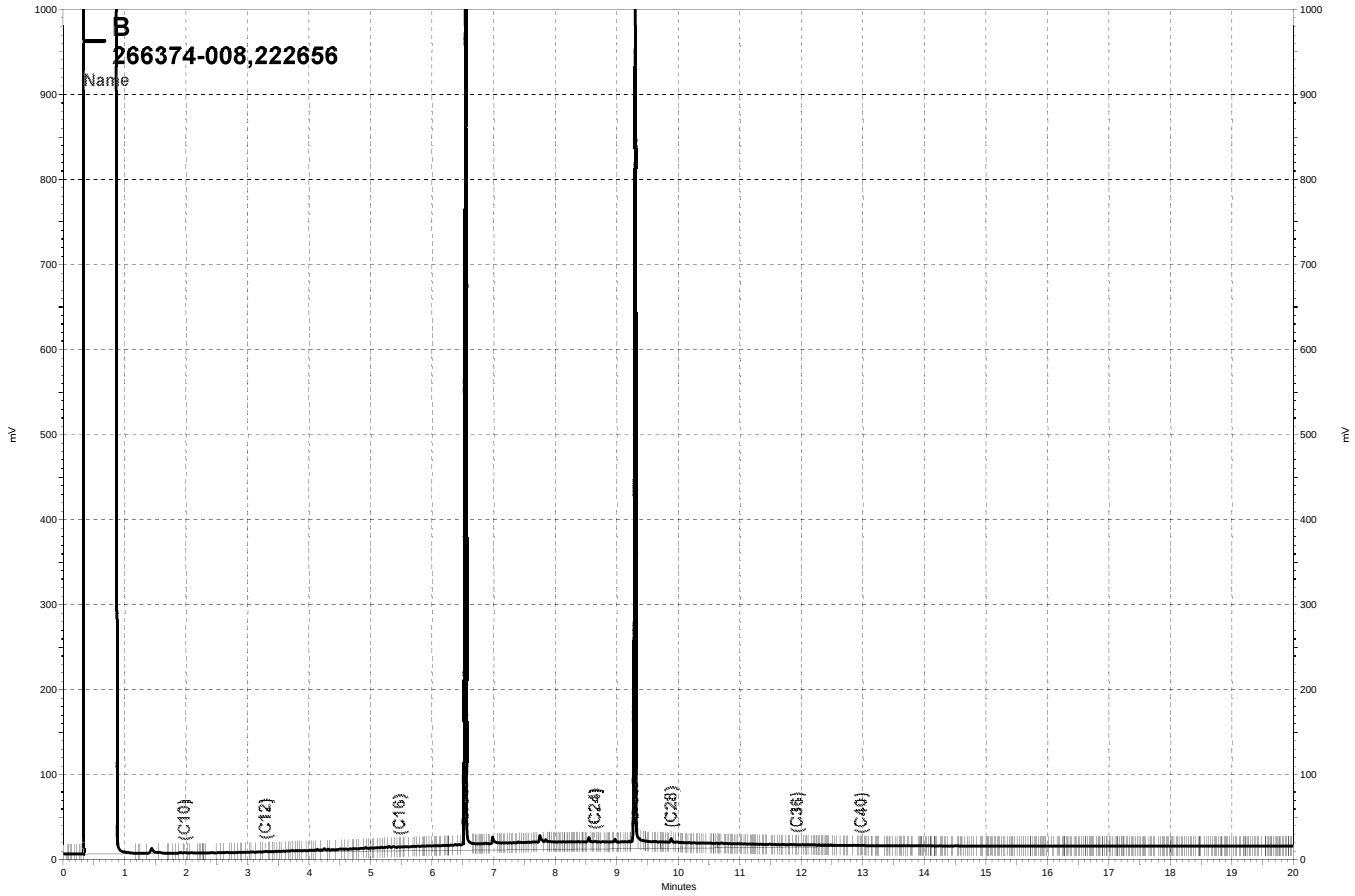
RPD= Relative Percent Difference



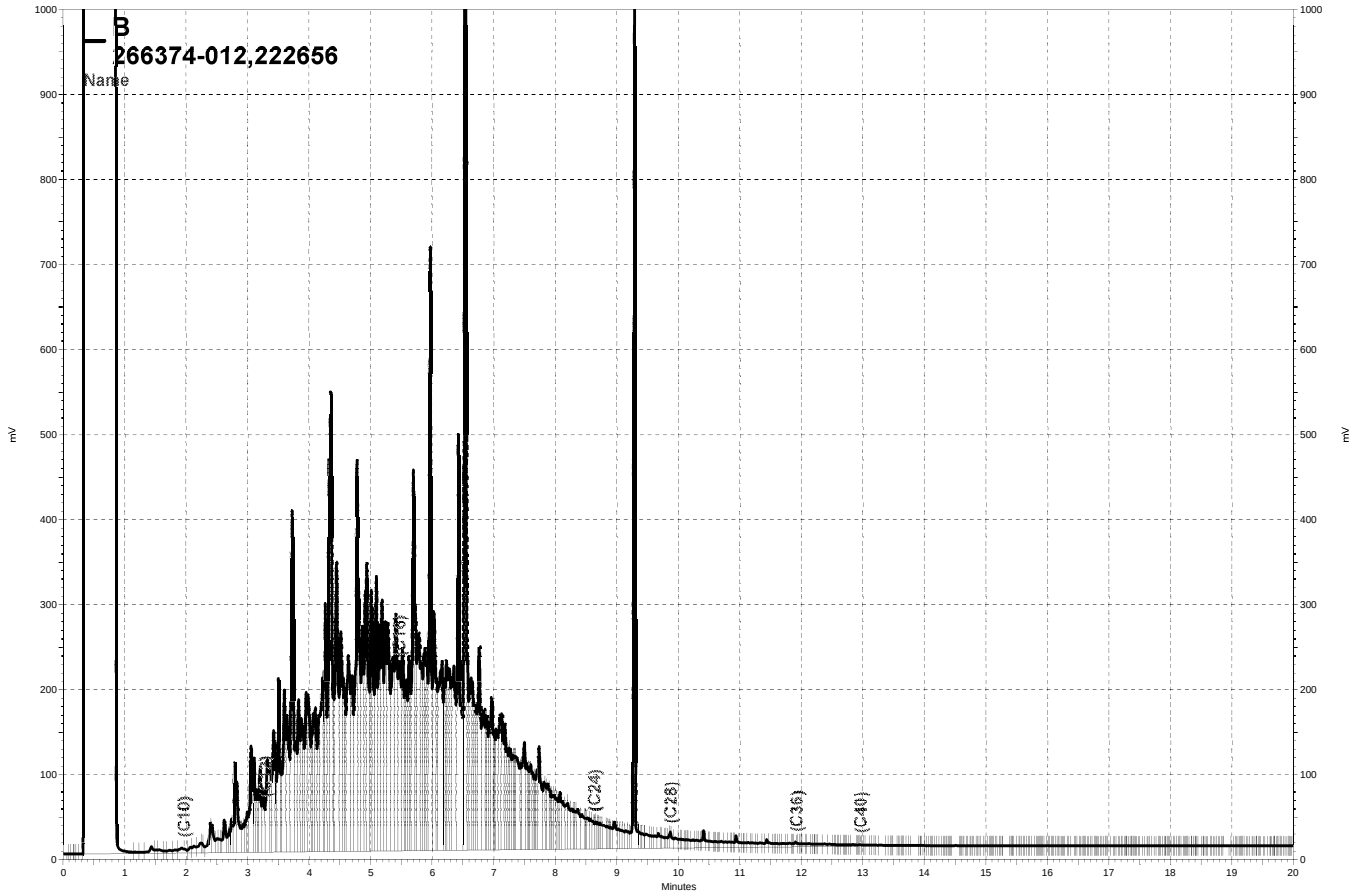
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\121b012, B



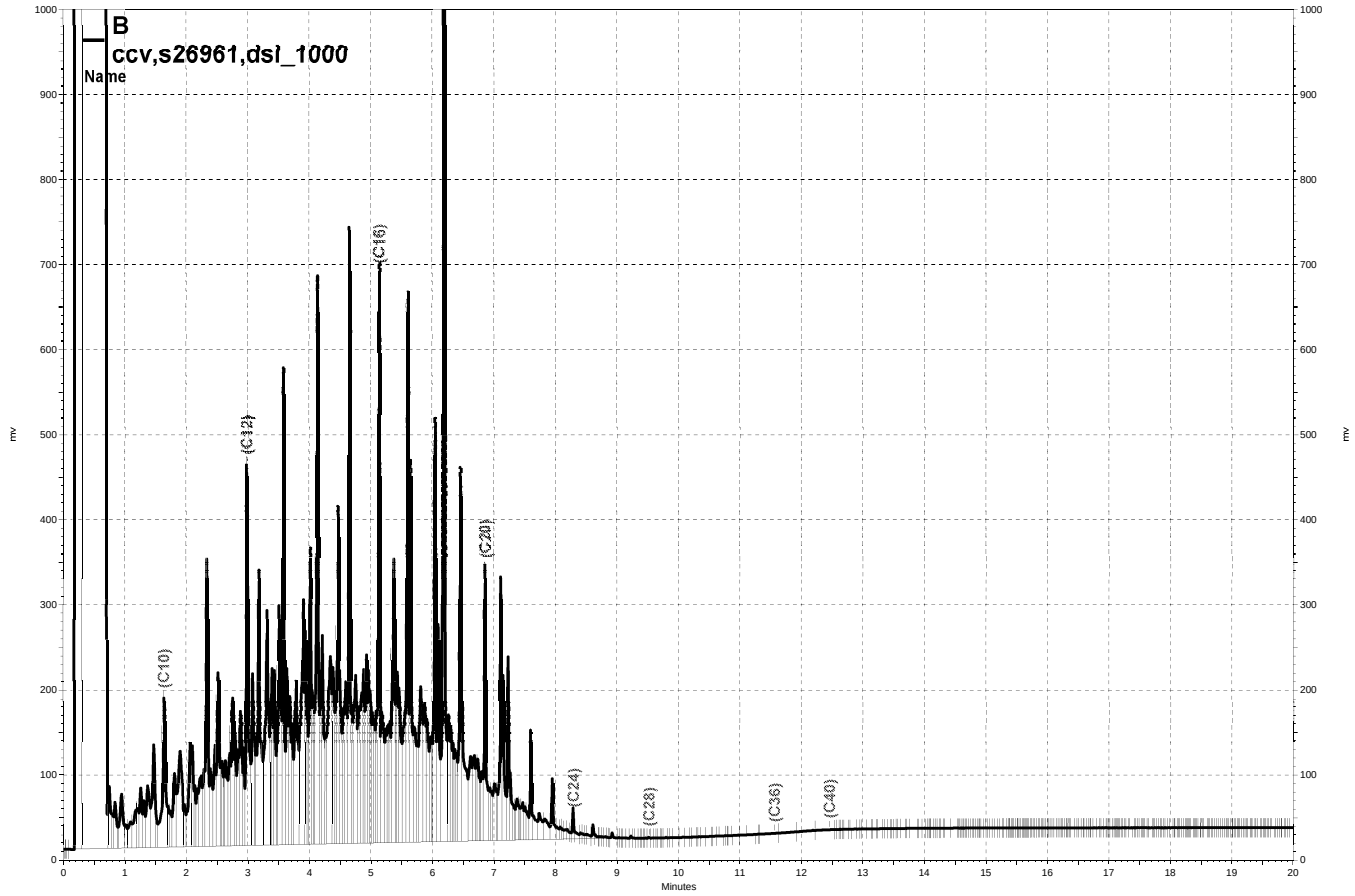
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\119b035, B



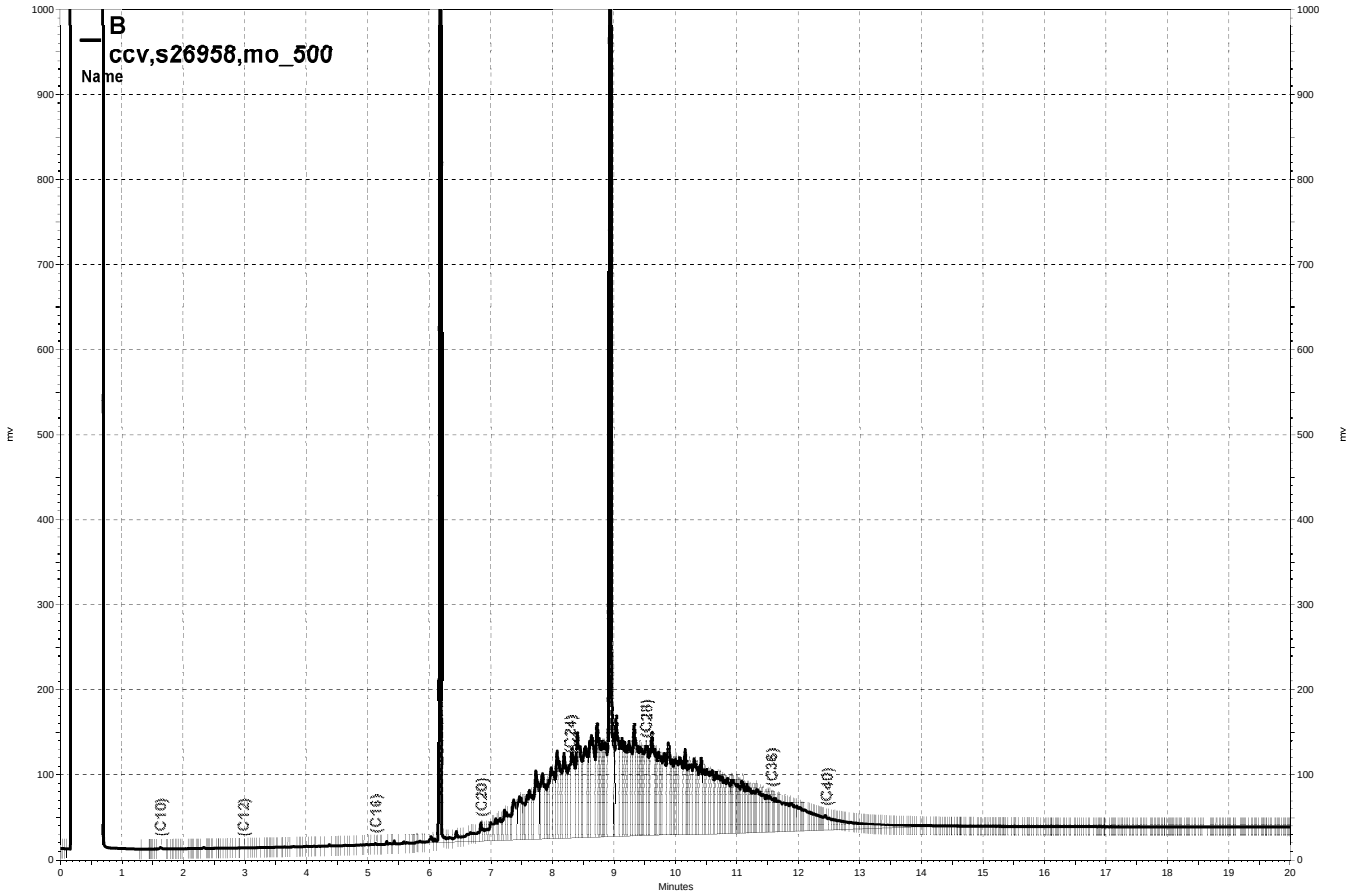
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\119b036, B



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\119b037, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\119b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\119b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Name : DSL_364
Calnum : 224523202001 Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742001
Units : mg/L

Name : OTPHEX_112
Date : 22-APR-2015 17:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_013	225161742013	HEX OTP_5	22-APR-2015 17:35	S26468
L2	112_014	225161742014	HEX OTP_10	22-APR-2015 18:02	S26469
L3	112_015	225161742015	HEX OTP_25	22-APR-2015 18:30	S26470
L4	112_016	225161742016	HEX OTP_50	22-APR-2015 18:59	S26471
L5	112_017	225161742017	HEX OTP_100	22-APR-2015 19:27	S26472
L6	112_018	225161742018	HEX OTP_200	22-APR-2015 19:55	S26473

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	41558	43661	41740	41428	40639	40974	AVRG		2.40E-5		41667	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	0	10.000	5	25.000	0	50.000	-1	100.00	-2	200.00	-2

JDG 04/23/15 [Hexacosane B]: Samples requiring Hexacosane will not be analyzed on this instrument.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742002
Units : mg/L

Name : MO_112
Date : 22-APR-2015 20:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_020	225161742020	MO_50	22-APR-2015 20:52	S26392
L2	112_021	225161742021	MO_250	22-APR-2015 21:21	S26393
L3	112_022	225161742022	MO_500	22-APR-2015 21:49	S26394
L4	112_023	225161742023	MO_1000	22-APR-2015 22:17	S26395
L5	112_024	225161742024	MO_2500	22-APR-2015 22:46	S26389 (2X)
L6	112_025	225161742025	MO_5000	22-APR-2015 23:14	S26389

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	18614	22373	22608	22415	23777	21336	AVRG		4.58E-5		21854	8	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.000	-15	250.00	2	500.00	3	1000.0	3	2500.0	9	5000.0	-2

JDG 04/23/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

225161742002

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Water
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175098483001
Units : mg/L

Name : OTPHEX_068
Date : 09-MAR-2015 12:32
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a006	175098483006	HEXOTP_5	09-MAR-2015 12:32	S26468
L2	068a007	175098483007	HEXOTP_10	09-MAR-2015 13:00	S26469
L3	068a008	175098483008	HEXOTP_25	09-MAR-2015 13:27	S26470
L4	068a009	175098483009	HEXOTP_50	09-MAR-2015 13:55	S26471
L5	068a010	175098483010	HEXOTP_100	09-MAR-2015 14:23	S26472
L6	068a011	175098483011	HEXOTP_200	09-MAR-2015 14:51	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	65431	66263	74546	76430	76757	76644	AVRG		1.38E-5		72678	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-10	10.000	-9	25.000	3	50.000	5	100.00	6	200.00	5

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_5 (068a006).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_50 (068a009).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_100 (068a010).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175098483002
Units : mg/L

Name : DSL_068
Date : 09-MAR-2015 15:47
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a013	175098483013	DSL_10	09-MAR-2015 15:47	S26213
L2	068a014	175098483014	DSL_100	09-MAR-2015 16:15	S25844
L3	068a015	175098483015	DSL_500	09-MAR-2015 16:43	S25845
L4	068a016	175098483016	DSL_1000	09-MAR-2015 17:11	S25846
L5	068a017	175098483017	DSL_5000	09-MAR-2015 17:38	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	68069	68135	68803	69079	68596	AVRG		1.46E-5		68536	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-1	100.00	-1	500.00	0	1000.0	1	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline for all levels except L5

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Water
EPA 8015B

Inst : GC17A Name : DSL_068
Calnum : 175098483002 Cal Date : 09-MAR-2015

ICV 175098483019 (068a019 09-MAR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	466.9	mg/L	-7	15	

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024001
Units : mg/L

Name : OTPHEX_092
Date : 02-APR-2015 13:34
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a008	975133024008	HEXOTP_5	02-APR-2015 13:34	S26468
L2	092a009	975133024009	HEXOTP_10	02-APR-2015 13:59	S26469
L3	092a010	975133024010	HEXOTP_25	02-APR-2015 14:23	S26470
L4	092a011	975133024011	HEXOTP_50	02-APR-2015 14:47	S26471
L5	092a012	975133024012	HEXOTP_100	02-APR-2015 15:12	S26472
L6	092a013	975133024013	HEXOTP_200	02-APR-2015 15:36	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	276330	267031	256097	263981	226521	205054	AVRG		4.01E-6		249169	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	11	10.000	7	25.000	3	50.000	6	100.00	-9	200.00	-18

JDG 04/03/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024002
Units : mg/L

Name : DSL_092
Date : 02-APR-2015 16:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a015	975133024015	DSL_10	02-APR-2015 16:26	S26213
L2	092a016	975133024016	DSL_100	02-APR-2015 16:50	S25844
L3	092a017	975133024017	DSL_500	02-APR-2015 17:15	S25845
L4	092a018	975133024018	DSL_1000	02-APR-2015 17:40	S25846
L5	092a019	975133024019	DSL_5000	02-APR-2015 18:04	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	228683	254586	249023	238953	236415	AVRG		4.14E-6		241532	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-5	100.00	5	500.00	3	1000.0	-1	5000.0	-2

JDG 04/03/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

975133024002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Water
EPA 8015B

Inst : GC27A Name : DSL_092
Calnum : 975133024002 Cal Date : 02-APR-2015

ICV 975133024021 (092a021 02-APR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	468.2	mg/L	-6	15	

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024003
Units : mg/L

Name : MO_092
Date : 02-APR-2015 20:07
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a024	975133024024	MO_50	02-APR-2015 20:07	S26392
L2	092a025	975133024025	MO_250	02-APR-2015 20:32	S26393
L3	092a026	975133024026	MO_500	02-APR-2015 20:56	S26394
L4	092a027	975133024027	MO_1000	02-APR-2015 21:21	S26395
L5	092a028	975133024028	MO_2500	02-APR-2015 21:45	S26389 (2X)
L6	092a029	975133024029	MO_5000	02-APR-2015 22:09	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	77641	112933	129532	135304	134900	142994	AVRG		8.18E-6		122217	20	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	**-36**	250.00	-8	500.00	6	1000.0	11	2500.0	10	5000.0	17

JDG 04/03/15 : Manually integrated fuel hump in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799014 File : 119_014 Time : 29-APR-2015 13:42
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20613	500.0	471.6	mg/L	-6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37213	50.00	44.66	mg/L	-11	15	

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225171799015 File : 119_015 Time : 29-APR-2015 14:10
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	36872	500.0	554.6	mg/L	11	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40838	50.00	49.01	mg/L	-2	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799029 File : 119_029 Time : 29-APR-2015 21:36
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20873	500.0	477.6	mg/L	-4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37946	50.00	45.53	mg/L	-9	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 225171799030 File : 119_030 Time : 29-APR-2015 22:04
Standards: S26961

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35384	1000	1064	mg/L	6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	41641	50.00	49.97	mg/L	0	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799038 File : 119_038 Time : 30-APR-2015 01:52
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20816	500.0	476.2	mg/L	-5	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37817	50.00	45.38	mg/L	-9	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225171799039 File : 119_039 Time : 30-APR-2015 02:20
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	37270	500.0	560.6	mg/L	12	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	41349	50.00	49.62	mg/L	-1	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225174669010 File : 121_010 Time : 01-MAY-2015 11:52
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	21400	500.0	489.6	mg/L	-2	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38988	50.00	46.79	mg/L	-6	15	

Analyst: SFL Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
Seqnum : 225174669011 File : 121_011 Time : 01-MAY-2015 12:20
Standards: S26959

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35563	250.0	267.4	mg/L	7	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38318	50.00	45.98	mg/L	-8	15	

SFL 05/01/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225174669021 File : 121_021 Time : 01-MAY-2015 17:22
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20362	500.0	465.9	mg/L	-7	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	39021	50.00	46.83	mg/L	-6	15	

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 225174669022 File : 121_022 Time : 01-MAY-2015 17:50
Standards: S26961

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	34640	1000	1042	mg/L	4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40699	50.00	48.84	mg/L	-2	15	

JDG 05/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165171796003 File : 119b003 Time : 29-APR-2015 08:12
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	34010	500.0	490.1	mg/L	-2	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60469	50.00	53.72	mg/L	7	15	

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165171796004 File : 119b004 Time : 29-APR-2015 08:40
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50714	1000	1096	mg/L	10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	62475	50.00	55.50	mg/L	11	15	

JDG 04/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165171796012 File : 119b012 Time : 29-APR-2015 13:12
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	31201	500.0	449.6	mg/L	-10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59081	50.00	52.49	mg/L	5	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165171796013 File : 119b013 Time : 29-APR-2015 13:39
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	48169	250.0	260.2	mg/L	4	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59365	50.00	52.74	mg/L	5	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175174665024 File : 121a024 Time : 01-MAY-2015 18:38
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	44928	500.0	502.1	mg/L	0	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	73315	50.00	50.44	mg/L	1	15	

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175174665025 File : 121a025 Time : 01-MAY-2015 19:05
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	68011	250.0	248.1	mg/L	-1	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	73081	50.00	50.28	mg/L	1	15	

JDG 05/04/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175174665040 File : 121a040 Time : 02-MAY-2015 02:04
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	43471	500.0	485.8	mg/L	-3	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	72036	50.00	49.56	mg/L	-1	15	

JDG 05/04/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175174665041 File : 121a041 Time : 02-MAY-2015 02:32
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	63657	1000	928.8	mg/L	-7	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	78167	50.00	53.78	mg/L	8	15	

JDG 05/04/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975173230009 File : 120a009 Time : 30-APR-2015 10:26
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	124976	500.0	511.3	mg/L	2	15	
o-Terphenyl	975133024001	02-APR-2015	249169	249408	50.00	50.05	mg/L	0	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_500 IDF : 1.0
Seqnum : 975173230010 File : 120a010 Time : 30-APR-2015 10:51
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	232885	500.0	482.1	mg/L	-4	15	
o-Terphenyl	975133024001	02-APR-2015	249169	255329	50.00	51.24	mg/L	2	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975173230015 File : 120a015 Time : 30-APR-2015 13:51
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	113031	500.0	462.4	mg/L	-8	15	
o-Terphenyl	975133024001	02-APR-2015	249169	245880	50.00	49.34	mg/L	-1	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
Seqnum : 975173230016 File : 120a016 Time : 30-APR-2015 14:15
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	226318	250.0	234.3	mg/L	-6	15	
o-Terphenyl	975133024001	02-APR-2015	249169	246518	50.00	49.47	mg/L	-1	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165171796

Instrument : GC15B
Method : EPA 8015B
Begun : 04/29/15 07:16
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119b001	X	IB				04/29/15 07:16	1.0		
002	119b002	X	CMARKER				04/29/15 07:44	1.0	1	
003	119b003	CCV	MO_500				04/29/15 08:12	1.0	2	
004	119b004	CCV	DSL_1000				04/29/15 08:40	1.0	3	
005	119b005	BLANK	QC785880	S	Soil	222669	04/29/15 09:15	1.0		
006	119b006	MSS	266363-001	S	Soil	222669	04/29/15 09:43	5.0		
007	119b007	MS	QC785882	S	Soil	222669	04/29/15 10:11	5.0		
008	119b008	MSD	QC785883	S	Soil	222669	04/29/15 10:39	5.0		1:BUNKC:12-40=5100
009	119b009	X	IB				04/29/15 11:22	1.0		
010	119b010	BS	QC785822	S	Water	222656	04/29/15 12:17	1.0		
011	119b011	BSD	QC785823	S	Water	222656	04/29/15 12:44	1.0		
012	119b012	CCV	MO_500				04/29/15 13:12	1.0	2	
013	119b013	CCV	DSL_250				04/29/15 13:39	1.0	4	
014	119b014	X	CMARKER				04/29/15 14:40	1.0	1	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 8.

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 9 through 14.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175098483

Instrument : GC17A
Method : EPA 8015B
Begun : 03/09/15 09:23
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	068a001	X	IB			03/09/15 09:23	1.0		
002	068a002	X	CMARKER			03/09/15 09:52	1.0	1	
003	068a003	CCV	MO_500			03/09/15 10:20	1.0	2	
004	068a004	CCV	DSL_250			03/09/15 10:48	1.0	3	
005	068a005	IB	CALIB			03/09/15 12:04	1.0		
006	068a006	ICAL	HEXOTP_5			03/09/15 12:32	1.0	4	
007	068a007	ICAL	HEXOTP_10			03/09/15 13:00	1.0	5	
008	068a008	ICAL	HEXOTP_25			03/09/15 13:27	1.0	6	
009	068a009	ICAL	HEXOTP_50			03/09/15 13:55	1.0	7	
010	068a010	ICAL	HEXOTP_100			03/09/15 14:23	1.0	8	
011	068a011	ICAL	HEXOTP_200			03/09/15 14:51	1.0	9	
012	068a012	IB	CALIB			03/09/15 15:19	1.0		
013	068a013	ICAL	DSL_10			03/09/15 15:47	1.0	10	
014	068a014	ICAL	DSL_100			03/09/15 16:15	1.0	11	
015	068a015	ICAL	DSL_500			03/09/15 16:43	1.0	12	
016	068a016	ICAL	DSL_1000			03/09/15 17:11	1.0	13	
017	068a017	ICAL	DSL_5000			03/09/15 17:38	1.0	14	
018	068a018	IB	CALIB			03/09/15 18:06	1.0		
019	068a019	ICV	DSL_500			03/09/15 18:34	1.0	15	
020	068a020	X	ICV			03/09/15 19:02	1.0	16	
021	068a021	IB	CALIB			03/09/15 19:31	1.0		
022	068a022	ICAL	MO_50			03/09/15 19:59	1.0	17	
023	068a023	ICAL	MO_250			03/09/15 20:27	1.0	18	
024	068a024	ICAL	MO_500			03/09/15 20:55	1.0	19	
025	068a025	ICAL	MO_1000			03/09/15 21:23	1.0	20	
026	068a026	ICAL	MO_2500			03/09/15 21:52	1.0	21	
027	068a027	ICAL	MO_5000			03/09/15 22:20	1.0	21	
028	068a028	IB	CALIB			03/09/15 22:48	1.0		
029	068a029	CMARKER	C8-C50			03/09/15 23:16	1.0	1	
030	068a030	IB	CALIB			03/09/15 23:44	1.0		

SFL 03/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Standards used: 1=S26646 2=S26734 3=S26622 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S25641 17=S26392 18=S26393 19=S26394 20=S26395 21=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175174665

Instrument : GC17A
Method : EPA 8015B

Begun : 05/01/15 07:05
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	121a001	X	IB				05/01/15 07:05	1.0	
002	121a002	X	CMARKER				05/01/15 07:34	1.0	1
003	121a003	CCV	MO_500				05/01/15 08:02	1.0	2
004	121a004	CCV	DSL_1000				05/01/15 08:30	1.0	3
005	121a005	BLANK	QC786223		Soil	222756	05/01/15 09:11	1.0	
006	121a006	LCS	QC786224		Soil	222756	05/01/15 09:39	1.0	
007	121a007	SAMPLE	266503-001		Soil	222756	05/01/15 10:07	50.0	
008	121a008	MSS	266503-002		Soil	222756	05/01/15 10:35	50.0	
009	121a009	CCV	MO_500				05/01/15 11:22	1.0	2
010	121a010	CCV	DSL_500				05/01/15 11:50	1.0	4
011	121a011	CCV	HYFL_500				05/01/15 12:19	1.0	5
012	121a012	BLANK	QC786023		Water	222708	05/01/15 13:05	1.0	
013	121a013	SAMPLE	266401-003	S	Water	222708	05/01/15 13:33	1.0	
014	121a014	SAMPLE	266401-004	S	Water	222708	05/01/15 14:00	1.0	
015	121a015	SAMPLE	266401-005	S	Water	222708	05/01/15 14:28	1.0	
016	121a016	SAMPLE	266416-001		Water	222708	05/01/15 14:56	1.0	
017	121a017	SAMPLE	266457-001	S	Water	222708	05/01/15 15:24	1.0	
018	121a018	SAMPLE	266457-002	S	Water	222708	05/01/15 15:52	1.0	
019	121a019	SAMPLE	266457-003	S	Water	222708	05/01/15 16:19	1.0	
020	121a020	SAMPLE	266457-004	S	Water	222708	05/01/15 16:47	1.0	
021	121a021	SAMPLE	266457-005	S	Water	222708	05/01/15 17:15	1.0	
022	121a022	SAMPLE	266457-006	S	Water	222708	05/01/15 17:42	1.0	
023	121a023	X	CMARKER				05/01/15 18:10	1.0	1
024	121a024	CCV	MO_500				05/01/15 18:38	1.0	2
025	121a025	CCV	DSL_250				05/01/15 19:05	1.0	6
026	121a026	CCV	HYFL_500				05/01/15 19:33	1.0	5
027	121a027	X	CCV				05/01/15 20:01	1.0	2
028	121a028	X	CCV				05/01/15 20:29	1.0	6
029	121a029	X	CCV				05/01/15 20:57	1.0	5
030	121a030	BLANK	QC786023	S	Water	222708	05/01/15 21:25	1.0	
031	121a031	BS	QC786024	S	Water	222708	05/01/15 21:53	1.0	
032	121a032	BSD	QC786025	S	Water	222708	05/01/15 22:21	1.0	
033	121a033	SAMPLE	266457-007	S	Water	222708	05/01/15 22:49	1.0	
034	121a034	SAMPLE	266457-008	S	Water	222708	05/01/15 23:17	1.0	
035	121a035	SAMPLE	266373-002	S	Water	222656	05/01/15 23:45	1.0	
036	121a036	SAMPLE	266373-003	S	Water	222656	05/02/15 00:13	1.0	
037	121a037	SAMPLE	266373-005	S	Water	222656	05/02/15 00:41	1.0	
038	121a038	SAMPLE	266401-002	S	Water	222656	05/02/15 01:08	1.0	
039	121a039	SAMPLE	266401-001	S	Water	222656	05/02/15 01:36	1.0	
040	121a040	CCV	MO_500				05/02/15 02:04	1.0	2
041	121a041	CCV	DSL_1000				05/02/15 02:32	1.0	3
042	121a042	CCV	HYFL_500				05/02/15 03:00	1.0	5
043	121a043	X	CCV				05/02/15 03:28	1.0	2
044	121a044	X	CCV				05/02/15 03:56	1.0	3
045	121a045	X	CCV				05/02/15 04:24	1.0	5

SFL 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 11.

JDG 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 12 through 45.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175174665

Instrument : GC17A
Method : EPA 8015B
Begun : 05/01/15 07:05
SOP Version : TEH_rv18

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26228 6=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225161742

Instrument : GC14B
Method : EPA 8015B
Begun : 04/22/15 07:42
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	112_001	X	IB			04/22/15 07:42	1.0		
002	112_002	X	C8-C50			04/22/15 08:10	1.0	1	
003	112_003	X	MO_500			04/22/15 08:39	1.0	2	
004	112_004	X	DSL_500			04/22/15 09:08	1.0	3	
005	112_005	X	JP5_250			04/22/15 11:07	1.0	4	
006	112_006	X	IB			04/22/15 13:08	1.0		
007	112_007	X	C8-C50			04/22/15 13:36	1.0	1	
008	112_008	X	MO_500			04/22/15 14:04	1.0	2	
009	112_009	X	DSL_250			04/22/15 14:32	1.0	5	
010	112_010	X	MO_500			04/22/15 15:57	1.0	2	
011	112_011	X	DSL_250			04/22/15 16:25	1.0	5	
012	112_012	IB	CALIB			04/22/15 17:07	1.0		
013	112_013	ICAL	HEX OTP_5			04/22/15 17:35	1.0	6	
014	112_014	ICAL	HEX OTP_10			04/22/15 18:02	1.0	7	
015	112_015	ICAL	HEX OTP_25			04/22/15 18:30	1.0	8	
016	112_016	ICAL	HEX OTP_50			04/22/15 18:59	1.0	9	
017	112_017	ICAL	HEX OTP_100			04/22/15 19:27	1.0	10	
018	112_018	ICAL	HEX OTP_200			04/22/15 19:55	1.0	11	
019	112_019	IB	CALIB			04/22/15 20:23	1.0		
020	112_020	ICAL	MO_50			04/22/15 20:52	1.0	12	
021	112_021	ICAL	MO_250			04/22/15 21:21	1.0	13	
022	112_022	ICAL	MO_500			04/22/15 21:49	1.0	14	
023	112_023	ICAL	MO_1000			04/22/15 22:17	1.0	15	
024	112_024	ICAL	MO_2500			04/22/15 22:46	1.0	16	
025	112_025	ICAL	MO_5000			04/22/15 23:14	1.0	16	
026	112_026	IB	CALIB			04/22/15 23:43	1.0		
027	112_027	CMARKER	C8-C50			04/23/15 00:11	1.0	1	
028	112_028	IB	CALIB			04/23/15 00:39	1.0		

JDG 04/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26646 2=S26958 3=S26960 4=S26748 5=S26959 6=S26468 7=S26469 8=S26470 9=S26471 10=S26472 11=S26473 12=S26392 13=S26393 14=S26394 15=S26395 16=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225171799

Instrument : GC14B
Method : EPA 8015B
Begun : 04/29/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119_001	X	IB				04/29/15 07:19	1.0		
002	119_002	X	CMARKER				04/29/15 07:48	1.0	1	
003	119_003	CCV	MO_500				04/29/15 08:17	1.0	2	
004	119_004	CCV	DSL_1000				04/29/15 08:45	1.0	3	
005	119_005	CCV	HYFL_500				04/29/15 09:14	1.0	4	
006	119_006	SAMPLE	266364-004		Soil	222669	04/29/15 09:43	1.0		
007	119_007	SAMPLE	266364-005		Soil	222669	04/29/15 10:12	1.0		
008	119_008	SAMPLE	266374-007		Soil	222669	04/29/15 10:41	1.0		
009	119_009	X	IB				04/29/15 11:09	1.0		
010	119_010	X	TEST				04/29/15 11:37	1.0		
011	119_011	BLANK	QC785821	S	Water	222656	04/29/15 12:17	1.0		
012	119_012	SAMPLE	266378-001	S	Water	222656	04/29/15 12:45	1.0		
013	119_013	SAMPLE	266378-002	S	Water	222656	04/29/15 13:14	1.0		
014	119_014	CCV	MO_500				04/29/15 13:42	1.0	2	
015	119_015	CCV	DSL_500				04/29/15 14:10	1.0	5	
016	119_016	CCV	HYFL_500				04/29/15 14:38	1.0	4	
017	119_017	BLANK	QC785821		Water	222656	04/29/15 15:58	1.0		
018	119_018	SAMPLE	266342-001	S	Water	222656	04/29/15 16:26	1.0		12:BUNKC:10-40=85000
019	119_019	SAMPLE	266373-001	S	Water	222656	04/29/15 16:54	1.0		
020	119_020	SAMPLE	266373-002	S	Water	222656	04/29/15 17:22	1.0		
021	119_021	SAMPLE	266373-003	S	Water	222656	04/29/15 17:51	1.0		
022	119_022	SAMPLE	266373-004	S	Water	222656	04/29/15 18:19	1.0		
023	119_023	SAMPLE	266373-005	S	Water	222656	04/29/15 18:47	1.0		
024	119_024	SAMPLE	266377-001	S	Water	222656	04/29/15 19:15	1.0		
025	119_025	SAMPLE	266377-002	S	Water	222656	04/29/15 19:43	1.0		
026	119_026	SAMPLE	266377-003	S	Water	222656	04/29/15 20:11	1.0		
027	119_027	SAMPLE	266374-011		Soil	222669	04/29/15 20:39	100.0		2:BUNKC:10-40=6800
028	119_028	X	CMARKER				04/29/15 21:07	1.0	1	
029	119_029	CCV	MO_500				04/29/15 21:36	1.0	2	
030	119_030	CCV	DSL_1000				04/29/15 22:04	1.0	3	
031	119_031	CCV	HYFL_500				04/29/15 22:33	1.0	4	
032	119_032	X	CCV				04/29/15 23:01	1.0	2	
033	119_033	X	CCV				04/29/15 23:30	1.0	3	
034	119_034	X	CCV				04/29/15 23:58	1.0	4	
035	119_035	SAMPLE	266374-002		Water	222656	04/30/15 00:27	1.0		
036	119_036	SAMPLE	266374-008		Water	222656	04/30/15 00:55	1.0		
037	119_037	SAMPLE	266374-012		Water	222656	04/30/15 01:23	1.0		
038	119_038	CCV	MO_500				04/30/15 01:52	1.0	2	
039	119_039	CCV	DSL_500				04/30/15 02:20	1.0	5	
040	119_040	X	CCV				04/30/15 02:48	1.0	2	
041	119_041	X	CCV				04/30/15 03:17	1.0	5	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 17 through 41.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225174669

Instrument : GC14B
Method : EPA 8015B
Begun : 05/01/15 07:09
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	121_001	X	IB				05/01/15 07:09	1.0		
002	121_002	X	CMARKER				05/01/15 07:37	1.0	1	
003	121_003	CCV	MO_500				05/01/15 08:06	1.0	2	
004	121_004	CCV	DSL_1000				05/01/15 08:35	1.0	3	
005	121_005	BLANK	QC786159	S	Soil	222743	05/01/15 09:08	1.0		
006	121_006	LCS	QC786160	S	Soil	222743	05/01/15 09:37	1.0		
007	121_007	SAMPLE	266499-001	S	Soil	222743	05/01/15 10:05	10.0		
008	121_008	MSS	266396-001		Soil	222743	05/01/15 10:33	1.0		8:BUNKC:10-40=27000
009	121_009	MSS	266396-001		Soil	222743	05/01/15 11:22	10.0		
010	121_010	CCV	MO_500				05/01/15 11:52	1.0	2	
011	121_011	CCV	DSL_250				05/01/15 12:20	1.0	4	
012	121_012	SAMPLE	266374-001		Water	222708	05/01/15 13:09	1.0		
013	121_013	SAMPLE	266470-001		Water	222708	05/01/15 13:37	1.0		
014	121_014	SAMPLE	266471-001		Water	222708	05/01/15 14:05	1.0		
015	121_015	SAMPLE	266471-002		Water	222708	05/01/15 14:33	1.0		
016	121_016	SAMPLE	266462-001		Soil	222743	05/01/15 15:02	1.0		
017	121_017	SAMPLE	266462-002		Soil	222743	05/01/15 15:30	1.0		
018	121_018	SAMPLE	266396-010		Soil	222743	05/01/15 15:58	1.0		
019	121_019	SAMPLE	266396-011		Soil	222743	05/01/15 16:26	1.0		1:BUNKC:10-40=8200
020	121_020	X	CMARKER				05/01/15 16:54	1.0	1	
021	121_021	CCV	MO_500				05/01/15 17:22	1.0	2	
022	121_022	CCV	DSL_1000				05/01/15 17:50	1.0	3	
023	121_023	X	CCV				05/01/15 18:18	1.0	2	
024	121_024	X	CCV				05/01/15 18:46	1.0	3	

SFL 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 11.

JDG 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 12 through 24.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975133024

Instrument : GC27A
Method : EPA 8015B
Begun : 04/02/15 09:04
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	092a001	X	IB			04/02/15 09:04	1.0		
002	092a002	X	IB			04/02/15 09:29	1.0		
003	092a003	X	C8-C50			04/02/15 09:53	1.0	1	
004	092a004	X	MO_500			04/02/15 10:18	1.0	2	
005	092a005	X	DSL_1000			04/02/15 10:42	1.0	3	2:BUNKC:10-40=5700
007	092a007	IB	CALIB			04/02/15 13:10	1.0		
008	092a008	ICAL	HEXOTP_5			04/02/15 13:34	1.0	4	
009	092a009	ICAL	HEXOTP_10			04/02/15 13:59	1.0	5	
010	092a010	ICAL	HEXOTP_25			04/02/15 14:23	1.0	6	
011	092a011	ICAL	HEXOTP_50			04/02/15 14:47	1.0	7	
012	092a012	ICAL	HEXOTP_100			04/02/15 15:12	1.0	8	
013	092a013	ICAL	HEXOTP_200			04/02/15 15:36	1.0	9	
014	092a014	IB	CALIB			04/02/15 16:01	1.0		
015	092a015	ICAL	DSL_10			04/02/15 16:26	1.0	10	
016	092a016	ICAL	DSL_100			04/02/15 16:50	1.0	11	
017	092a017	ICAL	DSL_500			04/02/15 17:15	1.0	12	
018	092a018	ICAL	DSL_1000			04/02/15 17:40	1.0	13	
019	092a019	ICAL	DSL_5000			04/02/15 18:04	1.0	14	
020	092a020	IB	CALIB			04/02/15 18:29	1.0		
021	092a021	ICV	DSL_500			04/02/15 18:53	1.0	15	
022	092a022	X	ICV			04/02/15 19:18	1.0	15	
023	092a023	IB	CALIB			04/02/15 19:42	1.0		
024	092a024	ICAL	MO_50			04/02/15 20:07	1.0	16	
025	092a025	ICAL	MO_250			04/02/15 20:32	1.0	17	
026	092a026	ICAL	MO_500			04/02/15 20:56	1.0	18	
027	092a027	ICAL	MO_1000			04/02/15 21:21	1.0	19	
028	092a028	ICAL	MO_2500			04/02/15 21:45	1.0	20	
029	092a029	ICAL	MO_5000			04/02/15 22:09	1.0	20	
030	092a030	IB	CALIB			04/02/15 22:34	1.0		
031	092a031	CMARKER	C8-C50			04/02/15 22:58	1.0	1	
032	092a032	IB	CALIB			04/02/15 23:23	1.0		

JDG 04/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26883 3=S26624 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S26392 17=S26393 18=S26394 19=S26395 20=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975173230

Instrument : GC27A
Method : EPA 8015B
Begun : 04/30/15 07:10
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	120a001	X	IB				04/30/15 07:10	1.0		
002	120a002	X	CMARKER				04/30/15 07:35	1.0	1	
003	120a003	CCV	MO_500				04/30/15 07:59	1.0	2	
004	120a004	CCV	DSL_1000				04/30/15 08:23	1.0	3	
005	120a005	SAMPLE	266342-001	S	Water	222656	04/30/15 08:48	20.0		2:BUNKC:10-40=6900
006	120a006	X	IB				04/30/15 09:12	1.0		
007	120a007	SAMPLE	266386-002		Soil	222707	04/30/15 09:37	1.0		
008	120a008	SAMPLE	266386-001		Soil	222707	04/30/15 10:01	1.0		
009	120a009	CCV	MO_500				04/30/15 10:26	1.0	2	
010	120a010	CCV	DSL_500				04/30/15 10:51	1.0	4	
011	120a011	BLANK	QC786023		Water	222708	04/30/15 12:06	1.0		
012	120a012	BS	QC786024		Water	222708	04/30/15 12:31	1.0		
013	120a013	BSD	QC786025		Water	222708	04/30/15 12:55	1.0		
014	120a014	SAMPLE	266420-001		Water	222708	04/30/15 13:20	1.0		
015	120a015	CCV	MO_500				04/30/15 13:51	1.0	2	
016	120a016	CCV	DSL_250				04/30/15 14:15	1.0	5	
017	120a017	X	CMARKER				04/30/15 14:42	1.0	1	

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

SFL 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 10.

SFL 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 17.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 222656
Started By : JM1
Method : 3520C
Spike #1 ID : S27144
Prep Date : 28-APR-2015 15:05
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : JCD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266342-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-002		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266373-003		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266373-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-005		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266374-002		Water	500	2.5	1	0.005	7	.5				TEHM	
266374-008		Water	500	2.5	1	0.005	7	.5				TEHM	
266374-012		Water	500	2.5	1	0.005	7	.5				TEHM	
266377-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266377-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266377-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266378-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266378-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266392-002		Water	490	2.5	1	0.005102	7	.5				TEHM	A/O @1315 4/29
266392-003		Water	500	2.5	1	0.005	7	.5				TEHM	A/O @1315 4/29
266393-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266393-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266401-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266401-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
QC785821	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC785822	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC785823	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

SFL 04/29/15 : Matrix spikes were not performed for this analysis in batch 222656 due to insufficient sample amount.

EAH 04/30/15 : Reviewed for all jobs except 266392, 393 and 104.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

Page 25 BK 3668

LIMS Batch No: 222656
LIMS Analysis: TEHM
Date Extracted: 4-28-15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Cleanup Method (if needed):
☑ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
266342-001	H	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
266373-001	D	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
2		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
3		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
4		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
5	A	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
266374-002	F	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☑ ≤2pH	
8	I	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☑ ≤2pH	
12	V	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☑ ≤2pH	
266377-001	K	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
2		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
3		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
266378-001	H	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
2		☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
~~266342-001~~		☑ 500 ☐ ____	☑ 7 ☐ ____	☐ 2.5 ☐ ____	X ☐ ≤2pH	
MB QC78 5821	N/A	☑ 500 ☐ ____	☐ 7 ☐ NA	☑ 2.5 ☐ ____	☑ ≤2pH	
BS 2		☑ 500 ☐ ____	☐ 7 ☐	☑ 2.5 ☐ ____	☑ ≤2pH	
BSD 3		☑ 500 ☐ ____	☐ 7 ☐	☑ 2.5 ☐ ____	☑ ≤2pH	
266392002	G	☐ 500 ☑ 490	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☑ ≤2pH	a/o @ 1315 on 4/29 by MM
1 3	B	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☑ ≤2pH	
266393001	H	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
1 2	H	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
266401.001	B	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	
1 2	B	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	X ☑ ≤2pH	

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	527144B	JM1 4-28-15
0.5 mL of TEH_SP was added to all spikes	526964F	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS1406S6	
☒ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EMS4351	
Extraction Start Time:	1505/1315	
Extraction End Time:	0915/1715	CRJ 4/29/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	JCO 4/29/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

Mark Mart 4-28-15
Extraction Chemist Date

Contined from Page ____
Continued on Page ____

SN 4/30/15
Reviewed by Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: LEB
Cleanup Date: 4/30/15

Benchbook # **BK 3677**
Page 45

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266393-601	222656	☑ 1.0 ☐	☑ 1.0 ☐	
↓ 2	↓	☑ 1.0 ☐	☑ 1.0 ☐	
266401-001		☑ 1.0 ☐	☑ 1.0 ☐	
↓ 2		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	R15A003	LEB 4/30/15
☐ Extracts were cleaned up using — g cartridges	N/A	↓
Extracts were eluted with 40 mL CH_2Cl_2	EM54351	
Concentrated to volumes as noted above	✓	

Lauren Brougham 4/30/15
Extraction Chemist / Date

Continued from page —
Continued on page —

SFL 4/30/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: JCD
Cleanup Date: 4/29/15

Benchbook # **BK 3677**
Page 44

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266342 - 001	222656	☑ 1.0 ☐	☑ 1.0 ☐	
266373 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
4		☑ 1.0 ☐	☑ 1.0 ☐	
5		☑ 1.0 ☐	☑ 1.0 ☐	
266377 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
266378 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC785821		☑ 1.0 ☐	☑ 1.0 ☐	
BS 2		☑ 1.0 ☐	☑ 1.0 ☐	
BSD 3		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

☑ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using ___ g cartridges
Extracts were eluted with 4.0 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
B15A003	JCD 4/29/15
NA	
EM54351	
✓	

Jamie Daughtry 4/29/15
Extraction Chemist / Date

Continued from page ___
Continued on page ___

SF 4/30/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: ARG
Cleanup Date: 5-1-15

Benchbook # **BK 3677**
Page 47

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266373	222656	☐ 1.0 ~~☐ 0.5~~ ARG 5/1/15	☐ 1.0 ☒ 0.5	
2	↓	☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
5		☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	ARG 5/1/15

	Mfg & Lot # / Time / Program	Initials / Date
☒ Extracts were cleaned up using C&T assembled 1.0 g columns	RISA003	ARG 5/1/15
☐ Extracts were cleaned up using — g cartridges	NA	
Extracts were eluted with 41.0 mL CH_2Cl_2	EMS4351	
Concentrated to volumes as noted above	✓	

ARG 5/1/15
Extraction Chemist / Date

Continued from page 1
Continued on page _____

Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 222708
Started By : ARW
Method : 3520C
Spike #1 ID : S27144
Prep Date : 29-APR-2015 16:50
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : LEB
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266374-001		Water	500	2.5	1	0.005	7	.5				TEHM	Prepped 30-APR-2015 13:40
266401-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266401-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266401-005		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266416-001		Water	500	2.5	1	0.005	7	.5				TEHM	Prepped 30-APR-2015 13:40
266420-001		Water	500	2.5	1	0.005	7	.5				TEHM	
266457-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-005		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-006		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-007		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266457-008		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	Prepped 30-APR-2015 13:40
266470-001		Water	500	2.5	1	0.005	11	.5				TEH	Prepped 30-APR-2015 13:40
266471-001		Water	500	2.5	1	0.005	7	.5				TEH	Prepped 30-APR-2015 13:40
266471-002		Water	500	2.5	1	0.005	7	.5				TEH	Prepped 30-APR-2015 13:40
QC786023	BLANK	Water	500	2.5	1	0.005		.5					
QC786024	BS	Water	500	2.5	1	0.005		.5	.5				
QC786025	BSD	Water	500	2.5	1	0.005		.5	.5				

SFL 04/30/15 : Matrix spikes were not performed for this analysis in batch 222708 due to insufficient sample amount.

EAH 05/01/15 : Checked batch documents and reviewed for NSG jobs.

Analyst: SFL Date: 05/01/15 Reviewer: EAH Date: 05/04/15

TEH (8015) Water Prep Log — Curtis & Tompkins, Ltd. — Page 26 — BK 3668

LIMS Batch No: 122408 — Extraction Method:
LIMS Analysis: TEH/m — ☑ EPA 3520c cont. L/L — Cleanup Method (if needed):
Date Extracted: 4/27/2015 — ☐ _____ — ☒ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
266420-001	A	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☐ ≤2pH	
LMB QC786023	M	☑ 500 ☐ ____	☐ 7 ☐ MW	☑ 2.5 ☐ ____	☐ ≤2pH	
BS 4	M	☑ 500 ☐ ____	☐ 7 ☐ MW	☑ 2.5 ☐ ____	☐ ≤2pH	
BSD 5	M	☑ 500 ☐ ____	☐ 7 ☐ MW	☑ 2.5 ☐ ____	☐ ≤2pH	
266374-001	F	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☐ ≤2pH	a/s on 4/30 @ 1340
266401-003	C	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
4	D	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
5	C	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
266416-001	K	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☐ ≤2pH	
266457-001	D	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
2	B	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
3	D	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
4	E	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
5	G	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
6	G	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
7	G	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
8	F	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☒ ☐ ≤2pH	
266470-001	E	☑ 500 ☐ ____	☐ 7 ☐ 11	☑ 2.5 ☐ ____	☐ ≤2pH	
266471-001	E	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☐ ≤2pH	
2	E	☑ 500 ☐ ____	☑ 7 ☐ ____	☑ 2.5 ☐ ____	☐ ≤2pH	
		☐ 500 ☐ ____	☐ 7 ☐ ____	☐ 2.5 ☐ ____	☐ ≤2pH	
		☐ 500 ☐ ____	☐ 7 ☐ ____	☐ 2.5 ☐ ____	☐ ≤2pH	
		☐ 500 ☐ ____	☐ 7 ☐ ____	☐ 2.5 ☐ ____	☐ ≤2pH	
		☐ 500 ☐ ____	☐ 7 ☐ ____	☐ 2.5 ☐ ____	☐ ≤2pH	AP26515

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S271MP	AP 4/28/2015
0.5 mL of TEH_SP was added to all spikes	S260649	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FSH/0686	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EMSU350	
Extraction Start Time:	1650 / 1340	
Extraction End Time:	1050 / 742	LEB 4/30/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	N/A	
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

Extraction Chemist Date — Contined from Page 1 — Continued on Page _____ — Reviewed by Date 5/15

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: LEB
Cleanup Date: 5/1/15

Benchbook # **BK 3677**
Page 48

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266401-003	222708	☒ 1.0 ☐	☒ 1.0 ☐	
4		☒ 1.0 ☐	☒ 1.0 ☐	
5		☒ 1.0 ☐	☒ 1.0 ☐	
266457-001		☒ 1.0 ☐	☒ 1.0 ☐	
2		☒ 1.0 ☐	☒ 1.0 ☐	
3		☒ 1.0 ☐	☒ 1.0 ☐	
4		☒ 1.0 ☐	☒ 1.0 ☐	
5		☒ 1.0 ☐	☒ 1.0 ☐	
6		☒ 1.0 ☐	☒ 1.0 ☐	
7		☒ 1.0 ☐	☒ 1.0 ☐	
8		☒ 1.0 ☐	☒ 1.0 ☐	
MB QC786023		☒ 1.0 ☐	☒ 1.0 ☐	
BS 4		☒ 1.0 ☐	☒ 1.0 ☐	
BSD 5		☒ 1.0 ☐	☒ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

AR 5/1/15

	Mfg & Lot # / Time / Program	Initials / Date
☐ Extracts were cleaned up using C&T assembled 10 g columns	R15A003	LEB 5/1/15
☐ Extracts were cleaned up using — g cartridges	NA	
Extracts were eluted with 40 mL CH_2Cl_2	EM54351	
Concentrated to volumes as noted above	✓	

Lauren Brougham 5/1/15
Extraction Chemist / Date

Continued from page /
Continued on page /

Reviewed by / Date

Laboratory Job Number 266374

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-9(4.5)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-003	Prepared:	04/28/15
Moisture:	9%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	18 Y	5.4
Motor Oil C24-C36	140	27

Surrogate	%REC	Limits
o-Terphenyl	87	59-140

Field ID:	APLB-9(8)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-004	Prepared:	04/28/15
Moisture:	16%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	ND	1.2
Motor Oil C24-C36	ND	6.0

Surrogate	%REC	Limits
o-Terphenyl	115	59-140

Field ID:	APLB-10(2)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-005	Prepared:	04/28/15
Moisture:	6%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	50 Y	5.4
Motor Oil C24-C36	410	27

Surrogate	%REC	Limits
o-Terphenyl	106	59-140

Field ID:	APLB-10(4.5)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-006	Prepared:	04/28/15
Moisture:	10%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	65 Y	5.6
Motor Oil C24-C36	280	28

Surrogate	%REC	Limits
o-Terphenyl	95	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-10(8.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-007	Prepared:	04/28/15
Moisture:	15%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	4.1 Y	1.2
Motor Oil C24-C36	ND	5.9

Surrogate	%REC	Limits
o-Terphenyl	87	59-140

Field ID:	APLB-8(2)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-009	Prepared:	04/28/15
Moisture:	8%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	48 Y	5.5
Motor Oil C24-C36	230	27

Surrogate	%REC	Limits
o-Terphenyl	93	59-140

Field ID:	APLB-8(4.5)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-010	Prepared:	04/28/15
Moisture:	4%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	38 Y	5.2
Motor Oil C24-C36	220	26

Surrogate	%REC	Limits
o-Terphenyl	110	59-140

Field ID:	APLB-8(5.5)	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-011	Prepared:	04/28/15
Moisture:	16%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	31,000	120
Motor Oil C24-C36	830	590

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-5(2.5)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222669
Lab ID:	266374-013	Prepared:	04/28/15
Moisture:	5%	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	60 Y	5.2
Motor Oil C24-C36	240	26

Surrogate	%REC	Limits
o-Terphenyl	99	59-140

Field ID:	APLB-5(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-014	Prepared:	04/29/15
Moisture:	10%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	96 Y	1.1
Motor Oil C24-C36	65	5.6

Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Field ID:	APLB-5(6)	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-015	Prepared:	04/29/15
Moisture:	13%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	2,700	23
Motor Oil C24-C36	ND	110

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID:	APLB-6(2.5)	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-016	Prepared:	04/29/15
Moisture:	7%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	140 Y	2.1
Motor Oil C24-C36	460	11

Surrogate	%REC	Limits
o-Terphenyl	83	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-6(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-017	Prepared:	04/29/15
Moisture:	12%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	150 Y	1.1
Motor Oil C24-C36	63	5.7

Surrogate	%REC	Limits
o-Terphenyl	110	59-140

Field ID:	APLB-6(5.5)	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-018	Prepared:	04/29/15
Moisture:	14%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	130 Y	2.3
Motor Oil C24-C36	64	12

Surrogate	%REC	Limits
o-Terphenyl	114	59-140

Field ID:	APLB-7(2)	Diln Fac:	3.000
Type:	SAMPLE	Batch#:	222739
Lab ID:	266374-019	Prepared:	04/30/15
Moisture:	4%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	16 Y	3.1
Motor Oil C24-C36	280	16

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

Field ID:	APLB-7(4.5)	Diln Fac:	3.000
Type:	SAMPLE	Batch#:	222739
Lab ID:	266374-020	Prepared:	04/30/15
Moisture:	14%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	33 Y	3.5
Motor Oil C24-C36	160	17

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Field ID:	APLB-7(6.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222739
Lab ID:	266374-021	Prepared:	04/30/15
Moisture:	15%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	4.6 Y	1.2
Motor Oil C24-C36	14	5.9

Surrogate	%REC	Limits
o-Terphenyl	111	59-140

Field ID:	APLB-9(2)	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	222707
Lab ID:	266374-022	Prepared:	04/29/15
Moisture:	4%	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	6.8 Y	2.1
Motor Oil C24-C36	130	10

Surrogate	%REC	Limits
o-Terphenyl	108	59-140

Type:	BLANK	Batch#:	222669
Lab ID:	QC785880	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/29/15

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	128	59-140

Type:	BLANK	Batch#:	222707
Lab ID:	QC786019	Prepared:	04/29/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/27/15
Units:	mg/Kg	Received:	04/27/15
Basis:	dry		

Type:	BLANK	Batch#:	222739
Lab ID:	QC786142	Prepared:	04/30/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC785881	Batch#:	222669
Matrix:	Soil	Prepared:	04/28/15
Units:	mg/Kg	Analyzed:	04/29/15

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.74	42.61	86	58-137

Surrogate	%REC	Limits
o-Terphenyl	97	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786020	Batch#:	222707
Matrix:	Soil	Prepared:	04/29/15
Units:	mg/Kg	Analyzed:	04/30/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.05	45.76	91	58-137

Surrogate	%REC	Limits
o-Terphenyl	105	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	APLB-9(2)	Batch#:	222707
MSS Lab ID:	266374-022	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	mg/Kg	Prepared:	04/29/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	2.000		

Type: MS Moisture: 4%
Lab ID: QC786021

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.811	51.93	81.18	143	46-154

Surrogate	%REC	Limits
o-Terphenyl	116	59-140

Type: MSD Moisture: 4%
Lab ID: QC786022

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	51.99	68.34	118	46-154	17	50

Surrogate	%REC	Limits
o-Terphenyl	116	59-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786143	Batch#:	222739
Matrix:	Soil	Prepared:	04/30/15
Units:	mg/Kg	Analyzed:	04/30/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.20	56.54	113	58-137

Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222739
MSS Lab ID:	266408-003	Sampled:	04/27/15
Matrix:	Soil	Received:	04/29/15
Units:	mg/Kg	Prepared:	04/30/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	1.000		

Type: MS Moisture: 9%
Lab ID: QC786144

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	5.026	55.23	69.14	116	46-154

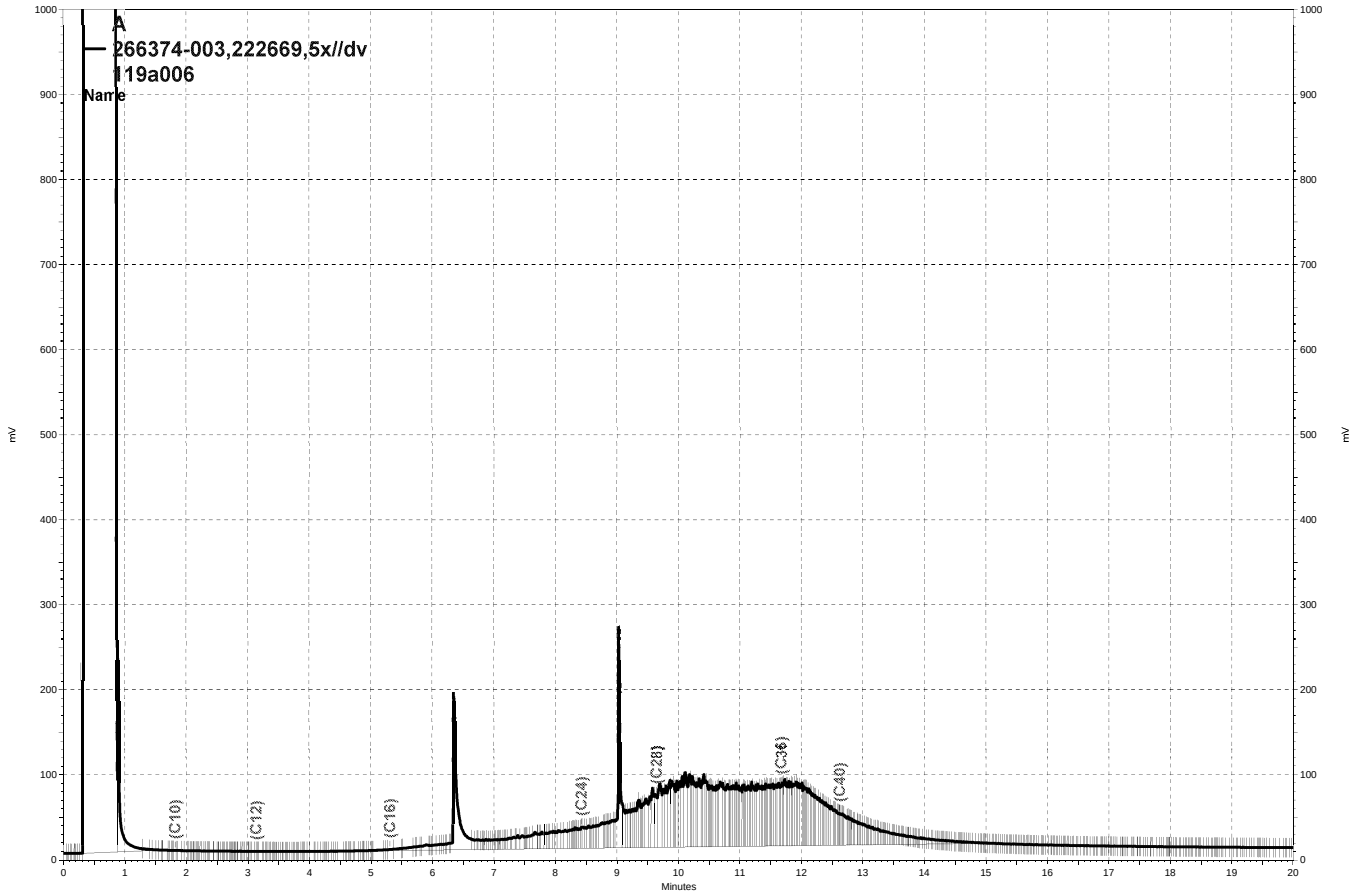
Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Type: MSD Moisture: 9%
Lab ID: QC786145

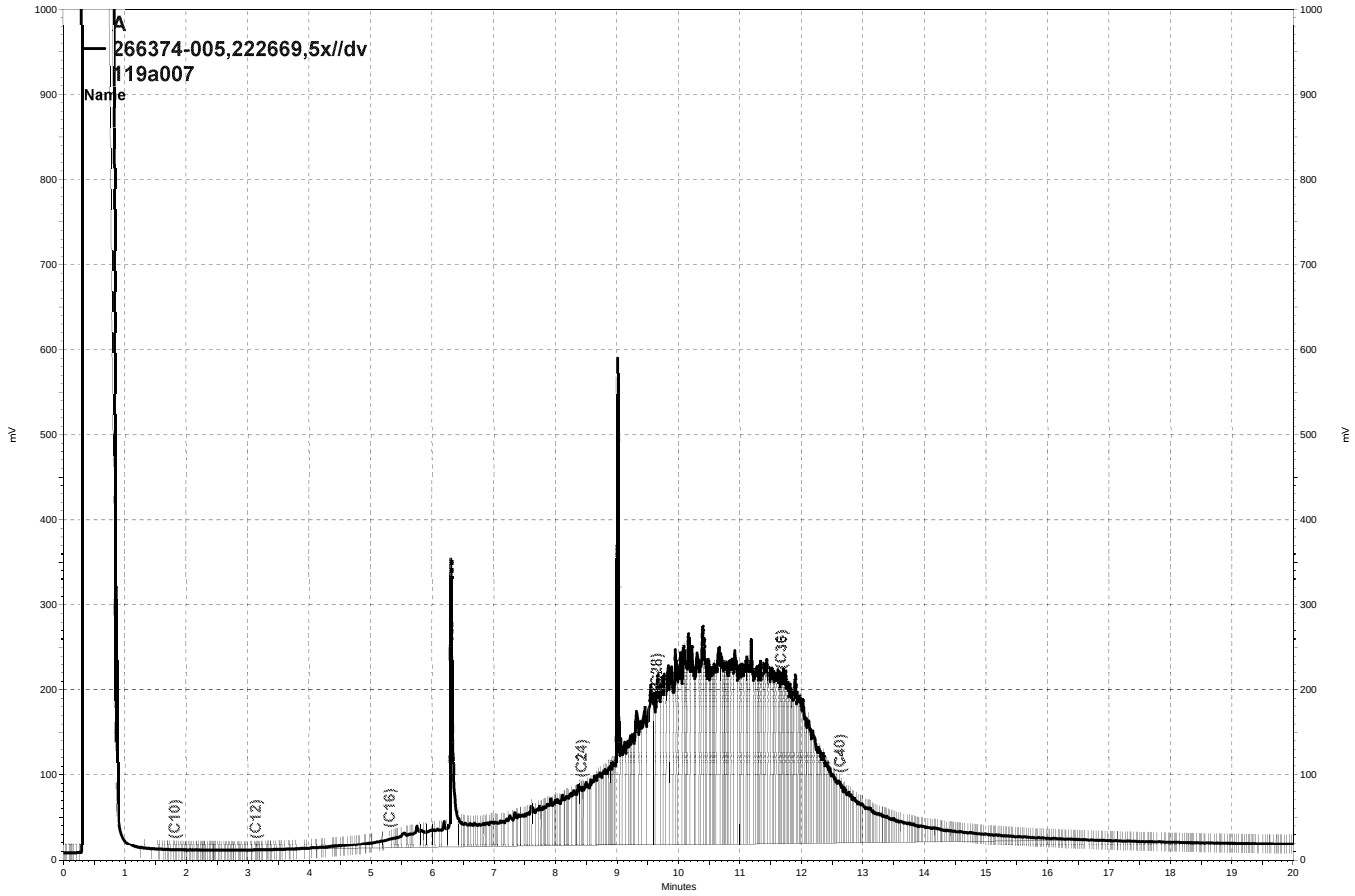
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	55.39	67.11	112	46-154	3	50

Surrogate	%REC	Limits
o-Terphenyl	117	59-140

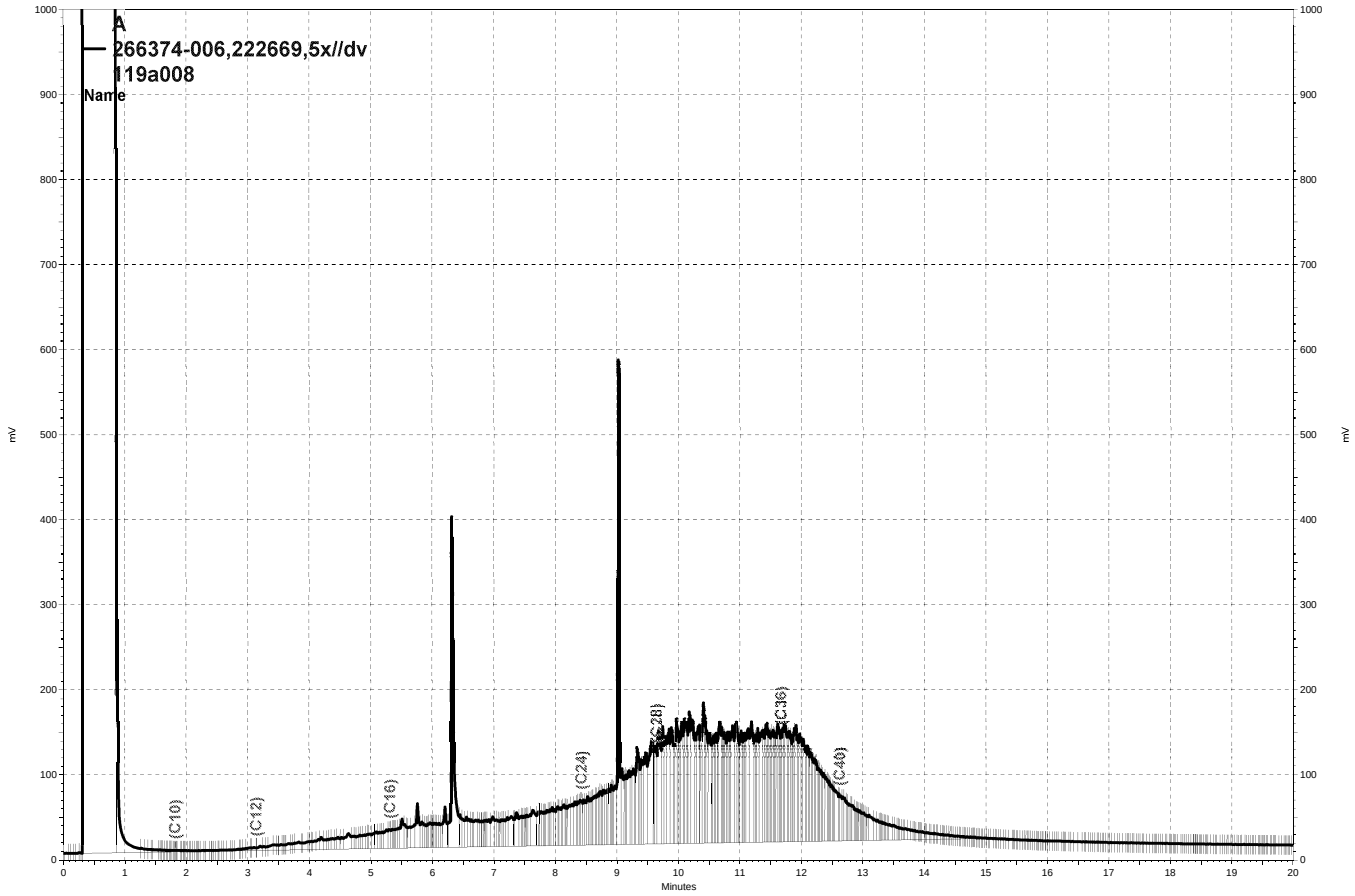
RPD= Relative Percent Difference



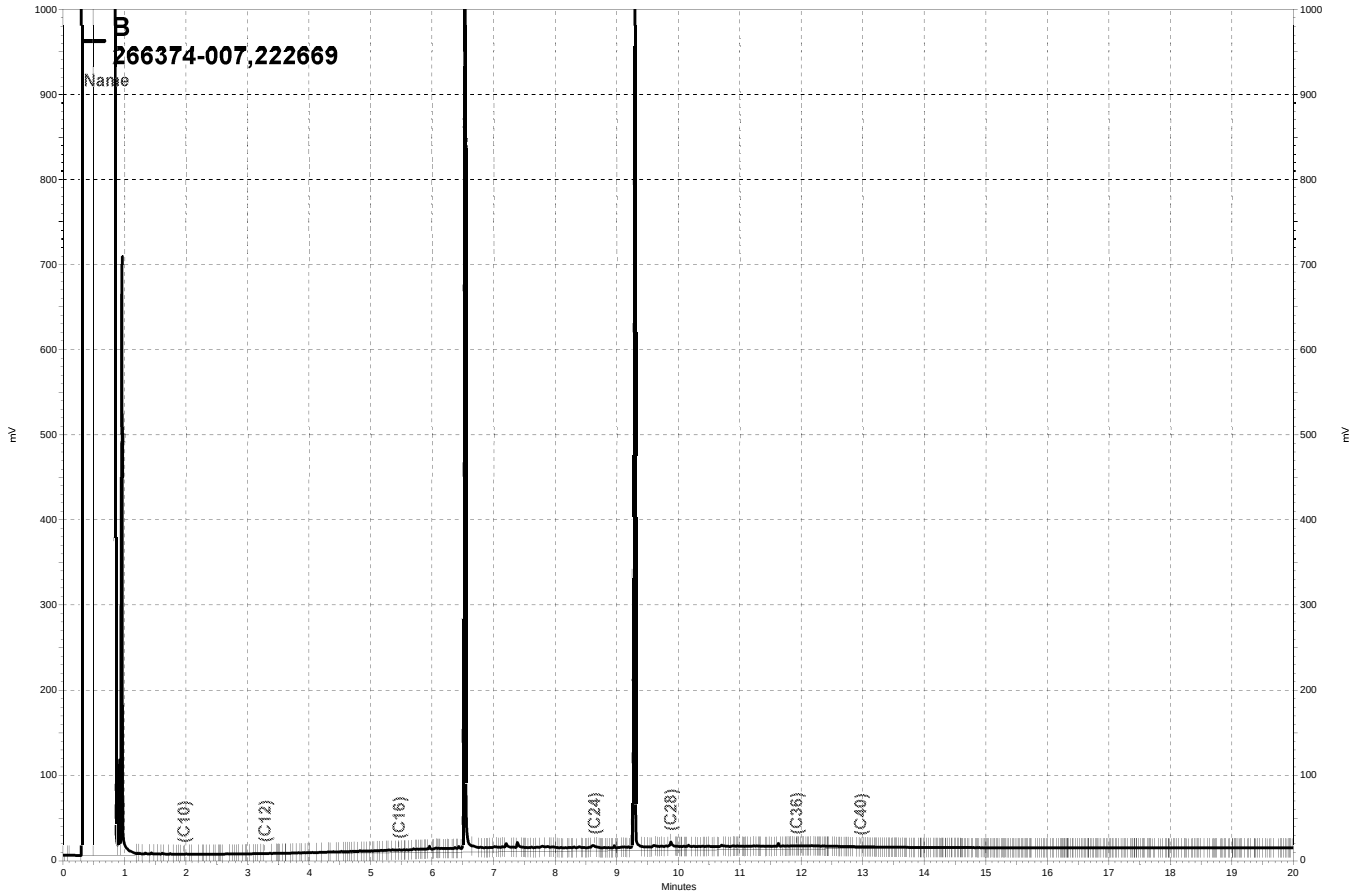
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a006, A



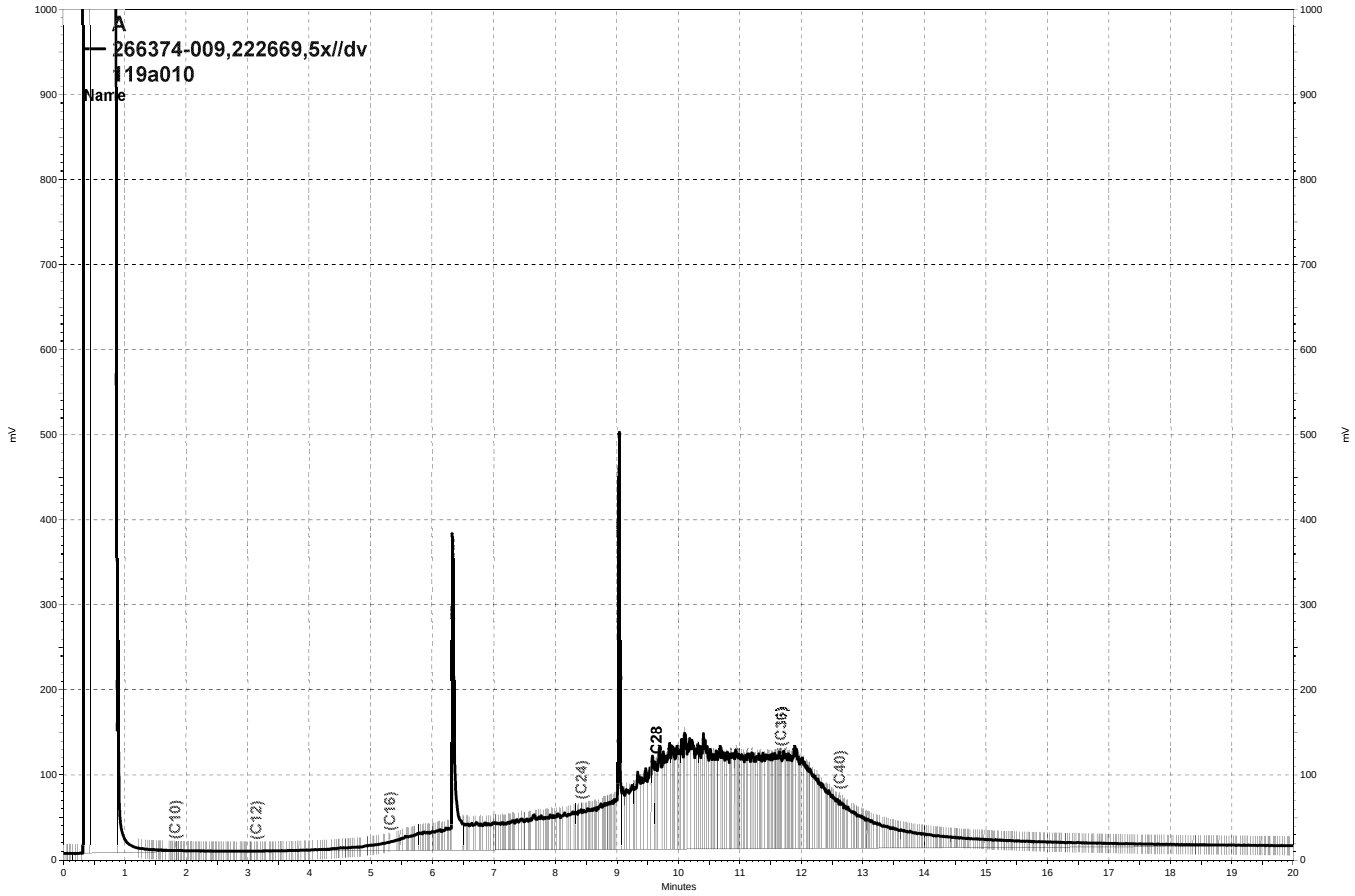
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a007, A



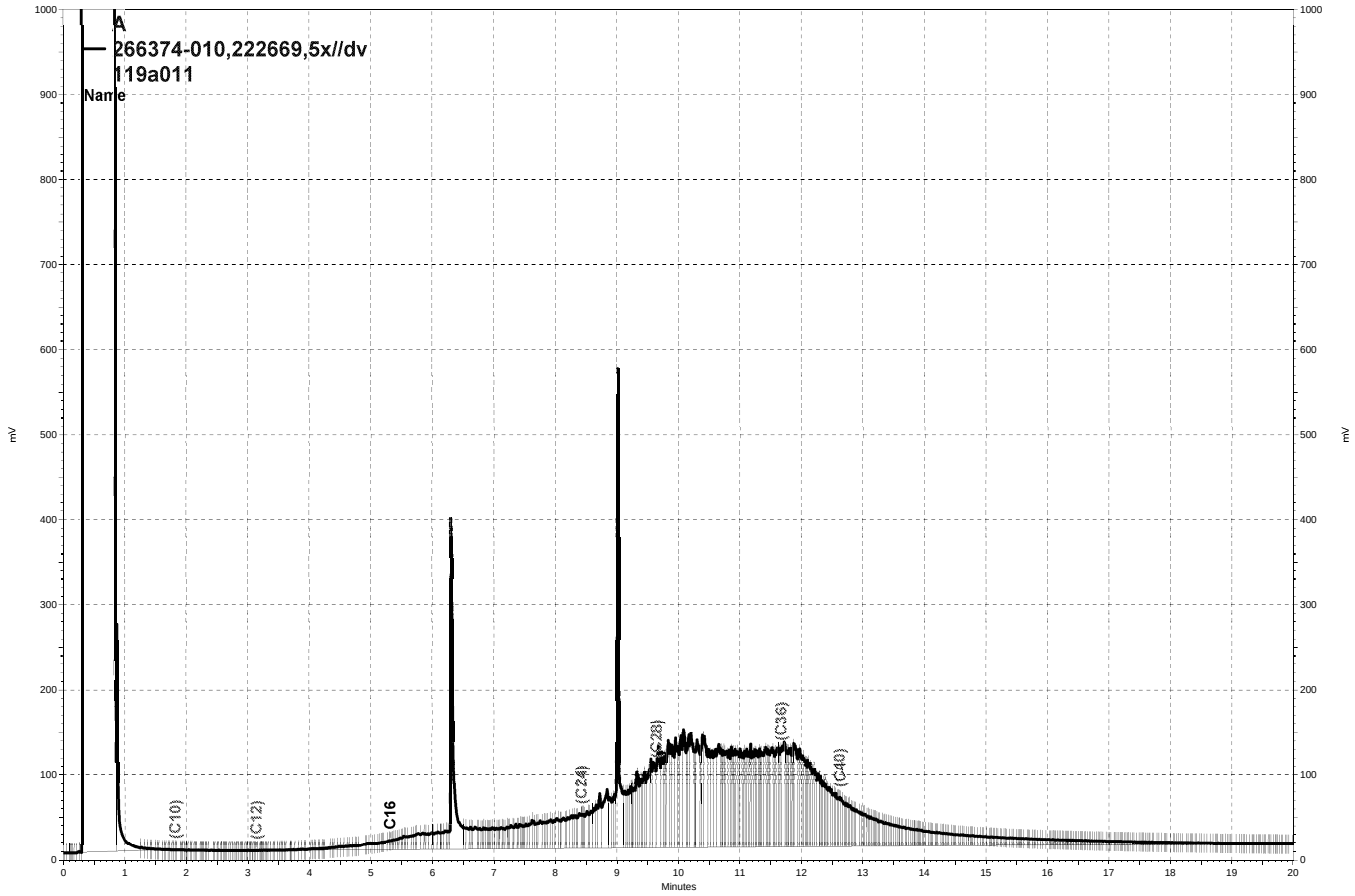
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a008, A



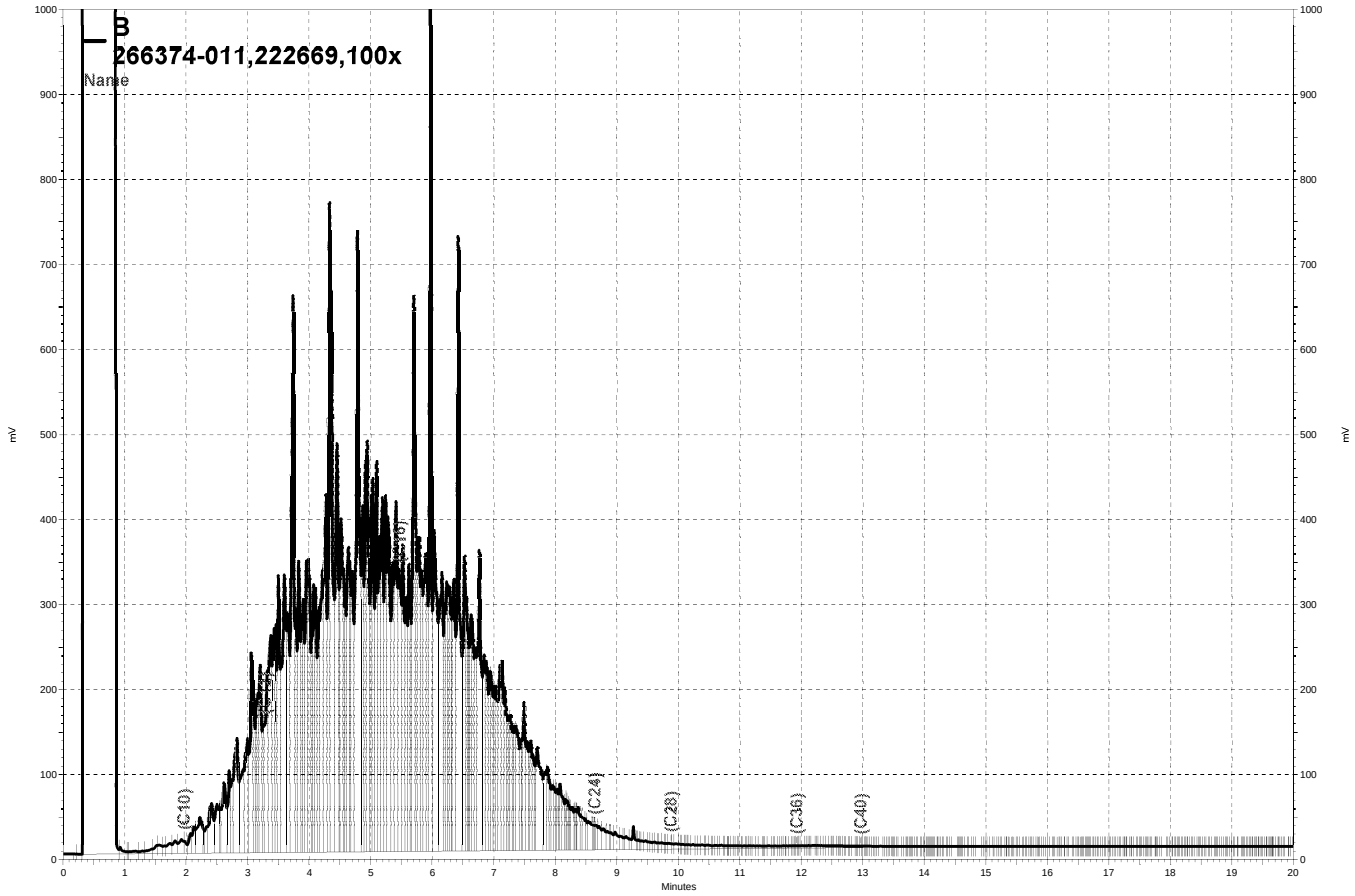
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\119b008, B



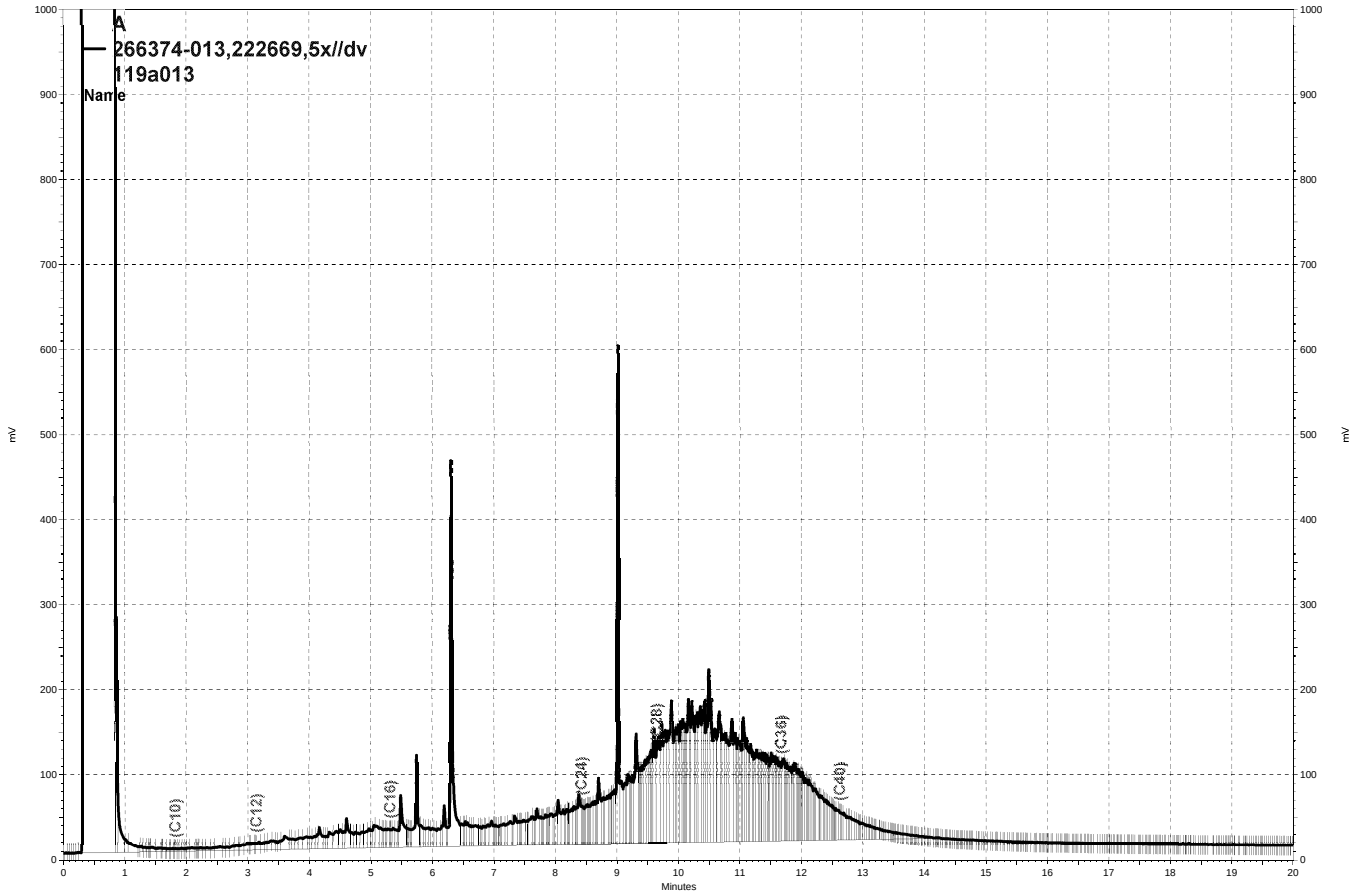
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a010, A



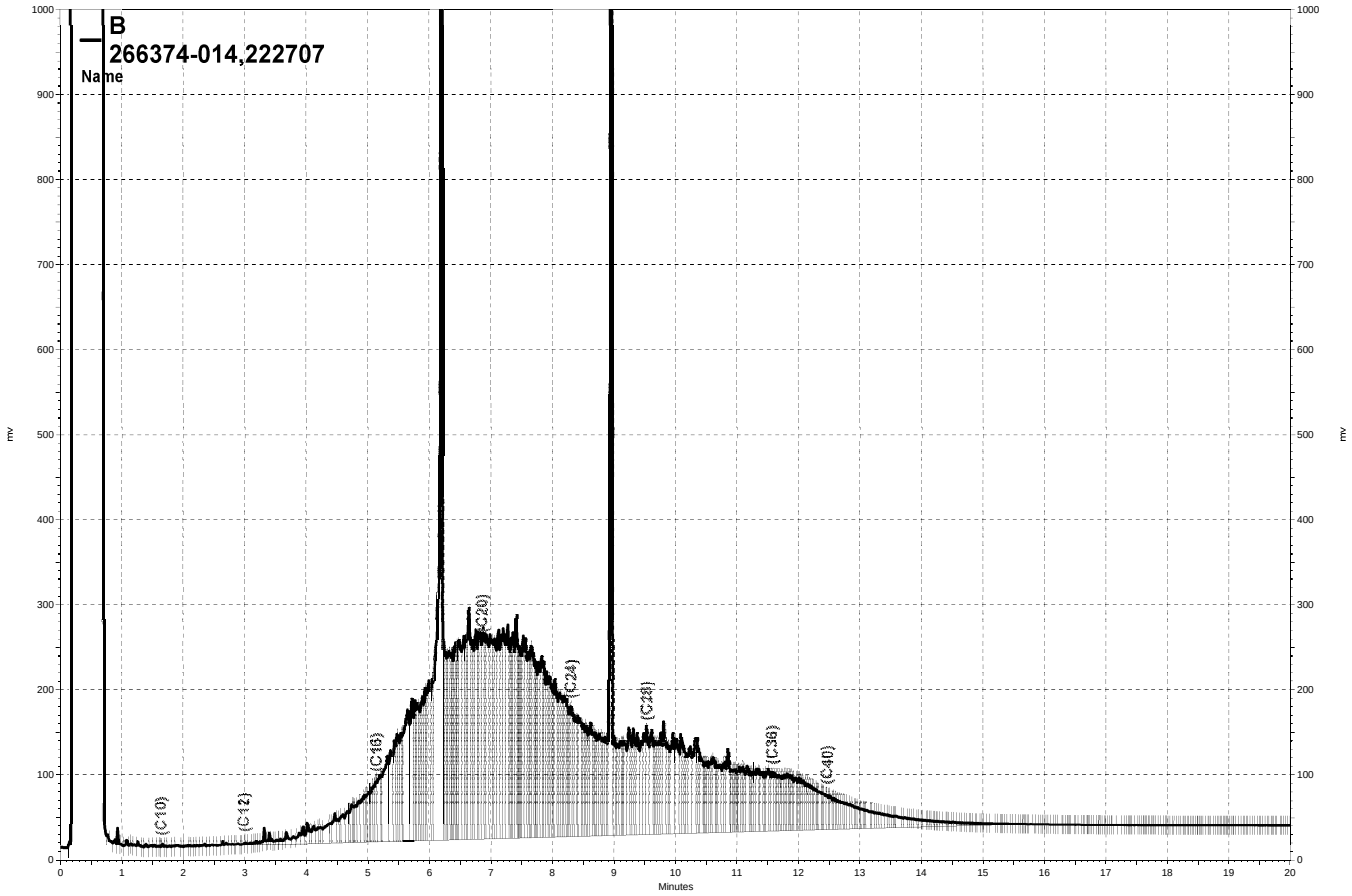
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a011, A



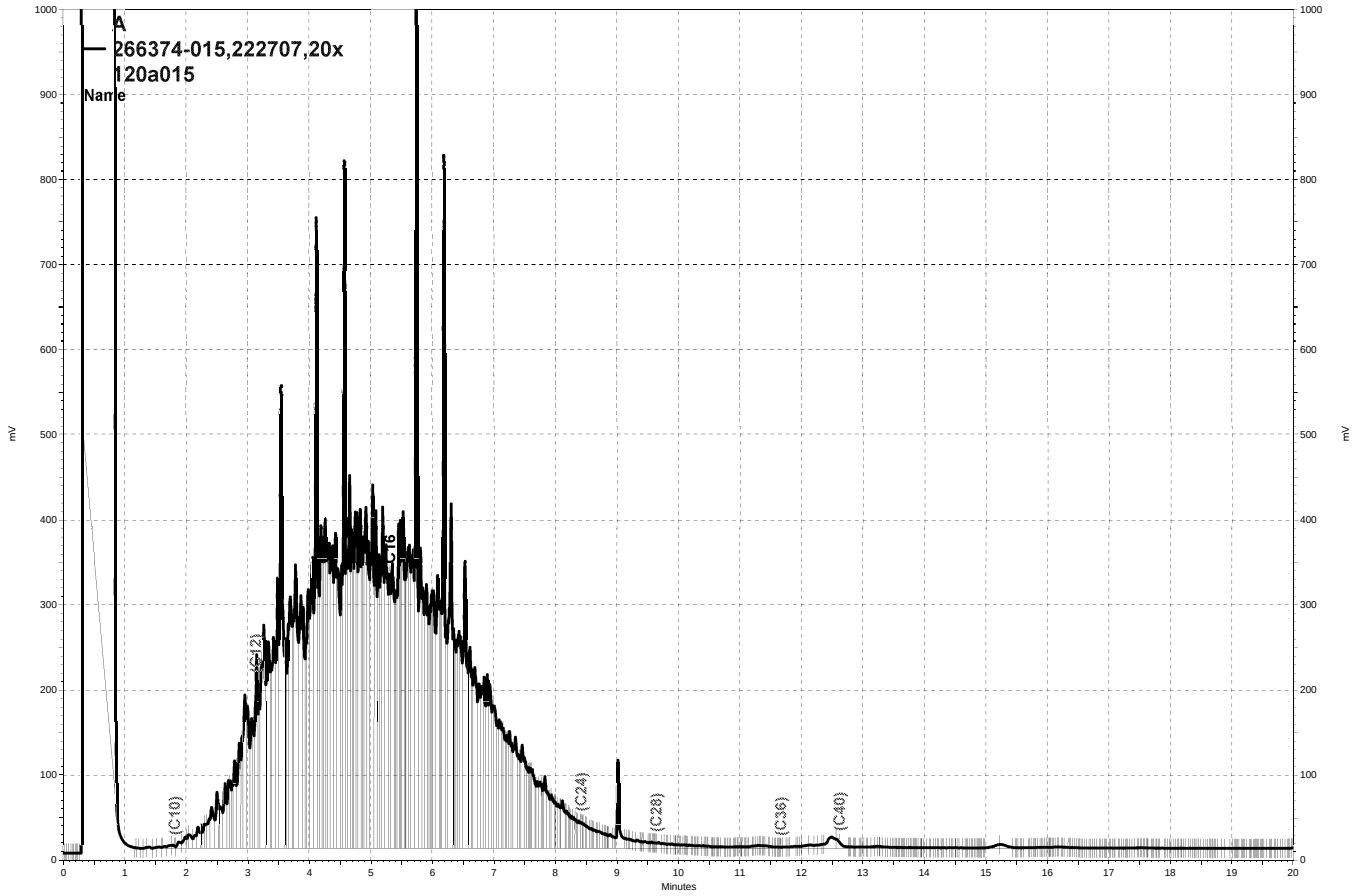
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\119b027, B



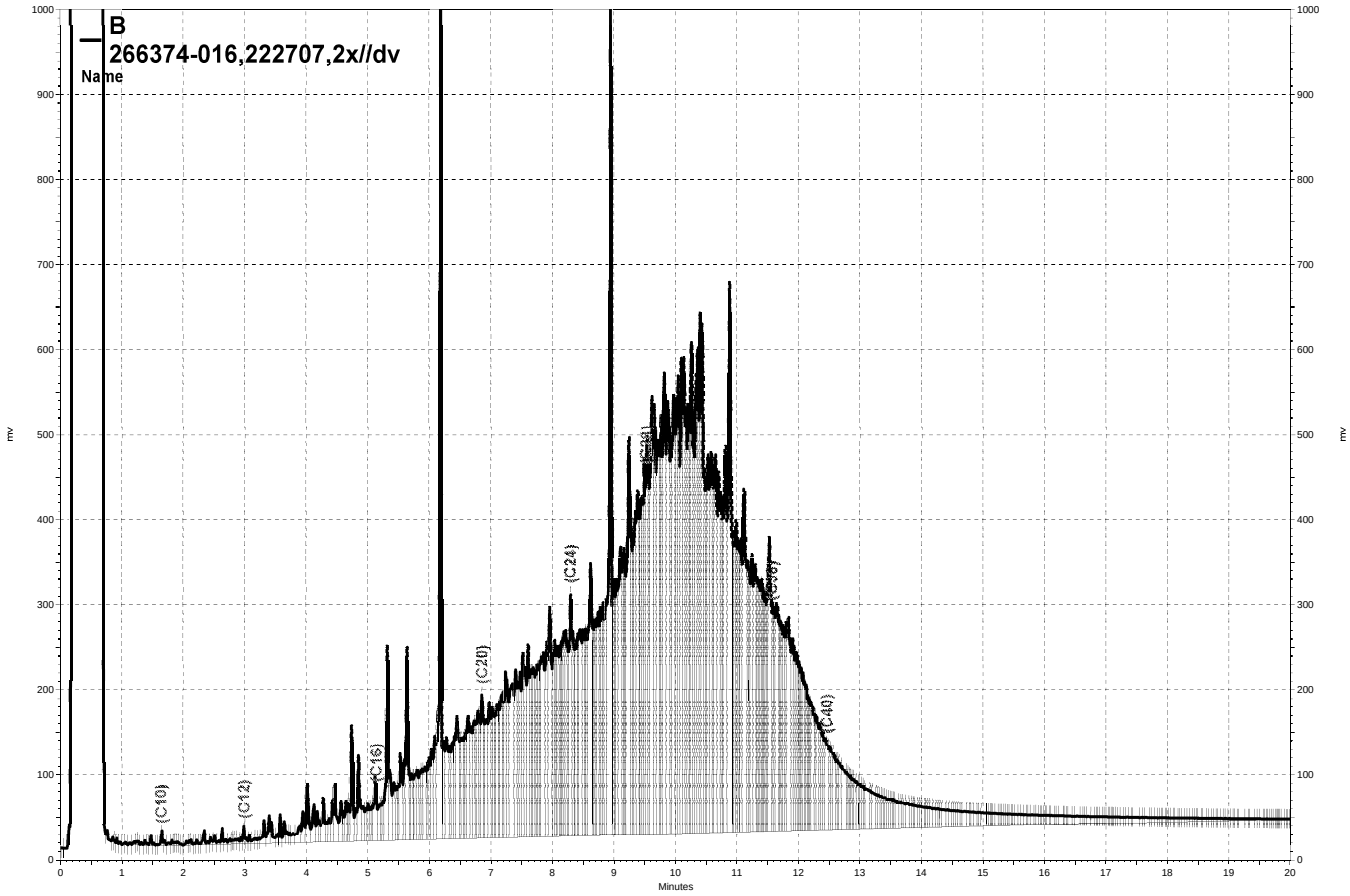
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\119a013, A



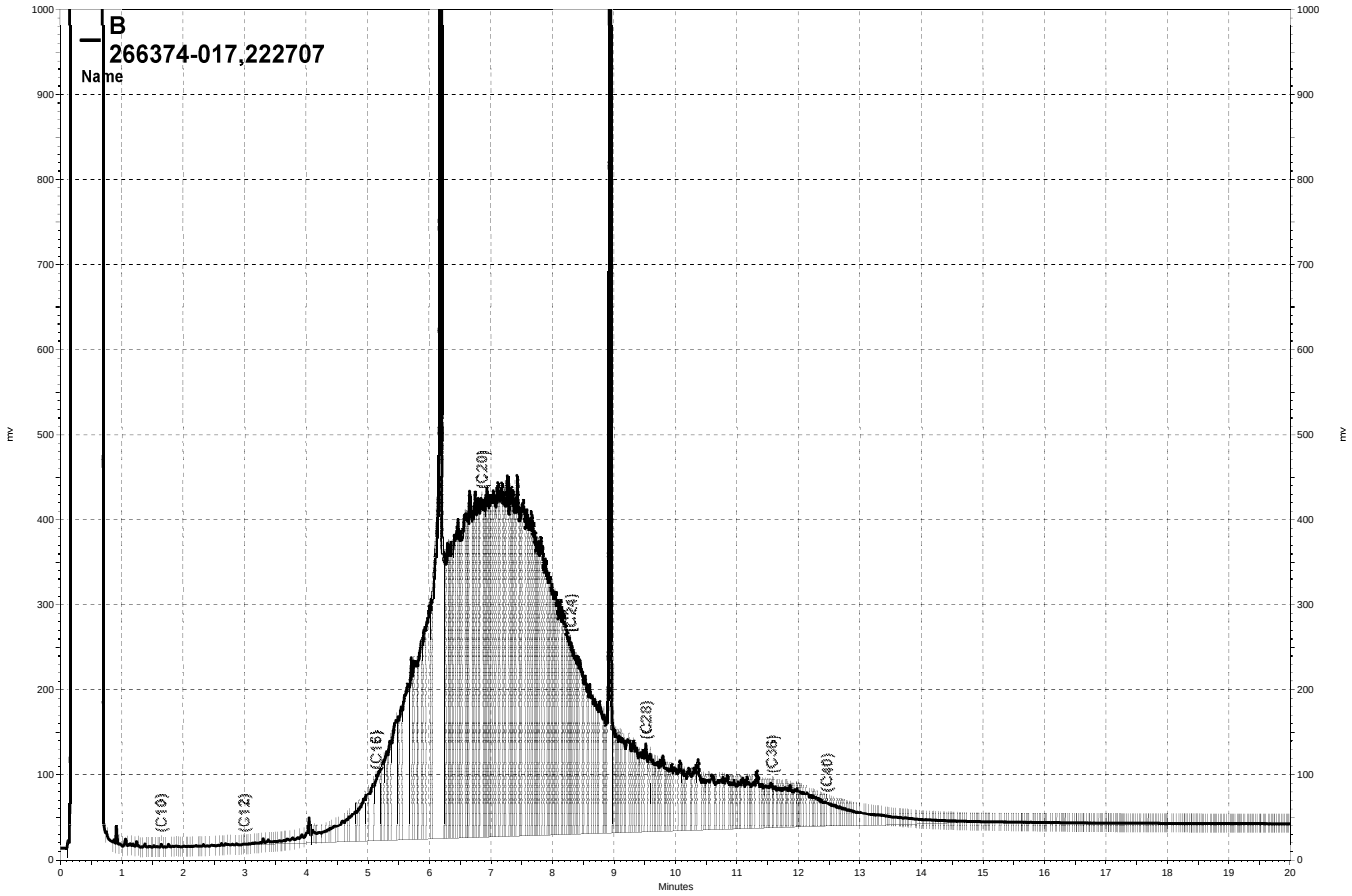
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b006, B



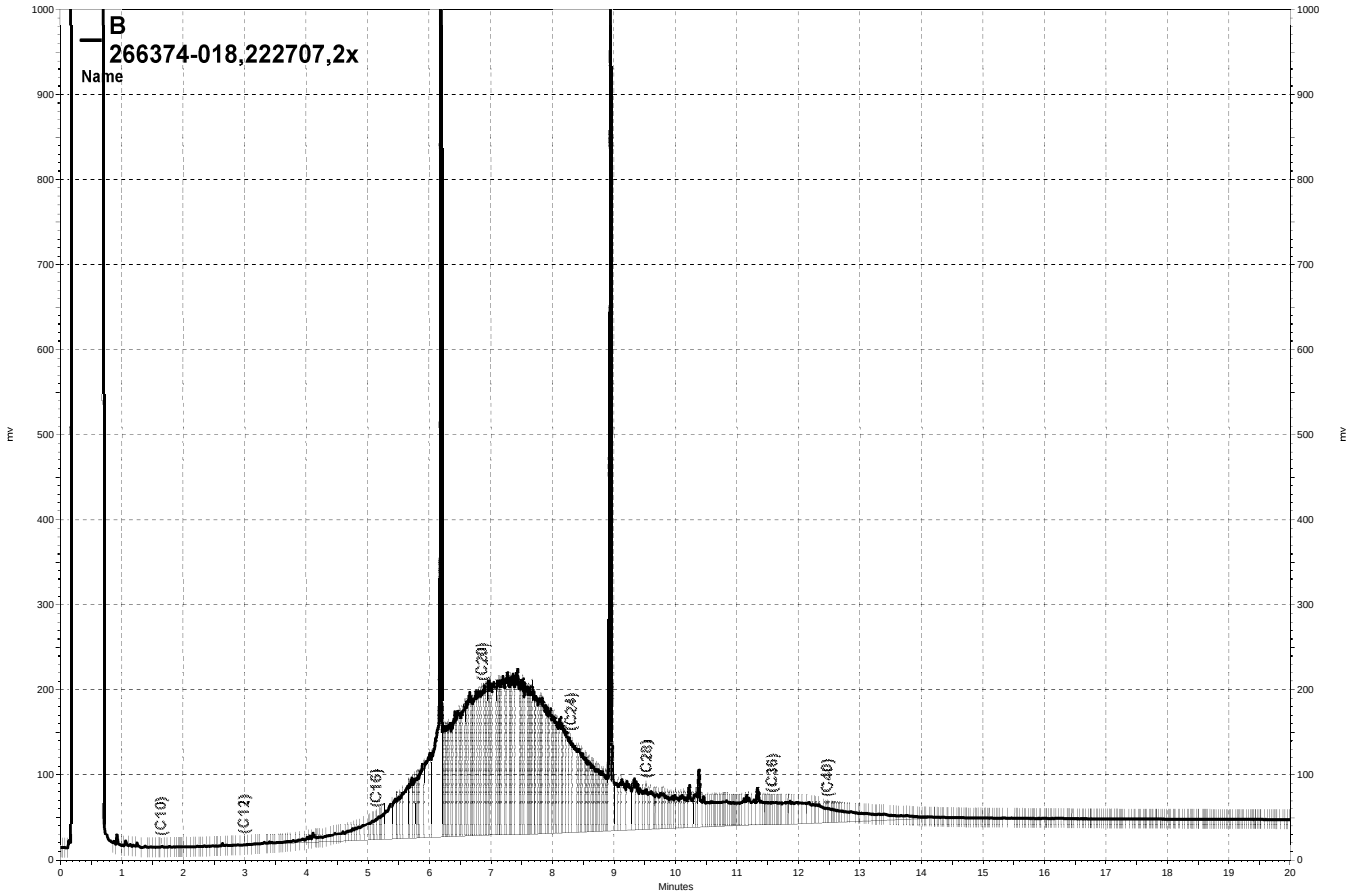
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a015, A



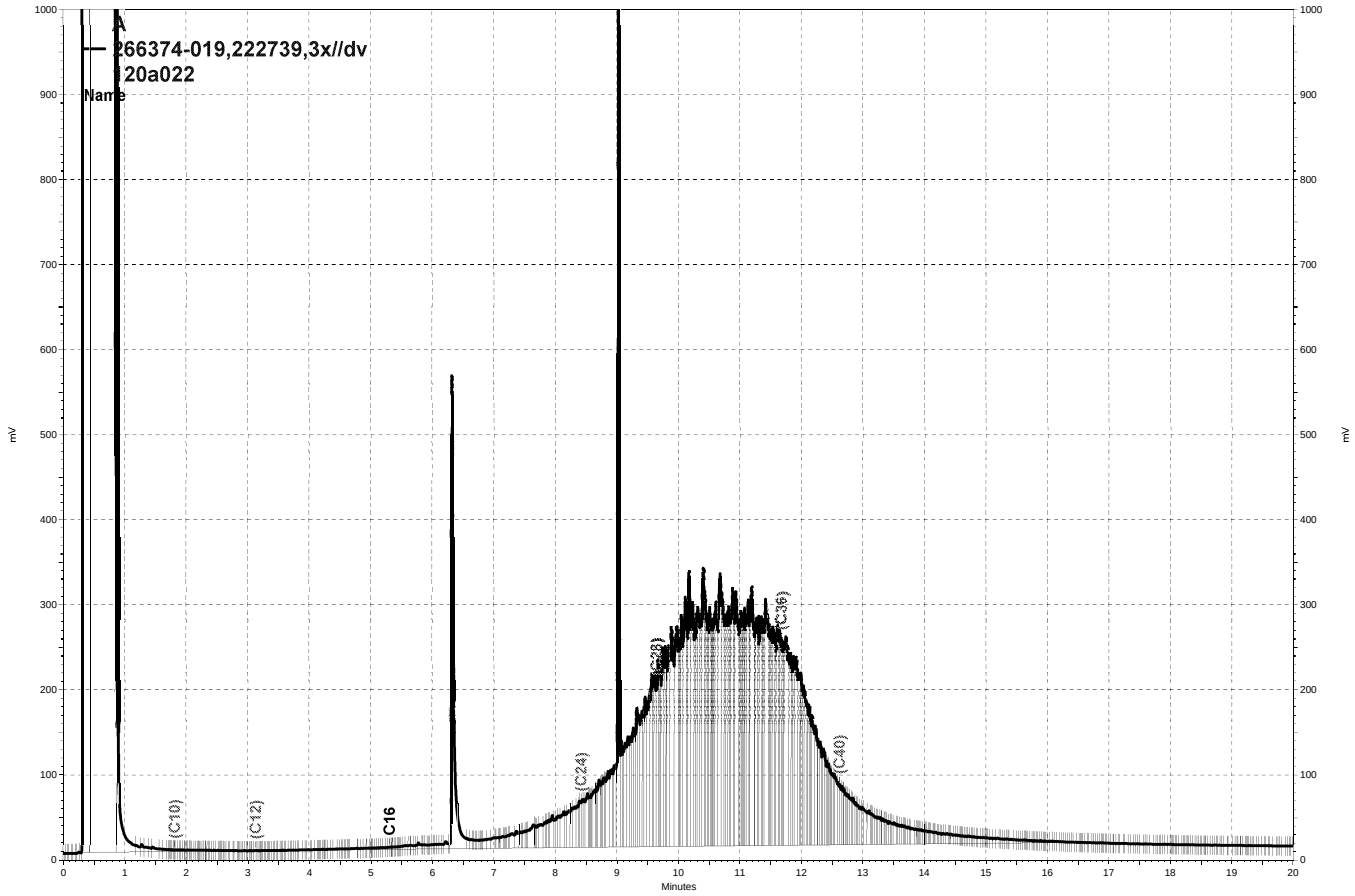
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b008, B



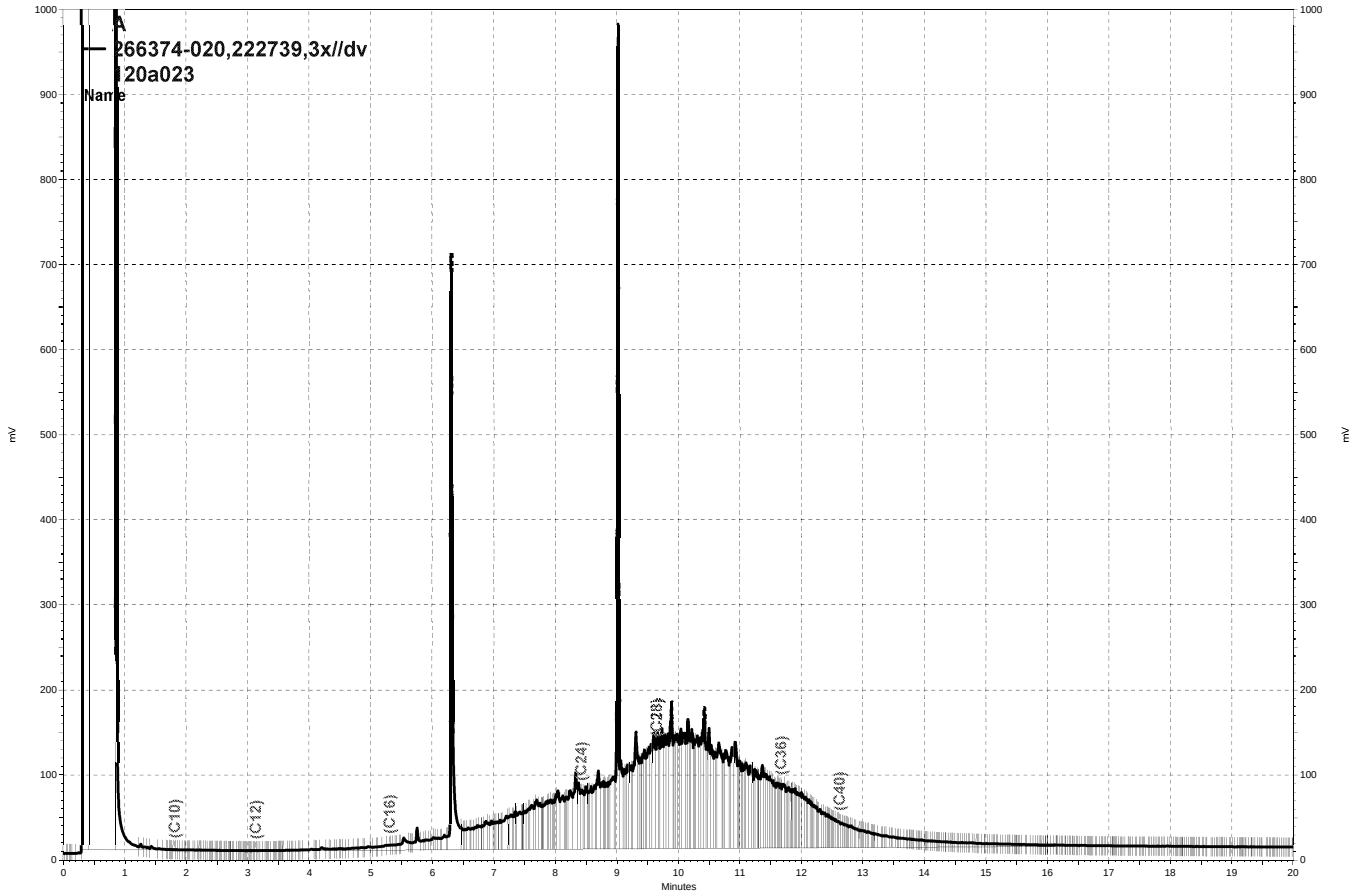
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b007, B



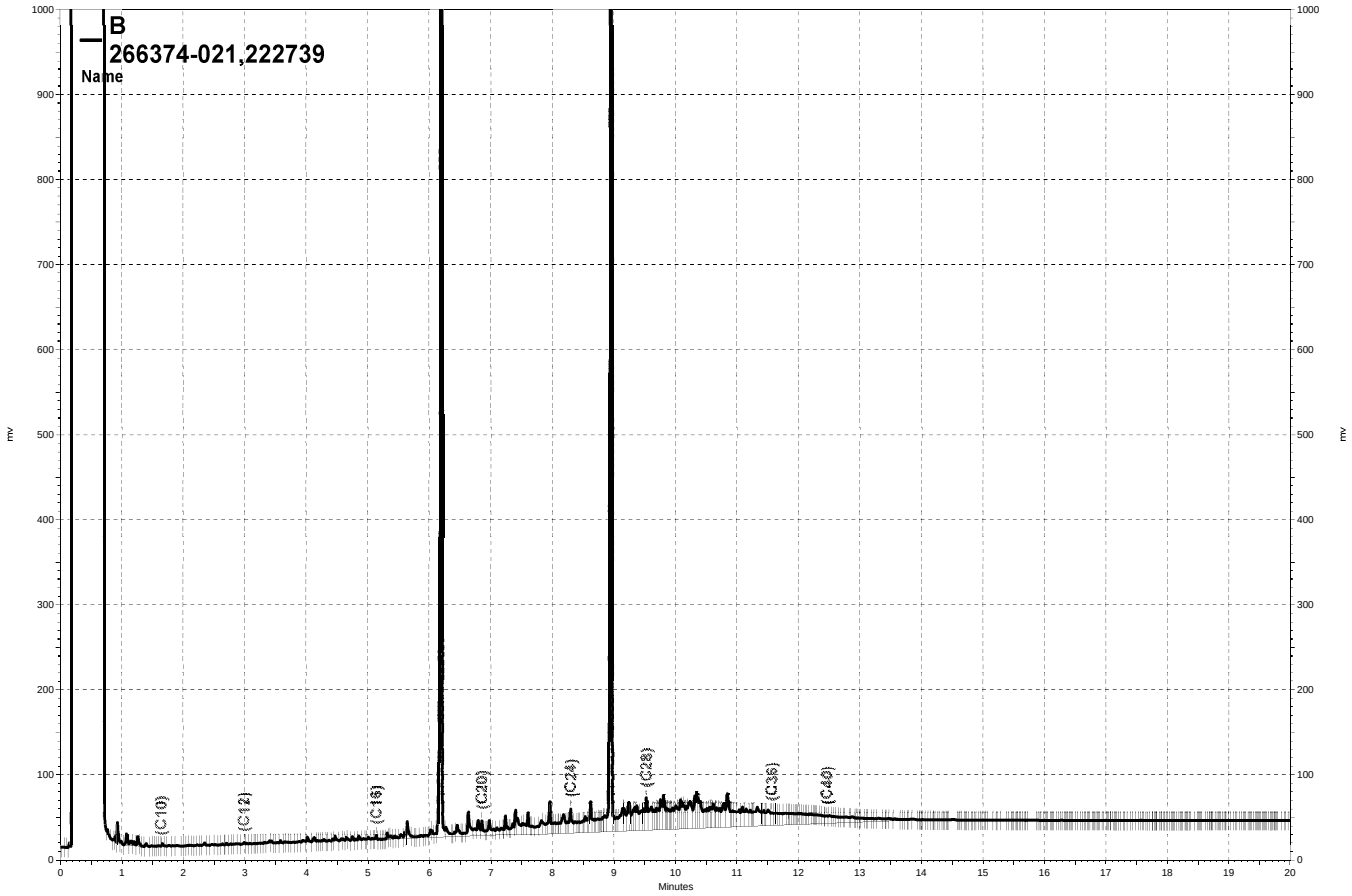
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b009, B



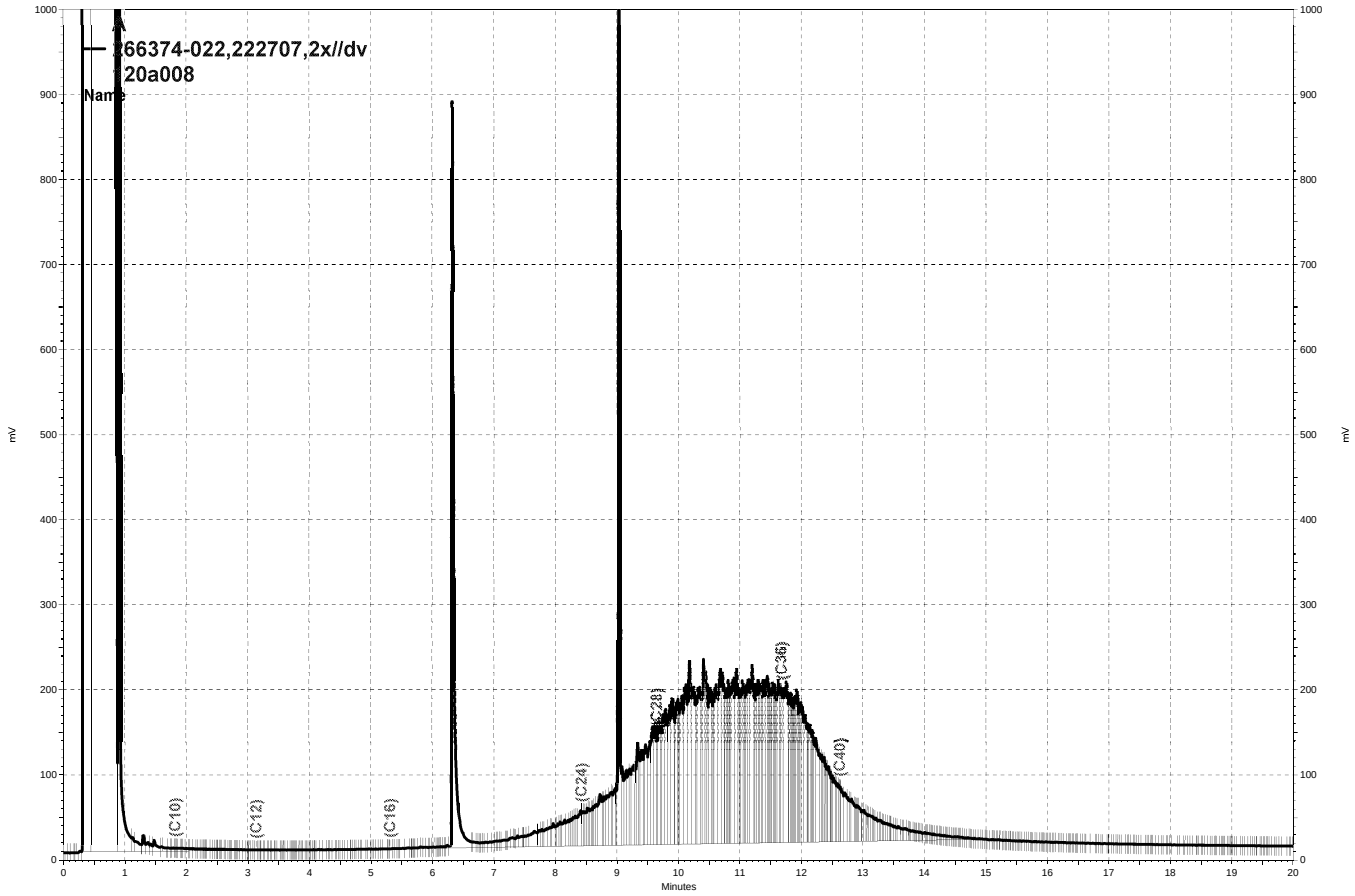
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a022, A



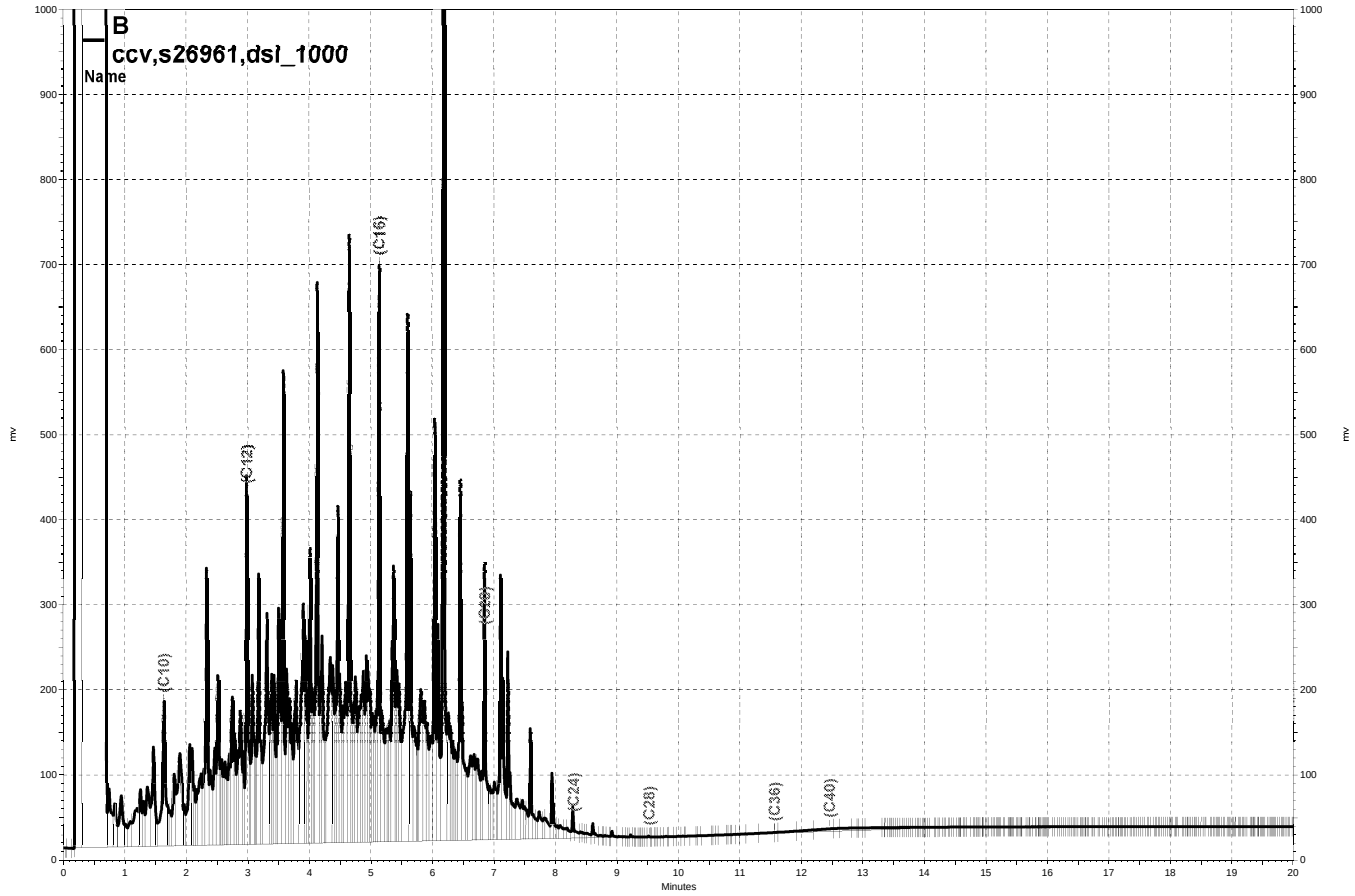
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a023, A



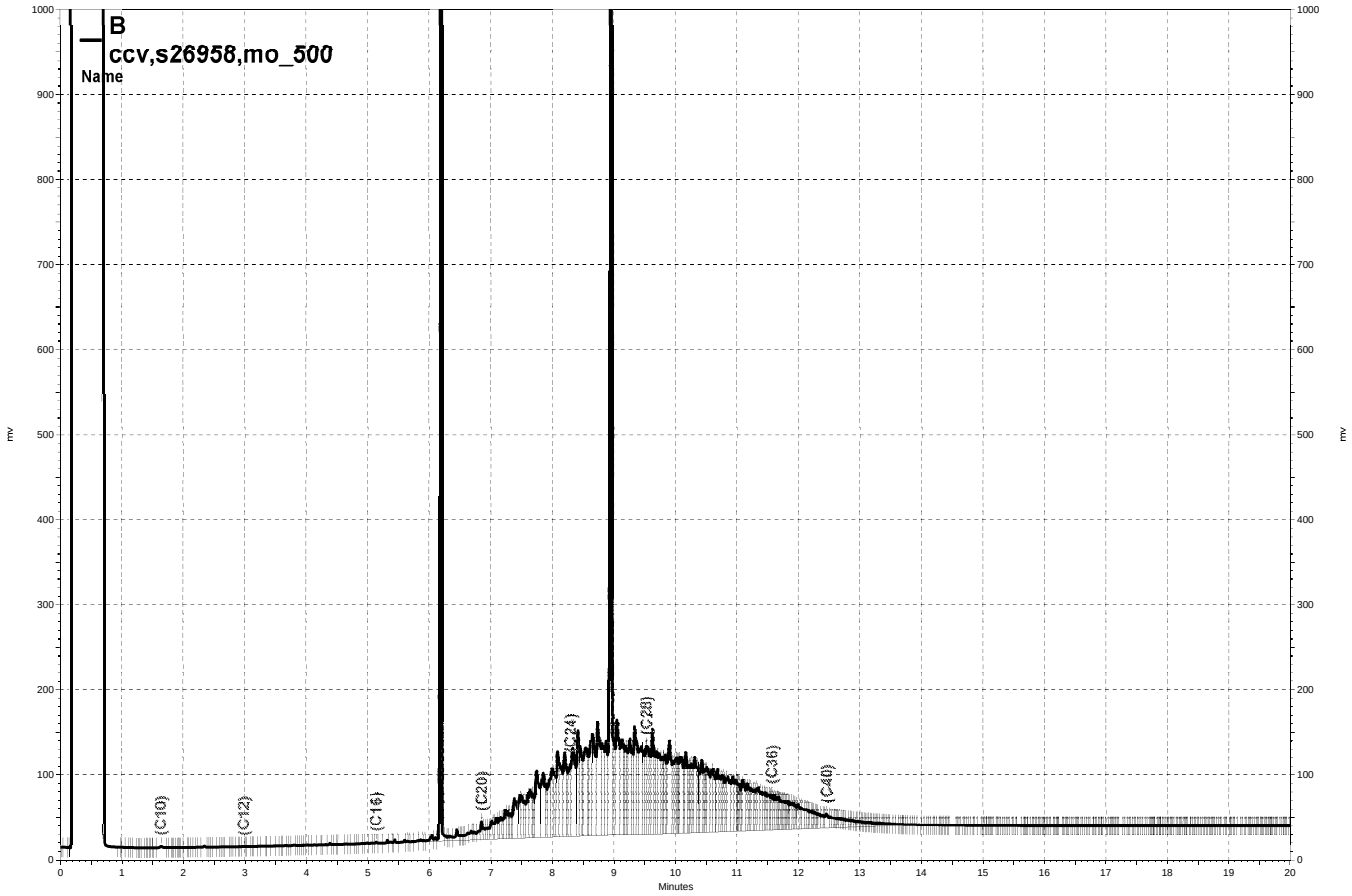
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b025, B



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a008, A



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

224523202001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Name : DSL_364
Calnum : 224523202001 Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 225161742001
Units : mg/L

Name : OTPHEX_112
Date : 22-APR-2015 17:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_013	225161742013	HEX OTP_5	22-APR-2015 17:35	S26468
L2	112_014	225161742014	HEX OTP_10	22-APR-2015 18:02	S26469
L3	112_015	225161742015	HEX OTP_25	22-APR-2015 18:30	S26470
L4	112_016	225161742016	HEX OTP_50	22-APR-2015 18:59	S26471
L5	112_017	225161742017	HEX OTP_100	22-APR-2015 19:27	S26472
L6	112_018	225161742018	HEX OTP_200	22-APR-2015 19:55	S26473

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	41558	43661	41740	41428	40639	40974	AVRG		2.40E-5		41667	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	0	10.000	5	25.000	0	50.000	-1	100.00	-2	200.00	-2

JDG 04/23/15 [Hexacosane B]: Samples requiring Hexacosane will not be analyzed on this instrument.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 225161742002
Units : mg/L

Name : MO_112
Date : 22-APR-2015 20:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_020	225161742020	MO_50	22-APR-2015 20:52	S26392
L2	112_021	225161742021	MO_250	22-APR-2015 21:21	S26393
L3	112_022	225161742022	MO_500	22-APR-2015 21:49	S26394
L4	112_023	225161742023	MO_1000	22-APR-2015 22:17	S26395
L5	112_024	225161742024	MO_2500	22-APR-2015 22:46	S26389 (2X)
L6	112_025	225161742025	MO_5000	22-APR-2015 23:14	S26389

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	18614	22373	22608	22415	23777	21336	AVRG		4.58E-5		21854	8	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.000	-15	250.00	2	500.00	3	1000.0	3	2500.0	9	5000.0	-2

JDG 04/23/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

225161742002

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483001
Units : mg/L

Name : OTPHEX_068
Date : 09-MAR-2015 12:32
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a006	175098483006	HEXOTP_5	09-MAR-2015 12:32	S26468
L2	068a007	175098483007	HEXOTP_10	09-MAR-2015 13:00	S26469
L3	068a008	175098483008	HEXOTP_25	09-MAR-2015 13:27	S26470
L4	068a009	175098483009	HEXOTP_50	09-MAR-2015 13:55	S26471
L5	068a010	175098483010	HEXOTP_100	09-MAR-2015 14:23	S26472
L6	068a011	175098483011	HEXOTP_200	09-MAR-2015 14:51	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	65431	66263	74546	76430	76757	76644	AVRG		1.38E-5		72678	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-10	10.000	-9	25.000	3	50.000	5	100.00	6	200.00	5

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_5 (068a006).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_50 (068a009).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_100 (068a010).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483002
Units : mg/L

Name : DSL_068
Date : 09-MAR-2015 15:47
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a013	175098483013	DSL_10	09-MAR-2015 15:47	S26213
L2	068a014	175098483014	DSL_100	09-MAR-2015 16:15	S25844
L3	068a015	175098483015	DSL_500	09-MAR-2015 16:43	S25845
L4	068a016	175098483016	DSL_1000	09-MAR-2015 17:11	S25846
L5	068a017	175098483017	DSL_5000	09-MAR-2015 17:38	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	68069	68135	68803	69079	68596	AVRG		1.46E-5		68536	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-1	100.00	-1	500.00	0	1000.0	1	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline for all levels except L5

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_068
Calnum : 175098483002 Cal Date : 09-MAR-2015

ICV 175098483019 (068a019 09-MAR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	466.9	mg/L	-7	15	

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483003
Units : mg/L

Name : MO_068
Date : 09-MAR-2015 19:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a022	175098483022	MO_50	09-MAR-2015 19:59	S26392
L2	068a023	175098483023	MO_250	09-MAR-2015 20:27	S26393
L3	068a024	175098483024	MO_500	09-MAR-2015 20:55	S26394
L4	068a025	175098483025	MO_1000	09-MAR-2015 21:23	S26395
L5	068a026	175098483026	MO_2500	09-MAR-2015 21:52	S26389 (2X)
L6	068a027	175098483027	MO_5000	09-MAR-2015 22:20	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	39977	45859	46757	46197	44946	44699	AVRG		2.24E-5		44739	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	-11	250.00	3	500.00	5	1000.0	3	2500.0	0	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline in MO_50 (068a022).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_250 (068a023).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_1000 (068a025).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_5000 (068a027).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC27A
Calnum : 975133024001
Units : mg/L

Name : OTPHEX_092
Date : 02-APR-2015 13:34
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a008	975133024008	HEXOTP_5	02-APR-2015 13:34	S26468
L2	092a009	975133024009	HEXOTP_10	02-APR-2015 13:59	S26469
L3	092a010	975133024010	HEXOTP_25	02-APR-2015 14:23	S26470
L4	092a011	975133024011	HEXOTP_50	02-APR-2015 14:47	S26471
L5	092a012	975133024012	HEXOTP_100	02-APR-2015 15:12	S26472
L6	092a013	975133024013	HEXOTP_200	02-APR-2015 15:36	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	276330	267031	256097	263981	226521	205054	AVRG		4.01E-6		249169	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	11	10.000	7	25.000	3	50.000	6	100.00	-9	200.00	-18

JDG 04/03/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

975133024001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC27A
Calnum : 975133024002
Units : mg/L

Name : DSL_092
Date : 02-APR-2015 16:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a015	975133024015	DSL_10	02-APR-2015 16:26	S26213
L2	092a016	975133024016	DSL_100	02-APR-2015 16:50	S25844
L3	092a017	975133024017	DSL_500	02-APR-2015 17:15	S25845
L4	092a018	975133024018	DSL_1000	02-APR-2015 17:40	S25846
L5	092a019	975133024019	DSL_5000	02-APR-2015 18:04	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	228683	254586	249023	238953	236415	AVRG		4.14E-6		241532	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-5	100.00	5	500.00	3	1000.0	-1	5000.0	-2

JDG 04/03/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 GCSV Soil
EPA 8015B

Inst : GC27A Name : DSL_092
Calnum : 975133024002 Cal Date : 02-APR-2015

ICV 975133024021 (092a021 02-APR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	468.2	mg/L	-6	15	

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 GCSV Soil: EPA 8015B

Inst : GC27A
Calnum : 975133024003
Units : mg/L

Name : MO_092
Date : 02-APR-2015 20:07
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a024	975133024024	MO_50	02-APR-2015 20:07	S26392
L2	092a025	975133024025	MO_250	02-APR-2015 20:32	S26393
L3	092a026	975133024026	MO_500	02-APR-2015 20:56	S26394
L4	092a027	975133024027	MO_1000	02-APR-2015 21:21	S26395
L5	092a028	975133024028	MO_2500	02-APR-2015 21:45	S26389 (2X)
L6	092a029	975133024029	MO_5000	02-APR-2015 22:09	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	77641	112933	129532	135304	134900	142994	AVRG		8.18E-6		122217	20	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	**-36**	250.00	-8	500.00	6	1000.0	11	2500.0	10	5000.0	17

JDG 04/03/15 : Manually integrated fuel hump in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799003 File : 119_003 Time : 29-APR-2015 08:17
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20650	500.0	472.5	mg/L	-6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	36838	50.00	44.21	mg/L	-12	15	

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 225171799004 File : 119_004 Time : 29-APR-2015 08:45
Standards: S26961

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	34452	1000	1036	mg/L	4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40072	50.00	48.09	mg/L	-4	15	

JDG 04/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799014 File : 119_014 Time : 29-APR-2015 13:42
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20613	500.0	471.6	mg/L	-6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37213	50.00	44.66	mg/L	-11	15	

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225171799015 File : 119_015 Time : 29-APR-2015 14:10
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	36872	500.0	554.6	mg/L	11	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40838	50.00	49.01	mg/L	-2	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799029 File : 119_029 Time : 29-APR-2015 21:36
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20873	500.0	477.6	mg/L	-4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37946	50.00	45.53	mg/L	-9	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 225171799030 File : 119_030 Time : 29-APR-2015 22:04
Standards: S26961

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35384	1000	1064	mg/L	6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	41641	50.00	49.97	mg/L	0	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165173232003 File : 120b003 Time : 30-APR-2015 08:08
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	33110	500.0	477.1	mg/L	-5	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59827	50.00	53.15	mg/L	6	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165173232004 File : 120b004 Time : 30-APR-2015 08:36
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50184	1000	1084	mg/L	8	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61699	50.00	54.81	mg/L	10	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165173232016 File : 120b016 Time : 30-APR-2015 14:14
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	29592	500.0	426.4	mg/L	-15	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	57321	50.00	50.92	mg/L	2	15	

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 165173232017 File : 120b017 Time : 30-APR-2015 14:42
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50415	500.0	544.7	mg/L	9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60419	50.00	53.68	mg/L	7	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165173232032 File : 120b032 Time : 30-APR-2015 23:11
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	32011	500.0	461.3	mg/L	-8	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	58507	50.00	51.98	mg/L	4	15	

EAH 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165173232033 File : 120b033 Time : 30-APR-2015 23:39
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	48291	250.0	260.9	mg/L	4	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	58215	50.00	51.72	mg/L	3	15	

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175171798003 File : 119a003 Time : 29-APR-2015 08:14
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46390	500.0	518.5	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	79000	50.00	54.35	mg/L	9	15	

JDG 04/29/15 : Manually integrated fuel hump.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175171798004 File : 119a004 Time : 29-APR-2015 08:42
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	65301	1000	952.8	mg/L	-5	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	75833	50.00	52.17	mg/L	4	15	

JDG 04/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175171798017 File : 119a017 Time : 29-APR-2015 14:52
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	67326	250.0	245.6	mg/L	-2	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	76965	50.00	52.95	mg/L	6	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175171798018 File : 119a018 Time : 29-APR-2015 15:20
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	47272	500.0	528.3	mg/L	6	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	77990	50.00	53.65	mg/L	7	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231003 File : 120a003 Time : 30-APR-2015 08:08
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	45397	500.0	507.4	mg/L	1	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	73454	50.00	50.53	mg/L	1	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175173231004 File : 120a004 Time : 30-APR-2015 08:36
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	65309	1000	952.9	mg/L	-5	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	79492	50.00	54.69	mg/L	9	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231012 File : 120a012 Time : 30-APR-2015 12:21
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46390	500.0	518.5	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	77236	50.00	53.14	mg/L	6	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175173231013 File : 120a013 Time : 30-APR-2015 12:49
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	66974	500.0	488.6	mg/L	-2	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	78596	50.00	54.07	mg/L	8	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231026 File : 120a026 Time : 30-APR-2015 19:47
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46535	500.0	520.1	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	76397	50.00	52.56	mg/L	5	15	

JDG 05/01/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175173231027 File : 120a027 Time : 30-APR-2015 20:15
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	65265	1000	952.3	mg/L	-5	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	79842	50.00	54.93	mg/L	10	15	

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975171802003 File : 119a003 Time : 29-APR-2015 08:11
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	131200	500.0	536.7	mg/L	7	15	
o-Terphenyl	975133024001	02-APR-2015	249169	264649	50.00	53.11	mg/L	6	15	

JDG 04/29/15 : Manually integrated fuel hump.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC27A Run Name : DSL_1000 IDF : 1.0
Seqnum : 975171802004 File : 119a004 Time : 29-APR-2015 08:35
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	237280	1000	982.4	mg/L	-2	15	
o-Terphenyl	975133024001	02-APR-2015	249169	281499	50.00	56.49	mg/L	13	15	

JDG 04/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975171802013 File : 119a013 Time : 29-APR-2015 12:21
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	128932	500.0	527.5	mg/L	5	15	
o-Terphenyl	975133024001	02-APR-2015	249169	254925	50.00	51.15	mg/L	2	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 GCSV Soil
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
Seqnum : 975171802014 File : 119a014 Time : 29-APR-2015 12:45
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	240614	250.0	249.0	mg/L	0	15	
o-Terphenyl	975133024001	02-APR-2015	249169	270023	50.00	54.18	mg/L	8	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165173232

Instrument : GC15B
Method : EPA 8015B
Begun : 04/30/15 07:12
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	120b001	X	IB			04/30/15 07:12	1.0		
002	120b002	X	CMARKER			04/30/15 07:40	1.0	1	
003	120b003	CCV	MO_500			04/30/15 08:08	1.0	2	
004	120b004	CCV	DSL_1000			04/30/15 08:36	1.0	3	
005	120b005	SAMPLE	266374-015	Soil	222707	04/30/15 09:08	1.0		10:BUNKC:10-40=66000
006	120b006	SAMPLE	266374-014	Soil	222707	04/30/15 09:36	1.0		
007	120b007	SAMPLE	266374-017	Soil	222707	04/30/15 10:04	1.0		
008	120b008	SAMPLE	266374-016	Soil	222707	04/30/15 10:32	2.0		2:BUNKC:12-40=5400
009	120b009	SAMPLE	266374-018	Soil	222707	04/30/15 10:59	2.0		
010	120b010	X	IB			04/30/15 11:27	1.0		
011	120b011	SAMPLE	266383-002	Soil	222707	04/30/15 11:55	1.0		
012	120b012	SAMPLE	266383-001	Soil	222707	04/30/15 12:23	1.0		
013	120b013	SAMPLE	266383-003	Soil	222707	04/30/15 12:50	1.0		
014	120b014	SAMPLE	266383-004	Soil	222707	04/30/15 13:18	1.0		
015	120b015	SAMPLE	266383-005	Soil	222707	04/30/15 13:46	1.0		
016	120b016	CCV	MO_500			04/30/15 14:14	1.0	2	
017	120b017	CCV	DSL_500			04/30/15 14:42	1.0	4	
018	120b018	CHECK	MO_500			04/30/15 15:31	1.0	5	
019	120b019	X	CMARKER			04/30/15 15:59	1.0	1	
020	120b020	BLANK	QC786142	Soil	222739	04/30/15 17:39	1.0		
021	120b021	LCS	QC786143	Soil	222739	04/30/15 18:06	1.0		
022	120b022	MSS	266408-003	Soil	222739	04/30/15 18:34	1.0		
023	120b023	MS	QC786144	Soil	222739	04/30/15 19:02	1.0		
024	120b024	MSD	QC786145	Soil	222739	04/30/15 19:30	1.0		
025	120b025	SAMPLE	266374-021	Soil	222739	04/30/15 19:57	1.0		
026	120b026	SAMPLE	266391-002	Soil	222739	04/30/15 20:25	1.0		
027	120b027	SAMPLE	266391-003	Soil	222739	04/30/15 20:53	1.0		3:DSL:16-24=8400
028	120b028	SAMPLE	266391-004	Soil	222739	04/30/15 21:20	1.0		3:DSL:16-24=6600
029	120b029	SAMPLE	266391-005	Soil	222739	04/30/15 21:48	1.0		3:BUNKC:12-40=7800
030	120b030	SAMPLE	266391-007	Soil	222739	04/30/15 22:16	1.0		3:DSL:16-24=6400
031	120b031	SAMPLE	266392-004	Soil	222739	04/30/15 22:44	1.0		
032	120b032	CCV	MO_500			04/30/15 23:11	1.0	2	
033	120b033	CCV	DSL_250			04/30/15 23:39	1.0	6	
034	120b034	X	CCV			05/01/15 00:07	1.0	2	
035	120b035	X	CCV			05/01/15 00:35	1.0	6	

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 35.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S27173 6=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175098483

Instrument : GC17A
Method : EPA 8015B
Begun : 03/09/15 09:23
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	068a001	X	IB			03/09/15 09:23	1.0		
002	068a002	X	CMARKER			03/09/15 09:52	1.0	1	
003	068a003	CCV	MO_500			03/09/15 10:20	1.0	2	
004	068a004	CCV	DSL_250			03/09/15 10:48	1.0	3	
005	068a005	IB	CALIB			03/09/15 12:04	1.0		
006	068a006	ICAL	HEXOTP_5			03/09/15 12:32	1.0	4	
007	068a007	ICAL	HEXOTP_10			03/09/15 13:00	1.0	5	
008	068a008	ICAL	HEXOTP_25			03/09/15 13:27	1.0	6	
009	068a009	ICAL	HEXOTP_50			03/09/15 13:55	1.0	7	
010	068a010	ICAL	HEXOTP_100			03/09/15 14:23	1.0	8	
011	068a011	ICAL	HEXOTP_200			03/09/15 14:51	1.0	9	
012	068a012	IB	CALIB			03/09/15 15:19	1.0		
013	068a013	ICAL	DSL_10			03/09/15 15:47	1.0	10	
014	068a014	ICAL	DSL_100			03/09/15 16:15	1.0	11	
015	068a015	ICAL	DSL_500			03/09/15 16:43	1.0	12	
016	068a016	ICAL	DSL_1000			03/09/15 17:11	1.0	13	
017	068a017	ICAL	DSL_5000			03/09/15 17:38	1.0	14	
018	068a018	IB	CALIB			03/09/15 18:06	1.0		
019	068a019	ICV	DSL_500			03/09/15 18:34	1.0	15	
020	068a020	X	ICV			03/09/15 19:02	1.0	16	
021	068a021	IB	CALIB			03/09/15 19:31	1.0		
022	068a022	ICAL	MO_50			03/09/15 19:59	1.0	17	
023	068a023	ICAL	MO_250			03/09/15 20:27	1.0	18	
024	068a024	ICAL	MO_500			03/09/15 20:55	1.0	19	
025	068a025	ICAL	MO_1000			03/09/15 21:23	1.0	20	
026	068a026	ICAL	MO_2500			03/09/15 21:52	1.0	21	
027	068a027	ICAL	MO_5000			03/09/15 22:20	1.0	21	
028	068a028	IB	CALIB			03/09/15 22:48	1.0		
029	068a029	CMARKER	C8-C50			03/09/15 23:16	1.0	1	
030	068a030	IB	CALIB			03/09/15 23:44	1.0		

SFL 03/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Standards used: 1=S26646 2=S26734 3=S26622 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S25641 17=S26392 18=S26393 19=S26394 20=S26395 21=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175171798

Instrument : GC17A
Method : EPA 8015B
Begun : 04/29/15 07:18
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119a001	X	IB				04/29/15 07:18	1.0		
002	119a002	X	CMARKER				04/29/15 07:46	1.0	1	
003	119a003	CCV	MO_500				04/29/15 08:14	1.0	2	
004	119a004	CCV	DSL_1000				04/29/15 08:42	1.0	3	
005	119a005	SAMPLE	266374-004		Soil	222669	04/29/15 09:18	1.0		
006	119a006	SAMPLE	266374-003		Soil	222669	04/29/15 09:46	5.0		
007	119a007	SAMPLE	266374-005		Soil	222669	04/29/15 10:14	5.0		
008	119a008	SAMPLE	266374-006		Soil	222669	04/29/15 10:42	5.0		
009	119a009	X	IB				04/29/15 11:10	1.0		
010	119a010	SAMPLE	266374-009		Soil	222669	04/29/15 11:38	5.0		
011	119a011	SAMPLE	266374-010		Soil	222669	04/29/15 12:06	5.0		
012	119a012	SAMPLE	266374-011		Soil	222669	04/29/15 12:33	5.0		9:BUNKC:12-40=120000
013	119a013	SAMPLE	266374-013		Soil	222669	04/29/15 13:01	5.0		
014	119a014	X	IB				04/29/15 13:29	1.0		
015	119a015	SAMPLE	266388-001		Soil	222669	04/29/15 13:56	1.0		
016	119a016	SAMPLE	266387-001		Soil	222669	04/29/15 14:24	2.0		
017	119a017	CCV	DSL_250				04/29/15 14:52	1.0	4	
018	119a018	CCV	MO_500				04/29/15 15:20	1.0	2	
019	119a019	X	CMARKER				04/29/15 15:55	1.0	1	
020	119a020	?SAMPLE	266454-001	A			04/29/15 17:36	100.0		
021	119a021	X	IB				04/29/15 18:04	1.0		

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175173231

Instrument : GC17A
Method : EPA 8015B
Begun : 04/30/15 07:11
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	120a001	X	IB				04/30/15 07:11	1.0	
002	120a002	X	CMARKER				04/30/15 07:40	1.0	1
003	120a003	CCV	MO_500				04/30/15 08:08	1.0	2
004	120a004	CCV	DSL_1000				04/30/15 08:36	1.0	3
005	120a005	BLANK	QC786019		Soil	222707	04/30/15 09:03	1.0	
006	120a006	LCS	QC786020		Soil	222707	04/30/15 09:32	1.0	
007	120a007	SAMPLE	266420-002		Soil	222707	04/30/15 10:00	1.0	
008	120a008	MSS	266374-022		Soil	222707	04/30/15 10:28	2.0	
009	120a009	MS	QC786021		Soil	222707	04/30/15 10:56	2.0	
010	120a010	MSD	QC786022		Soil	222707	04/30/15 11:24	2.0	
011	120a011	X	IB				04/30/15 11:53	1.0	
012	120a012	CCV	MO_500				04/30/15 12:21	1.0	2
013	120a013	CCV	DSL_250				04/30/15 12:49	1.0	4
014	120a014	SAMPLE	266386-001		Soil	222707	04/30/15 14:10	1.0	
015	120a015	SAMPLE	266374-015		Soil	222707	04/30/15 14:38	20.0	
016	120a016	X	IB				04/30/15 15:06	1.0	
017	120a017	SAMPLE	266393-001	S	Water	222656	04/30/15 15:34	1.0	
018	120a018	SAMPLE	266393-002	S	Water	222656	04/30/15 16:03	1.0	
019	120a019	SAMPLE	266401-001	S	Water	222656	04/30/15 16:31	1.0	
020	120a020	SAMPLE	266392-002		Water	222656	04/30/15 16:59	1.0	
021	120a021	SAMPLE	266392-003		Water	222656	04/30/15 17:27	1.0	
022	120a022	SAMPLE	266374-019		Soil	222739	04/30/15 17:55	3.0	
023	120a023	SAMPLE	266374-020		Soil	222739	04/30/15 18:23	3.0	
024	120a024	SAMPLE	266392-005		Soil	222739	04/30/15 18:51	5.0	
025	120a025	X	CMARKER				04/30/15 19:19	1.0	1
026	120a026	CCV	MO_500				04/30/15 19:47	1.0	2
027	120a027	CCV	DSL_1000				04/30/15 20:15	1.0	3
028	120a028	X	CCV				04/30/15 20:43	1.0	2
029	120a029	X	CCV				04/30/15 21:10	1.0	3
030	120a030	SAMPLE	266408-007		Soil	222739	04/30/15 21:38	1.0	
031	120a031	SAMPLE	266460-001		Soil	222739	04/30/15 22:05	1.0	
032	120a032	SAMPLE	266460-002		Soil	222739	04/30/15 22:34	1.0	
033	120a033	CCV	MO_500				04/30/15 23:01	1.0	2
034	120a034	CCV	DSL_250				04/30/15 23:29	1.0	5

SFL 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 34.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225161742

Instrument : GC14B
Method : EPA 8015B
Begun : 04/22/15 07:42
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	112_001	X	IB			04/22/15 07:42	1.0		
002	112_002	X	C8-C50			04/22/15 08:10	1.0	1	
003	112_003	X	MO_500			04/22/15 08:39	1.0	2	
004	112_004	X	DSL_500			04/22/15 09:08	1.0	3	
005	112_005	X	JP5_250			04/22/15 11:07	1.0	4	
006	112_006	X	IB			04/22/15 13:08	1.0		
007	112_007	X	C8-C50			04/22/15 13:36	1.0	1	
008	112_008	X	MO_500			04/22/15 14:04	1.0	2	
009	112_009	X	DSL_250			04/22/15 14:32	1.0	5	
010	112_010	X	MO_500			04/22/15 15:57	1.0	2	
011	112_011	X	DSL_250			04/22/15 16:25	1.0	5	
012	112_012	IB	CALIB			04/22/15 17:07	1.0		
013	112_013	ICAL	HEX OTP_5			04/22/15 17:35	1.0	6	
014	112_014	ICAL	HEX OTP_10			04/22/15 18:02	1.0	7	
015	112_015	ICAL	HEX OTP_25			04/22/15 18:30	1.0	8	
016	112_016	ICAL	HEX OTP_50			04/22/15 18:59	1.0	9	
017	112_017	ICAL	HEX OTP_100			04/22/15 19:27	1.0	10	
018	112_018	ICAL	HEX OTP_200			04/22/15 19:55	1.0	11	
019	112_019	IB	CALIB			04/22/15 20:23	1.0		
020	112_020	ICAL	MO_50			04/22/15 20:52	1.0	12	
021	112_021	ICAL	MO_250			04/22/15 21:21	1.0	13	
022	112_022	ICAL	MO_500			04/22/15 21:49	1.0	14	
023	112_023	ICAL	MO_1000			04/22/15 22:17	1.0	15	
024	112_024	ICAL	MO_2500			04/22/15 22:46	1.0	16	
025	112_025	ICAL	MO_5000			04/22/15 23:14	1.0	16	
026	112_026	IB	CALIB			04/22/15 23:43	1.0		
027	112_027	CMARKER	C8-C50			04/23/15 00:11	1.0	1	
028	112_028	IB	CALIB			04/23/15 00:39	1.0		

JDG 04/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26646 2=S26958 3=S26960 4=S26748 5=S26959 6=S26468 7=S26469 8=S26470 9=S26471 10=S26472 11=S26473 12=S26392 13=S26393 14=S26394 15=S26395 16=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225171799

Instrument : GC14B
Method : EPA 8015B
Begun : 04/29/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119_001	X	IB				04/29/15 07:19	1.0		
002	119_002	X	CMARKER				04/29/15 07:48	1.0	1	
003	119_003	CCV	MO_500				04/29/15 08:17	1.0	2	
004	119_004	CCV	DSL_1000				04/29/15 08:45	1.0	3	
005	119_005	CCV	HYFL_500				04/29/15 09:14	1.0	4	
006	119_006	SAMPLE	266364-004		Soil	222669	04/29/15 09:43	1.0		
007	119_007	SAMPLE	266364-005		Soil	222669	04/29/15 10:12	1.0		
008	119_008	SAMPLE	266374-007		Soil	222669	04/29/15 10:41	1.0		
009	119_009	X	IB				04/29/15 11:09	1.0		
010	119_010	X	TEST				04/29/15 11:37	1.0		
011	119_011	BLANK	QC785821	S	Water	222656	04/29/15 12:17	1.0		
012	119_012	SAMPLE	266378-001	S	Water	222656	04/29/15 12:45	1.0		
013	119_013	SAMPLE	266378-002	S	Water	222656	04/29/15 13:14	1.0		
014	119_014	CCV	MO_500				04/29/15 13:42	1.0	2	
015	119_015	CCV	DSL_500				04/29/15 14:10	1.0	5	
016	119_016	CCV	HYFL_500				04/29/15 14:38	1.0	4	
017	119_017	BLANK	QC785821		Water	222656	04/29/15 15:58	1.0		
018	119_018	SAMPLE	266342-001	S	Water	222656	04/29/15 16:26	1.0		12:BUNKC:10-40=85000
019	119_019	SAMPLE	266373-001	S	Water	222656	04/29/15 16:54	1.0		
020	119_020	SAMPLE	266373-002	S	Water	222656	04/29/15 17:22	1.0		
021	119_021	SAMPLE	266373-003	S	Water	222656	04/29/15 17:51	1.0		
022	119_022	SAMPLE	266373-004	S	Water	222656	04/29/15 18:19	1.0		
023	119_023	SAMPLE	266373-005	S	Water	222656	04/29/15 18:47	1.0		
024	119_024	SAMPLE	266377-001	S	Water	222656	04/29/15 19:15	1.0		
025	119_025	SAMPLE	266377-002	S	Water	222656	04/29/15 19:43	1.0		
026	119_026	SAMPLE	266377-003	S	Water	222656	04/29/15 20:11	1.0		
027	119_027	SAMPLE	266374-011		Soil	222669	04/29/15 20:39	100.0		2:BUNKC:10-40=6800
028	119_028	X	CMARKER				04/29/15 21:07	1.0	1	
029	119_029	CCV	MO_500				04/29/15 21:36	1.0	2	
030	119_030	CCV	DSL_1000				04/29/15 22:04	1.0	3	
031	119_031	CCV	HYFL_500				04/29/15 22:33	1.0	4	
032	119_032	X	CCV				04/29/15 23:01	1.0	2	
033	119_033	X	CCV				04/29/15 23:30	1.0	3	
034	119_034	X	CCV				04/29/15 23:58	1.0	4	
035	119_035	SAMPLE	266374-002		Water	222656	04/30/15 00:27	1.0		
036	119_036	SAMPLE	266374-008		Water	222656	04/30/15 00:55	1.0		
037	119_037	SAMPLE	266374-012		Water	222656	04/30/15 01:23	1.0		
038	119_038	CCV	MO_500				04/30/15 01:52	1.0	2	
039	119_039	CCV	DSL_500				04/30/15 02:20	1.0	5	
040	119_040	X	CCV				04/30/15 02:48	1.0	2	
041	119_041	X	CCV				04/30/15 03:17	1.0	5	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 17 through 41.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975133024

Instrument : GC27A
Method : EPA 8015B
Begun : 04/02/15 09:04
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	092a001	X	IB			04/02/15 09:04	1.0		
002	092a002	X	IB			04/02/15 09:29	1.0		
003	092a003	X	C8-C50			04/02/15 09:53	1.0	1	
004	092a004	X	MO_500			04/02/15 10:18	1.0	2	
005	092a005	X	DSL_1000			04/02/15 10:42	1.0	3	2:BUNKC:10-40=5700
007	092a007	IB	CALIB			04/02/15 13:10	1.0		
008	092a008	ICAL	HEXOTP_5			04/02/15 13:34	1.0	4	
009	092a009	ICAL	HEXOTP_10			04/02/15 13:59	1.0	5	
010	092a010	ICAL	HEXOTP_25			04/02/15 14:23	1.0	6	
011	092a011	ICAL	HEXOTP_50			04/02/15 14:47	1.0	7	
012	092a012	ICAL	HEXOTP_100			04/02/15 15:12	1.0	8	
013	092a013	ICAL	HEXOTP_200			04/02/15 15:36	1.0	9	
014	092a014	IB	CALIB			04/02/15 16:01	1.0		
015	092a015	ICAL	DSL_10			04/02/15 16:26	1.0	10	
016	092a016	ICAL	DSL_100			04/02/15 16:50	1.0	11	
017	092a017	ICAL	DSL_500			04/02/15 17:15	1.0	12	
018	092a018	ICAL	DSL_1000			04/02/15 17:40	1.0	13	
019	092a019	ICAL	DSL_5000			04/02/15 18:04	1.0	14	
020	092a020	IB	CALIB			04/02/15 18:29	1.0		
021	092a021	ICV	DSL_500			04/02/15 18:53	1.0	15	
022	092a022	X	ICV			04/02/15 19:18	1.0	15	
023	092a023	IB	CALIB			04/02/15 19:42	1.0		
024	092a024	ICAL	MO_50			04/02/15 20:07	1.0	16	
025	092a025	ICAL	MO_250			04/02/15 20:32	1.0	17	
026	092a026	ICAL	MO_500			04/02/15 20:56	1.0	18	
027	092a027	ICAL	MO_1000			04/02/15 21:21	1.0	19	
028	092a028	ICAL	MO_2500			04/02/15 21:45	1.0	20	
029	092a029	ICAL	MO_5000			04/02/15 22:09	1.0	20	
030	092a030	IB	CALIB			04/02/15 22:34	1.0		
031	092a031	CMARKER	C8-C50			04/02/15 22:58	1.0	1	
032	092a032	IB	CALIB			04/02/15 23:23	1.0		

JDG 04/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26883 3=S26624 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S26392 17=S26393 18=S26394 19=S26395 20=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975171802

Instrument : GC27A
Method : EPA 8015B
Begun : 04/29/15 07:22
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119a001	X	IB				04/29/15 07:22	1.0		
002	119a002	X	CMARKER				04/29/15 07:46	1.0	1	
003	119a003	CCV	MO_500				04/29/15 08:11	1.0	2	
004	119a004	CCV	DSL_1000				04/29/15 08:35	1.0	3	
005	119a005	CCV	BUNK_500				04/29/15 09:00	1.0	4	
006	119a006	BLANK	QC785880		Soil	222669	04/29/15 09:24	1.0		
007	119a007	LCS	QC785881	S	Soil	222669	04/29/15 09:49	1.0		
008	119a008	SAMPLE	266395-001		Soil	222669	04/29/15 10:13	1.0		
009	119a009	SAMPLE	266395-002		Soil	222669	04/29/15 10:38	1.0		2:BUNKC:12-40=12000
010	119a010	SAMPLE	266395-003		Soil	222669	04/29/15 11:03	1.0		
011	119a011	SAMPLE	266395-002		Soil	222669	04/29/15 11:27	10.0		
012	119a012	SAMPLE	266395-003		Soil	222669	04/29/15 11:51	1.0		
013	119a013	CCV	MO_500				04/29/15 12:21	1.0	2	
014	119a014	CCV	DSL_250				04/29/15 12:45	1.0	5	
015	119a015	CCV	BUNK_500				04/29/15 13:10	1.0	4	
016	119a016	X	CMARKER				04/29/15 14:39	1.0	1	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 15.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26288 5=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 222669
Started By : ARW
Method : 3550B
Spike #1 ID : S27144
Prep Date : 28-APR-2015 16:00
Spike #2 ID : S26964
Analysis : TEH
Finished By : ARW
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266360-008		Soil	49.52	5	1	0.101		1				TEHM	
266363-001		Soil	49.8	5	1	0.1004		1			3630C	TEHM	
266364-004		Soil	49.6	5	1	0.1008		1				TEHM	
266364-005		Soil	50.05	5	1	0.0999		1				TEHM	
266374-003		Soil	50.42	5	1	0.09917		1				TEHM	
266374-004		Soil	49.84	5	1	0.1003		1				TEHM	
266374-005		Soil	49.62	5	1	0.1008		1				TEHM	
266374-006		Soil	49.7	5	1	0.1006		1				TEHM	
266374-007		Soil	50	5	1	0.1000		1				TEHM	
266374-009		Soil	49.77	5	1	0.1005		1				TEHM	
266374-010		Soil	50.39	5	1	0.09923		1				TEHM	
266374-011		Soil	50.34	5	1	0.09932		1				TEHM	
266374-013		Soil	50.48	5	1	0.09905		1				TEHM	
266387-001		Soil	49.61	5	1	0.1008		1				TEHM	
266388-001		Soil	50.11	5	1	0.09978		1				TEHM	
266395-001		Soil	49.99	5	1	0.1000		1				TEH	
266395-002		Soil	50.06	5	1	0.09988		1				TEH	
266395-003		Soil	49.57	5	1	0.1009		1				TEH	
QC785880	BLANK	Soil	49.83	5	1	0.1003		1			3630C		
QC785881	LCS	Soil	50.26	5	1	0.09948		1	1		3630C		
QC785882	MS	Soil	50.19	5	1	0.09962		1	1		3630C		Prepped 28-APR-2015 19:15
QC785883	MSD	Soil	49.68	5	1	0.1006		1	1		3630C		Prepped 28-APR-2015 19:15

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

BK3652 - 138
BOOK PAGE

TITLE Soil Aliquot **PROJECT** **DATE**

Continued from page

Sample	ID	Weight (g)	Analysis	Batch #	Scale Used	Comments
266284-010	F	30.03	8081		Dish 1	MSS for 8081
266380-001	A	29.99	PCB			
	2	29.92				MSS for PCB
	3	29.91				
	4	30.31				
266381-001	KKL 4/28/15 ~~29~~	30.12				
	2	29.95				
MB	N/A	29.90	P/P			EMXF27F
LCS		30.01	PCB			↓
MS		30.03				266380-002A
MSD		30.10				↓
LCS	4/28/15	~~29.92~~ 30.12	8081			EMXF27F
MS		~~29.84~~ 29.90				266284-010F
MSD		~~30.05~~ 30.02				↓

KKL 4/28/15

266360-008	A	49.52	TEH/M		Dish 1	~~MSS~~ 4pm-1hr shrt
266363-001	B	49.80				MSJ
↓	2	JMJ 4/28/15				
266364-004	E	49.60				
↓	5	50.05				
266374-003	G	50.42				
	4	49.94				
	5	49.62				
	6	49.70				
	7	H 50.00				
	9	G 49.77				
	10	50.39				
	11	50.34				
↓	13	D 50.48				
266387-001	B	49.61				
266388-001	↓	50.11				
MB	N/A	49.83				EMXF27F
LCS		50.26				↓
MS		~~49.26~~ 50.19				266300-002A
MSD		~~50.18~~ AM 4pm-1hr shrt				↓

JMJ 4/28/

266395-001	A	49.99	TEH/M		DISH 1	
	2	50.06				
↓	3	49.57				

JMJ 4/28/1

266387-001	B	30.05	PCB		wet chem	
266388-001	B	30.20				

KKL 4/28/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATIOI

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 40

LIMS Batch No: 222669
LIMS Analysis TEHM
Date Extracted: 4/28/2015

Extraction Method:
☐ Shaker Table
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☑ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	~~226326.005~~	A	~~49.82~~	☑ 5.0 ☐		taken out of batch
	226326.004	B	49.80	☑ 5.0 ☐	x	MSS
	226364.004	F	49.60	☑ 5.0 ☐		
	" 5	"	50.05	☑ 5.0 ☐		
5	226374.003	G	50.42	☑ 5.0 ☐		
	4	"	49.81	☑ 5.0 ☐		
	5	"	49.62	☑ 5.0 ☐		
	6	"	49.72	☑ 5.0 ☐		
	7	H	50.06	☑ 5.0 ☐		
10	9	G	49.77	☑ 5.0 ☐		
	10	"	50.39	☑ 5.0 ☐		
	11	"	50.34	☑ 5.0 ☐		
	13	D	50.48	☑ 5.0 ☐		
	226387.001	B	49.69	☑ 5.0 ☐		
15	226458.001	V	50.11	☑ 5.0 ☐		
	226395.001	A	49.99	☑ 5.0 ☐		
	" 2	"	50.06	☑ 5.0 ☐		
	" 3	"	49.87	☑ 5.0 ☐		
	MB QC785880	WA	49.83	☑ 5.0 ☐	x	
20	LCS	"	50.26	☑ 5.0 ☐	x	
	MS	"	50.19	☑ 5.0 ☐	x	a/o @1915
	MSD	"	49.67	☑ 5.0 ☐	x	
				☐ 5.0 ☐		
				☐ 5.0 ☐		
				☐ 5.0 ☐		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMX42377	AKA 4/28/15
Samples were dried with CH2Cl2-rinsed powdered Na2SO4	"	
1.0 mL of Surrogate solution was added to all samples	S279148	
1.0 mL of Spike solution was added to all spikes	S269648	
1:1 CH_2Cl_2 (lot# EM5427) : Acetone (lot# EM5431) was added to all		
Solvent added at (time)	1600/1915	
☑ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:		
taken off Shaker Table at:	NA	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM1404 CSTY	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department		

4/28/2015
Continued from page ____
Continued on page ____

Extraction Chemist / Date

4/29/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: ARW
Cleanup Date: 4/28/2015

Benchbook # **BK 3677**
Page 43

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
1606303-04	226607	☑ 1.0 ☐	☐ 1.0 ☐	
MB QC 785880		☑ 1.0 ☐	☐ 1.0 ☐	
LCS 1		☑ 1.0 ☐	☐ 1.0 ☐	
MS 2		☑ 1.0 ☐	☐ 1.0 ☐	
MSD 3		☑ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	P15A1663	ARW 4/28/2015
☐ Extracts were cleaned up using ____ g cartridges	N/A	
Extracts were eluted with 4.0 mL CH_2Cl_2	TM15357	
Concentrated to volumes as noted above		

ARW 4/28/2015
Extraction Chemist / Date

Continued from page ____
Continued on page ____

4/29/15
Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 222707
Started By : KKL
Method : 3550B
Spike #1 ID : S27144
Prep Date : 29-APR-2015 16:35
Spike #2 ID : S26964
Analysis : TEHM
Finished By : KKL
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266374-014		Soil	49.71	5	1	0.1006		1				TEHM	
266374-015		Soil	50.16	5	1	0.09968		1				TEHM	
266374-016		Soil	50.14	5	1	0.09972		1				TEHM	
266374-017		Soil	49.9	5	1	0.1002		1				TEHM	
266374-018		Soil	50.23	5	1	0.09954		1				TEHM	
266374-022		Soil	49.94	5	1	0.1001		1				TEHM	
266383-001		Soil	50.3	5	1	0.0994		1				TEHM	
266383-002		Soil	50.04	5	1	0.09992		1				TEHM	
266383-003		Soil	49.74	5	1	0.1005		1				TEHM	
266383-004		Soil	49.99	5	1	0.1000		1				TEHM	
266383-005		Soil	49.74	5	1	0.1005		1				TEHM	
266385-001		Soil	50.08	5	1	0.09984		1				TEHM	
266385-003		Soil	49.78	5	1	0.1004		1				TEHM	See comment 1 below
266386-001		Soil	49.97	5	1	0.1001		1				TEHM	See comment 1 below
266386-002		Soil	49.83	5	1	0.1003		1				TEHM	
266386-003		Soil	50.28	5	1	0.09944		1				TEHM	
266386-004		Soil	50.24	5	1	0.09952		1				TEHM	
266420-002		Soil	50.26	5	1	0.09948		1				TEHM	
QC786019	BLANK	Soil	50.02	5	1	0.09996		1				TEHM	
QC786020	LCS	Soil	49.95	5	1	0.1001		1	1			TEHM	
QC786021	MS	Soil	50.15	5	1	0.0997		1	1			TEHM	
QC786022	MSD	Soil	50.09	5	1	0.09982		1	1			TEHM	

Comment 1: trouble draining, used 2nd funnel

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

BK3652 - 140
BOOK PAGE

TITLE Soil Aliquot **PROJECT** DA

Continued from page

Sample	ID	Weight (g)	Analysis	Batch #	Scale Used	Comments
266374-014	D	49.71	TEHM	222707	Dish 1	
15		50.16				
16		50.14				
17		49.90				
18		50.23				
19	G	49.94				MSS
266383-001	C	50.30				
2		50.04				
3		49.74				
4		49.99				
5		49.74				
266385-001	B	50.08				
3		49.78				
266386-001	C	49.97				
2		49.83				
3		50.28				
4		50.24				
MB	N/A	50.02				EMXF27F
LCS		49.95				↓
MS		50.15				266374-022G
MSD		50.09				↓
				KKL 4/29/15		
266420-002	B	50.26	TEHM	222707	Dish 1	
				KKL 4/29/15		

Continued to pa

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMAT

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 41

LIMS Batch No: 222707
LIMS Analysis TEHM
Date Extracted: 4/29/15

Extraction Method:
☐ Shaker Table
☒ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
KKL 4/29/15	~~222~~ 266374-014	D	49.71	☒5.0 ☐____		
	15	↓	50.16	☒5.0 ☐____		
	16	↓	50.14	☒5.0 ☐____		
	17	↓	49.90	☒5.0 ☐____		
5	18	↓	50.23	☒5.0 ☐____		
	22	G	49.94	☒5.0 ☐____		MSS
	266383-001	C	50.30	☒5.0 ☐____		
	2	↓	50.04	☒5.0 ☐____		
	3	↓	49.74	☒5.0 ☐____		
10	4	↓	49.99	☒5.0 ☐____		
	5	↓	49.74	☒5.0 ☐____		
	266385-001	B	50.08	☒5.0 ☐____		
	3	↓	49.78	☒5.0 ☐____		trouble draining, used 2nd funnel
	266386-001	C	49.97	☒5.0 ☐____		↓
15	2	↓	49.83	☒5.0 ☐____		
	3	↓	50.28	☒5.0 ☐____		
	4	↓	50.24	☒5.0 ☐____		
	266420-002	B	KKL 4/29/15 ~~50.82~~ 50.26	☒5.0 ☐____		
	MB QC786019	N/A	50.02	☒5.0 ☐____		
20	LCS 20	↓	49.95	☒5.0 ☐____		
	MS 21	↓	50.15	☒5.0 ☐____		
	MSD ↓ 22	↓	50.09	☒5.0 ☐____		
				☐ 5.0 ☐____		
				☐ 5.0 ☐____		
				☐ 5.0 ☐____		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMXF27F	KKL 4/29/15
Samples were dried with CH2Cl2-rinsed ~~powdered~~ granular Na2SO4	↓	↓
1.0 mL of Surrogate solution was added to all samples	S27144B	
1.0 mL of Spike solution was added to all spikes	S26964F	
1:1 CH_2Cl_2 (lot# EMS4275):Acetone(lot# EMS4318) was added to all	✓	
Solvent added at (time)	16:35	
☒ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	✓	
taken off Shaker Table at:	N/A	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM1604050S	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	↓

Kristen Low 4/29/15
Extraction Chemist / Date

Continued from page ____
Continued on page ____

for KKL 4/30/15
Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 222739
Started By : JCD
Prep Date : 30-APR-2015 12:19
Method : 3550B
Analysis : TEH
Finished By : JCD
Units : g
Spike #1 ID : S27144
Spike #2 ID : S26964

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266374-019		Soil	50.02	5	1	0.09996		1				TEHM	
266374-020		Soil	50.32	5	1	0.09936		1				TEHM	
266374-021		Soil	50	5	1	0.1000		1				TEHM	
266391-002		Soil	50.25	5	1	0.0995		1				TEHM	
266391-003		Soil	49.96	5	1	0.1001		1				TEHM	
266391-004		Soil	50.07	5	1	0.09986		1				TEHM	
266391-005		Soil	50.19	5	1	0.09962		1				TEHM	
266391-007		Soil	50.46	5	1	0.09909		1				TEHM	
266392-004		Soil	49.82	5	1	0.1004		1				TEHM	
266392-005		Soil	50.32	5	1	0.09936		1				TEHM	
266392-006		Soil	49.82	5	1	0.1004		1				TEHM	
266408-001		Soil	50.35	5	1	0.0993		1				TEHM	
266408-002		Soil	49.6	5	1	0.1008		1				TEHM	
266408-003		Soil	49.65	5	1	0.1007		1				TEHM	
266408-004		Soil	50.11	5	1	0.09978		1				TEHM	
266408-005		Soil	49.84	5	1	0.1003		1				TEHM	
266408-006		Soil	49.95	5	1	0.1001		1				TEHM	
266408-007		Soil	50.41	5	1	0.09919		1				TEHM	
266460-001		Soil	50.34	5	1	0.09932		1				TEH	
266460-002		Soil	49.73	5	1	0.1005		1				TEH	
QC786142	BLANK	Soil	49.84	5	1	0.1003		1					
QC786143	LCS	Soil	49.8	5	1	0.1004		1	1				
QC786144	MS	Soil	49.74	5	1	0.1005		1	1				
QC786145	MSD	Soil	49.6	5	1	0.1008		1	1				

Analyst: SFL Date: 05/01/15 Reviewer: EAH Date: 05/01/15

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 42

LIMS Batch No: 222739
LIMS Analysis TEH/M
Date Extracted: 4/30/15

Extraction Method:
☐ Shaker Table
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	2606374-019	P	50.02	☑ 5.0 ☐		
	20	↓	50.32	☑ 5.0 ☐		
	21	↓	50.00	☑ 5.0 ☐		
	2606391-002	A	50.25	☑ 5.0 ☐		
5	3	↓	49.96	☑ 5.0 ☐		
	4	↓	50.07	☑ 5.0 ☐		
	5	↓	50.19	☑ 5.0 ☐		
	7	↓	50.46	☑ 5.0 ☐		
	2606392-004	B	49.82	☑ 5.0 ☐		
10	5	A	50.32	☑ 5.0 ☐		
	6	↓	49.82	☑ 5.0 ☐		
	2606408-001	C	50.35	☑ 5.0 ☐		
	2	↓	49.60	☑ 5.0 ☐		
	3	↓	49.65	☑ 5.0 ☐		
15	4	↓	50.11	☑ 5.0 ☐		
	5	↓	49.84	☑ 5.0 ☐		
	6	↓	49.95	☑ 5.0 ☐		
	7	↓	50.41	☑ 5.0 ☐		
	2606420-001	B	50.34	☑ 5.0 ☐		
20	2	↓	49.73	☑ 5.0 ☐		
	MS 736142	MA	49.84	☑ 5.0 ☐		
	LCS 3	↓	49.80	☑ 5.0 ☐		
	MS 4	↓	49.74	☑ 5.0 ☐		
	MSD 5	↓	49.60	☐ 5.0 ☐		
				☐ 5.0 ☐		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMXF87F	JCO 4/30/15
Samples were dried with CH2Cl2-rinsed powdered Na2SO4	↓	
1.0 mL of Surrogate solution was added to all samples	S27144 $	
1.0 mL of Spike solution was added to all spikes	S216961 E	
1:1 CH_2Cl_2 (lot# EM54275):Acetone(lot# EM54318) was added to all	✓	
Solvent added at (time)	1219	
☑ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	✓	
taken off Shaker Table at:	NA	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM160405C509	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

Jamie Boyle 4/30/15
Extraction Chemist / Date

Continued from page _____
Continued on page _____

SK 5/11/15
Reviewed by / Date

Laboratory Job Number 266374

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(GW)	Batch#:	222659
Lab ID:	266374-001	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(GW)	Batch#:	222659
Lab ID:	266374-001	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(GW)	Batch#:	222659
Lab ID:	266374-002	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(GW)	Batch#:	222659
Lab ID:	266374-002	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(GW)	Batch#:	222659
Lab ID:	266374-008	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(GW)	Batch#:	222659
Lab ID:	266374-008	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	115	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	121 *	80-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(GW)	Batch#:	222684
Lab ID:	266374-012	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	1.8	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(GW)	Batch#:	222684
Lab ID:	266374-012	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	0.5	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222659
Units:	ug/L	Analyzed:	04/28/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785831

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.28	106	66-135
Benzene	12.50	13.61	109	80-123
Trichloroethene	12.50	13.77	110	80-123
Toluene	12.50	13.94	111	80-121
Chlorobenzene	12.50	13.57	109	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	107	80-120

Type: BSD Lab ID: QC785832

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.09	89	66-135	18	24
Benzene	12.50	12.18	97	80-123	11	20
Trichloroethene	12.50	11.68	93	80-123	16	20
Toluene	12.50	12.19	97	80-121	13	20
Chlorobenzene	12.50	12.14	97	80-123	11	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	107	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785833	Batch#:	222659
Matrix:	Water	Analyzed:	04/28/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785833	Batch#:	222659
Matrix:	Water	Analyzed:	04/28/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	116	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222684
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785928

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	10.99	88	66-135
Benzene	12.50	11.59	93	80-123
Trichloroethene	12.50	11.73	94	80-123
Toluene	12.50	12.27	98	80-121
Chlorobenzene	12.50	11.50	92	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC785929

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.68	93	66-135	6	24
Benzene	12.50	12.65	101	80-123	9	20
Trichloroethene	12.50	11.45	92	80-123	2	20
Toluene	12.50	12.56	101	80-121	2	20
Chlorobenzene	12.50	12.26	98	80-123	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785930	Batch#:	222684
Matrix:	Water	Analyzed:	04/29/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785930	Batch#:	222684
Matrix:	Water	Analyzed:	04/29/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0
Seqnum : 425152069014 File : cdf14 Time : 15-APR-2015 18:25

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	19181	19.47	
75	30% - 60% of mass 95	41565	42.19	
95		98517	100.00	
96	5% - 9% of mass 95	6474	6.57	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	73306	74.41	
175	5% - 9% of mass 174	5476	7.47	
176	> 95% and < 101% of mass 174	70485	96.15	
177	5% - 9% of mass 176	4575	6.49	

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0
Seqnum : 425171890003 File : cdt03 Time : 29-APR-2015 11:20

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	20757	20.82	
75	30% - 60% of mass 95	42861	42.99	
95		99693	100.00	
96	5% - 9% of mass 95	6466	6.49	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	67165	67.37	
175	5% - 9% of mass 174	4989	7.43	
176	> 95% and < 101% of mass 174	66176	98.53	
177	5% - 9% of mass 176	4203	6.35	

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 04/30/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 495052755006 File : jb506 Time : 05-FEB-2015 20:36

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	51514	30.11	
75	30% - 60% of mass 95	96306	56.28	
95		171114	100.00	
96	5% - 9% of mass 95	11346	6.63	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	112648	65.83	
175	5% - 9% of mass 174	8383	7.44	
176	> 95% and < 101% of mass 174	110792	98.35	
177	5% - 9% of mass 176	7545	6.81	

Analyst: DAR Date: 02/06/15 Reviewer: LW Date: 02/09/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 495170847003 File : jds03 Time : 28-APR-2015 16:24

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	76986	30.37	
75	30% - 60% of mass 95	145536	57.42	
95		253461	100.00	
96	5% - 9% of mass 95	17218	6.79	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	158336	62.47	
175	5% - 9% of mass 174	11557	7.30	
176	> 95% and < 101% of mass 174	155797	98.40	
177	5% - 9% of mass 176	9826	6.31	

Analyst: KER Date: 04/28/15 Reviewer: LW Date: 04/29/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSVOA Water: EPA 8260B

Inst : MSVOA03 Name : 8260GX3W
Calnum : 425152069005 Date : 15-APR-2015 21:38 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	cdf20	425152069020	.25/.5PPB	15-APR-2015 21:38	S25695 (2000000X), S26948 (2000000X), S26838 (2000000X), S25156 (1000000X), S26911 (5000X)
L2	cdf21	425152069021	.5/1PPB	15-APR-2015 22:21	S26911 (5000X), S25695 (1000000X), S26948 (1000000X), S26838 (1000000X), S25156 (500000X)
L3	cdf22	425152069022	2PPB	15-APR-2015 22:43	S25695 (500000X), S26948 (250000X), S26838 (250000X), S25156 (250000X), S26911 (5000X)
L4	cdf23	425152069023	5PPB	15-APR-2015 23:26	S26911 (5000X), S25695 (200000X), S26948 (100000X), S26838 (100000X), S25156 (100000X)
L5	cdf24	425152069024	10PPB	15-APR-2015 23:47	S26911 (5000X), S25695 (100000X), S26948 (50000X), S26838 (50000X), S25156 (50000X)
L6	cdf25	425152069025	20PPB	15-APR-2015 00:30	S26911 (5000X), S25695 (50000X), S26948 (25000X), S26838 (25000X), S25156 (25000X)
L7	cdf26	425152069026	50PPB	15-APR-2015 00:51	S26911 (5000X), S25695 (20000X), S26948 (10000X), S26838 (10000X), S25156 (10000X)
L8	cdf27	425152069027	75PPB	16-APR-2015 01:34	S26911 (5000X), S25695 (13330X), S26948 (6667X), S26838 (6667X), S25156 (6667X)
L9	cdf28	425152069028	100PPB	16-APR-2015 01:56	S26911 (5000X), S25695 (10000X), S26948 (5000X), S26838 (5000X), S25156 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6133	0.4364	0.5109	0.4769	0.5337	0.5256	0.5172	0.6001	AVRG		1.89841		0.5268	11	15	0.05	0.99	
Chloromethane	0.9120	0.7463	0.7435	0.6938	0.6663	0.6682	0.6301	0.6601	0.7378	AVRG		1.39359		0.7176	12	15	0.10	0.99	
Vinyl Chloride	0.6567	0.6951	0.5901	0.6145	0.5861	0.6293	0.6025	0.6010	0.6317	AVRG		1.60517		0.6230	6	15	0.05	0.99	
Bromomethane		0.3702	0.3598	0.3598	0.3525	0.3475	0.3438	0.3765	0.3996	AVRG		2.74954		0.3637	5	15	0.05	0.99	
Chloroethane		0.3918	0.3834	0.3243	0.3493	0.3536	0.3499	0.3443	0.3685	AVRG		2.79225		0.3581	6	15	0.05	0.99	
Trichlorofluoromethane		0.6216	0.5256	0.5848	0.5721	0.5813	0.5863	0.5760	0.6312	AVRG		1.70982		0.5849	6	15	0.05	0.99	
Acetone				0.1436	0.1166	0.1006	0.0967	0.1041	0.1060	AVRG		8.98793		0.1113	15	15	0.05	0.99	
Freon 113		0.3324	0.4251	0.3651	0.3166	0.3694	0.4010	0.4221	0.4398	AVRG		2.60464		0.3839	12	15	0.05	0.99	
1,1-Dichloroethene		0.4783	0.4509	0.3970	0.4009	0.4026	0.4120	0.4126	0.4325	AVRG		2.36207		0.4234	7	15	0.05	0.99	
Methylene Chloride		0.6733	0.5824	0.5081	0.5326	0.5158	0.5182	0.5344	0.5555	AVRG		1.80978		0.5526	10	15	0.05	0.99	
Carbon Disulfide		1.8660	1.6317	1.4447	1.5015	1.5059	1.5004	1.5495	1.5998	AVRG		0.63494		1.5749	8	15	0.05	0.99	
MTBE		1.3588	1.2066	1.1649	1.1286	1.0383	1.0293	1.0660	1.1149	AVRG		0.87840		1.1384	9	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6011	0.5204	0.4630	0.4872	0.4533	0.4724	0.4798	0.4987	AVRG		2.01205		0.4970	9	15	0.05	0.99	
Vinyl Acetate				0.6448	0.7811	0.7218	0.6204	0.6887	0.7721	AVRG		1.41878		0.7048	9	15	0.05	0.99	
1,1-Dichloroethane		1.0612	0.9340	0.8743	0.9279	0.8595	0.8771	0.8906	0.9177	AVRG		1.08960		0.9178	7	15	0.10	0.99	
2-Butanone				0.1623	0.1646	0.1429	0.1434	0.1428	0.1585	AVRG		6.56108		0.1524	7	15	0.05	0.99	
2,2-Dichloropropane		0.7725	0.6883	0.6078	0.5862	0.5808	0.5935	0.6151	0.6059	AVRG		1.58415		0.6313	10	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7394	0.6054	0.5527	0.5676	0.5299	0.5513	0.5494	0.5561	AVRG		1.71975		0.5815	12	15	0.05	0.99	
Chloroform		1.0866	0.9799	0.8459	0.8954	0.8511	0.8431	0.8696	0.9196	AVRG		1.09721		0.9114	9	15	0.05	0.99	
Bromochloromethane		0.2828	0.2301	0.2362	0.2460	0.2303	0.2339	0.2349	0.2478	AVRG		4.11936		0.2428	7	15	0.05	0.99	
1,1,1-Trichloroethane		0.7688	0.6783	0.6098	0.5918	0.6253	0.6369	0.6661	0.6855	AVRG		1.52017		0.6578	8	15	0.05	0.99	
1,1-Dichloropropene		0.4203	0.4514	0.3593	0.3434	0.3794	0.3903	0.3998	0.4127	AVRG		2.53434		0.3946	9	15	0.05	0.99	
Carbon Tetrachloride		0.3482	0.3214	0.2815	0.2611	0.2922	0.3088	0.3124	0.3258	AVRG		3.26359		0.3064	9	15	0.05	0.99	
1,2-Dichloroethane		0.3811m	0.3657	0.3773	0.3834	0.3531	0.3601	0.3584	0.3780	AVRG		2.70517		0.3697	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.3014	1.2818	1.1394	1.0897	1.0919	1.1183	1.1161	1.1511	AVRG		0.86117		1.1612	7	15	0.05	0.99	
Trichloroethene		0.3771	0.3319	0.2831	0.2696	0.2794	0.2936	0.2986	0.3015	AVRG		3.28569		0.3044	11	15	0.05	0.99	
1,2-Dichloropropane		0.3518	0.3591	0.2895	0.3070	0.3063m	0.3101	0.3125	0.3242	AVRG		3.12437		0.3201	7	15	0.05	0.99	
Bromodichloromethane		0.4285	0.4404	0.3887	0.4070	0.3960	0.3998	0.3991	0.4183	AVRG		2.44061		0.4097	4	15	0.05	0.99	
Dibromomethane		0.1619	0.1990	0.1839	0.1896	0.1820	0.1753	0.1735	0.1883	AVRG		5.50402		0.1817	6	15	0.05	0.99	
4-Methyl-2-Pentanone			0.2745	0.2396	0.2358	0.2241	0.2038	0.2093	0.2265	AVRG		4.33798		0.2305	10	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5389	0.5620	0.4862	0.4878	0.4779	0.4738	0.4918	0.5096	AVRG		1.98608		0.5035	6	15	0.05	0.99	
Toluene		0.8486	0.7675	0.7282	0.6843	0.7017	0.7146	0.7380	0.7535	AVRG		1.34763		0.7420	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5170	0.4498	0.4573	0.4563	0.4176	0.4372	0.4359	0.4503	AVRG		2.20904		0.4527	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1436	0.1481	0.1535	0.1396	0.1363	0.1369	0.1342	0.1419	AVRG		7.05474		0.1417	5	15	0.05	0.99	
2-Hexanone			0.1705	0.1853	0.1719	0.1605	0.1450	0.1532	0.1659	AVRG		6.07486		0.1646	8	15	0.05	0.99	
1,3-Dichloropropane		0.5669	0.4692	0.4543	0.4568	0.4205	0.4199	0.4302	0.4517	AVRG		2.18018		0.4587	10	15	0.05	0.99	
Tetrachloroethene		0.2754	0.3207	0.2838	0.2381	0.2615	0.2817	0.2856	0.2897	AVRG		3.57697		0.2796	8	15	0.05	0.99	
Dibromochloromethane		0.2895	0.2851	0.2900	0.2964	0.2682	0.2908	0.2884	0.3013	AVRG		3.46349		0.2887	3	15	0.05	0.99	
1,2-Dibromoethane		0.2853	0.2553	0.2703	0.2806	0.2624	0.2568	0.2616	0.2725	AVRG		3.72995		0.2681	4	15	0.05	0.99	
Chlorobenzene		0.8694	0.8595	0.8118	0.7465	0.7380	0.7737	0.7804	0.8175	AVRG		1.25061		0.7996	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2814	0.2894	0.2969	0.2607	0.2551	0.2678	0.2731	0.2774	AVRG		3.63358		0.2752	5	15	0.05	0.99	
Ethylbenzene		1.6554	1.4418	1.4050	1.2186	1.2914	1.3403	1.4006	1.4494	AVRG		0.71412		1.4003	9	15	0.05	0.99	
m,p-Xylenes	0.5281	0.5916	0.5311	0.5184	0.4509	0.4666	0.4935	0.5018	0.5203	AVRG		1.95551		0.5114	8	15	0.05	0.99	
o-Xylene		0.5765	0.5356	0.5275	0.4521	0.4660	0.4850	0.4992	0.5212	AVRG		1.96898		0.5079	8	15	0.05	0.99	
Styrene		1.0279	0.9512	0.9457	0.8483	0.8700	0.8848	0.8936	0.9231	AVRG		1.08922		0.9181	6	15	0.05	0.99	
Bromoform		0.1585	0.1838	0.1905	0.1849	0.1799	0.1700	0.1804	0.1905	AVRG		5.56203		0.1798	6	15	0.10	0.99	
Isopropylbenzene		3.1045	2.6557	2.5602	2.0276	2.2385	2.5041	2.5449	2.5719	AVRG		0.39589		2.5259	12	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7837	0.6483	0.6625	0.5739	0.5660	0.5764	0.5919	0.6105	AVRG		1.59577		0.6267	12	15	0.30	0.99	
1,2,3-Trichloropropane		0.8184	0.5699	0.5389	0.4968	0.4673	0.4985	0.5076	0.5171	QUAD	-0.3257	2.11415	-0.00342	0.5518	1.000	15	0.05	0.99	
Propylbenzene		3.8015	3.3787	3.2321	2.6064	2.8346	3.1200	3.1505	3.2273	AVRG		0.31557		3.1689	11	15	0.05	0.99	
Bromobenzene		0.6892	0.7103	0.6962	0.6050	0.6114	0.6413	0.6385	0.6447	AVRG		1.52769		0.6546	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.6126	2.2925	2.0416	1.6899	1.8434	2.0608	2.0510	2.0852	AVRG		0.47970		2.0846	13	15	0.05	0.99	
2-Chlorotoluene		2.4828	2.2188	2.0922	1.8298	1.9671	2.1093	2.0867	2.1198	AVRG		0.47319		2.1133	9	15	0.05	0.99	
4-Chlorotoluene		2.5480	2.1198	2.0545	1.7776	1.8566	2.0004	1.9669	2.0455	AVRG		0.48872		2.0462	11	15	0.05	0.99	
tert-Butylbenzene		1.9450	1.8220	1.6180	1.3324	1.3884	1.5998	1.6355	1.6780	AVRG		0.61448		1.6274	12	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.7162	2.3843	2.1818	1.8501	1.9499	2.0756	2.1587	2.2209	AVRG		0.45617		2.1922	12	15	0.05	0.99	
sec-Butylbenzene		3.2350	2.9458	2.6182	1.9784	2.3424	2.6681	2.7472	2.7936	AVRG		0.37508		2.6661	14	15	0.05	0.99	
para-Isopropyl Toluene		2.4382	2.2681	2.1240	1.6036	1.7787	2.0456	2.1010	2.0825	AVRG		0.48657		2.0552	13	15	0.05	0.99	
1,3-Dichlorobenzene		1.3345	1.2070	1.2009	0.9941	1.0567	1.1384	1.1636	1.1743	AVRG		0.86305		1.1587	9	15	0.05	0.99	
1,4-Dichlorobenzene		1.3066	1.2262	1.1784	1.0353	1.0714	1.1351	1.1754	1.1908	AVRG		0.85843		1.1649	7	15	0.05	0.99	
n-Butylbenzene		2.4726	2.1884	2.0390	1.6423	1.8053	2.0862	2.1089	2.1997	AVRG		0.48361		2.0678	12	15	0.05	0.99	
1,2-Dichlorobenzene		1.1968	1.1965	1.1206	0.9818	1.0016	1.0468	1.0807	1.1027	AVRG		0.91664		1.0909	7	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1207	0.1030	0.0904	0.0852	0.0844	0.0904	0.0960	AVRG		10.4462		0.0957	13	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.8302	0.7985	0.7574	0.6362	0.6680	0.7370	0.7464	0.7587	AVRG		1.34852		0.7416	9	15	0.05	0.99	
Hexachlorobutadiene		0.3099	0.3397	0.3103	0.2274	0.2641	0.3161	0.3231	0.3266	AVRG		3.30971		0.3021	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.7722	1.5931	1.6027	1.3850	1.3808	1.4322	1.4592	1.4953	AVRG		0.66004		1.5151	9	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6905	0.6935	0.6769	0.5708	0.5770	0.6376	0.6508	0.6645	AVRG		1.54986		0.6452	7	15	0.05	0.99	
Dibromofluoromethane	0.5910	0.5991	0.6032	0.6078	0.6149	0.6109	0.6033	0.6074	0.6241	AVRG		1.64783		0.6069	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3781	0.3804	0.3828	0.3803	0.3724	0.3834	0.3626	0.3539	0.3723	AVRG		2.67372		0.3740	3	15	0.05	0.99	
Toluene-d8	1.3249	1.2939	1.2973	1.3481	1.3357	1.3195	1.3254	1.3234	1.3455	AVRG		0.75543		1.3238	1	15	0.05	0.99	
Bromofluorobenzene	1.0512	1.0581	1.0864	1.0919	1.0467	1.0511	1.1143	1.0661	1.0752	AVRG		0.93352		1.0712	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	16	2.0000	-17	5.0000	-3	10.000	-9	20.000	1	50.000	0	75.000	-2	100.00	14
Chloromethane	0.5000	**27**	1.0000	4	2.0000	4	5.0000	-3	10.000	-7	20.000	-7	50.000	-12	75.000	-8	100.00	3
Vinyl Chloride	0.5000	5	1.0000	12	2.0000	-5	5.0000	-1	10.000	-6	20.000	1	50.000	-3	75.000	-4	100.00	1
Bromomethane			1.0000	2	2.0000	-1	5.0000	-1	10.000	-3	20.000	-4	50.000	-5	75.000	4	100.00	10
Chloroethane			1.0000	9	2.0000	7	5.0000	-9	10.000	-2	20.000	-1	50.000	-2	75.000	-4	100.00	3
Trichlorofluoromethane			1.0000	6	2.0000	-10	5.0000	0	10.000	-2	20.000	-1	50.000	0	75.000	-2	100.00	8
Acetone							5.0000	**29**	10.000	5	20.000	-10	50.000	-13	75.000	-6	100.00	-5
Freon 113			0.5000	-13	2.0000	11	5.0000	-5	10.000	-18	20.000	-4	50.000	4	75.000	10	100.00	15
1,1-Dichloroethene			0.5000	13	2.0000	7	5.0000	-6	10.000	-5	20.000	-5	50.000	-3	75.000	-3	100.00	2
Methylene Chloride			0.5000	**22**	2.0000	5	5.0000	-8	10.000	-4	20.000	-7	50.000	-6	75.000	-3	100.00	1
Carbon Disulfide			0.5000	18	2.0000	4	5.0000	-8	10.000	-5	20.000	-4	50.000	-5	75.000	-2	100.00	2
MTBE			0.5000	19	2.0000	6	5.0000	2	10.000	-1	20.000	-9	50.000	-10	75.000	-6	100.00	-2
trans-1,2-Dichloroethene			0.5000	**21**	2.0000	5	5.0000	-7	10.000	-2	20.000	-9	50.000	-5	75.000	-3	100.00	0
Vinyl Acetate							5.0000	-9	10.000	11	20.000	2	50.000	-12	75.000	-2	100.00	10
1,1-Dichloroethane			0.5000	16	2.0000	2	5.0000	-5	10.000	1	20.000	-6	50.000	-4	75.000	-3	100.00	0
2-Butanone							5.0000	6	10.000	8	20.000	-6	50.000	-6	75.000	-6	100.00	4
2,2-Dichloropropane			0.5000	**22**	2.0000	9	5.0000	-4	10.000	-7	20.000	-8	50.000	-6	75.000	-3	100.00	-4
cis-1,2-Dichloroethene			0.5000	**27**	2.0000	4	5.0000	-5	10.000	-2	20.000	-9	50.000	-5	75.000	-6	100.00	-4
Chloroform			0.5000	19	2.0000	8	5.0000	-7	10.000	-2	20.000	-7	50.000	-7	75.000	-5	100.00	1
Bromochloromethane			0.5000	16	2.0000	-5	5.0000	-3	10.000	1	20.000	-5	50.000	-4	75.000	-3	100.00	2
1,1,1-Trichloroethane			0.5000	17	2.0000	3	5.0000	-7	10.000	-10	20.000	-5	50.000	-3	75.000	1	100.00	4
1,1-Dichloropropene			0.5000	7	2.0000	14	5.0000	-9	10.000	-13	20.000	-4	50.000	-1	75.000	1	100.00	5
Carbon Tetrachloride			0.5000	14	2.0000	5	5.0000	-8	10.000	-15	20.000	-5	50.000	1	75.000	2	100.00	6
1,2-Dichloroethane			0.5000	3	2.0000	-1	5.0000	2	10.000	4	20.000	-4	50.000	-3	75.000	-3	100.00	2
Benzene			0.5000	12	2.0000	10	5.0000	-2	10.000	-6	20.000	-6	50.000	-4	75.000	-4	100.00	-1
Trichloroethene			0.5000	**24**	2.0000	9	5.0000	-7	10.000	-11	20.000	-8	50.000	-4	75.000	-2	100.00	-1
1,2-Dichloropropane			0.5000	10	2.0000	12	5.0000	-10	10.000	-4	20.000	-4	50.000	-3	75.000	-2	100.00	1
Bromodichloromethane			0.5000	5	2.0000	7	5.0000	-5	10.000	-1	20.000	-3	50.000	-2	75.000	-3	100.00	2
Dibromomethane			0.5000	-11	2.0000	10	5.0000	1	10.000	4	20.000	0	50.000	-4	75.000	-4	100.00	4
4-Methyl-2-Pentanone					2.0000	19	5.0000	4	10.000	2	20.000	-3	50.000	-12	75.000	-9	100.00	-2
cis-1,3-Dichloropropene			0.5000	7	2.0000	12	5.0000	-3	10.000	-3	20.000	-5	50.000	-6	75.000	-2	100.00	1
Toluene			0.5000	14	2.0000	3	5.0000	-2	10.000	-8	20.000	-5	50.000	-4	75.000	-1	100.00	2
trans-1,3-Dichloropropene			0.5000	14	2.0000	-1	5.0000	1	10.000	1	20.000	-8	50.000	-3	75.000	-4	100.00	-1
1,1,2-Trichloroethane			0.5000	1	2.0000	5	5.0000	8	10.000	-2	20.000	-4	50.000	-3	75.000	-5	100.00	0
2-Hexanone					2.0000	4	5.0000	13	10.000	4	20.000	-3	50.000	-12	75.000	-7	100.00	1
1,3-Dichloropropane			0.5000	**24**	2.0000	2	5.0000	-1	10.000	0	20.000	-8	50.000	-8	75.000	-6	100.00	-2
Tetrachloroethene			0.5000	-1	2.0000	15	5.0000	2	10.000	-15	20.000	-6	50.000	1	75.000	2	100.00	4
Dibromochloromethane			0.5000	0	2.0000	-1	5.0000	0	10.000	3	20.000	-7	50.000	1	75.000	0	100.00	4
1,2-Dibromoethane			0.5000	6	2.0000	-5	5.0000	1	10.000	5	20.000	-2	50.000	-4	75.000	-2	100.00	2
Chlorobenzene			0.5000	9	2.0000	7	5.0000	2	10.000	-7	20.000	-8	50.000	-3	75.000	-2	100.00	2
1,1,1,2-Tetrachloroethane			0.5000	2	2.0000	5	5.0000	8	10.000	-5	20.000	-7	50.000	-3	75.000	-1	100.00	1
Ethylbenzene			0.5000	18	2.0000	3	5.0000	0	10.000	-13	20.000	-8	50.000	-4	75.000	0	100.00	4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	3	1.0000	16	4.0000	4	10.000	1	20.000	-12	40.000	-9	100.00	-3	150.00	-2	200.00	2
o-Xylene			0.5000	14	2.0000	5	5.0000	4	10.000	-11	20.000	-8	50.000	-5	75.000	-2	100.00	3
Styrene			0.5000	12	2.0000	4	5.0000	3	10.000	-8	20.000	-5	50.000	-4	75.000	-3	100.00	1
Bromoform			0.5000	-12	2.0000	2	5.0000	6	10.000	3	20.000	0	50.000	-5	75.000	0	100.00	6
Isopropylbenzene			0.5000	**23**	2.0000	5	5.0000	1	10.000	-20	20.000	-11	50.000	-1	75.000	1	100.00	2
1,1,2,2-Tetrachloroethane			0.5000	**25**	2.0000	3	5.0000	6	10.000	-8	20.000	-10	50.000	-8	75.000	-6	100.00	-3
1,2,3-Trichloropropane			0.5000	8	2.0000	4	5.0000	7	10.000	1	20.000	-4	50.000	0	75.000	0	100.00	0
Propylbenzene			0.5000	20	2.0000	7	5.0000	2	10.000	-18	20.000	-11	50.000	-2	75.000	-1	100.00	2
Bromobenzene			0.5000	5	2.0000	9	5.0000	6	10.000	-8	20.000	-7	50.000	-2	75.000	-2	100.00	-2
1,3,5-Trimethylbenzene			0.5000	**25**	2.0000	10	5.0000	-2	10.000	-19	20.000	-12	50.000	-1	75.000	-2	100.00	0
2-Chlorotoluene			0.5000	17	2.0000	5	5.0000	-1	10.000	-13	20.000	-7	50.000	0	75.000	-1	100.00	0
4-Chlorotoluene			0.5000	**25**	2.0000	4	5.0000	0	10.000	-13	20.000	-9	50.000	-2	75.000	-4	100.00	0
tert-Butylbenzene			0.5000	20	2.0000	12	5.0000	-1	10.000	-18	20.000	-15	50.000	-2	75.000	1	100.00	3
1,2,4-Trimethylbenzene			0.5000	**24**	2.0000	9	5.0000	0	10.000	-16	20.000	-11	50.000	-5	75.000	-2	100.00	1
sec-Butylbenzene			0.5000	**21**	2.0000	10	5.0000	-2	10.000	**-26**	20.000	-12	50.000	0	75.000	3	100.00	5
para-Isopropyl Toluene			0.5000	19	2.0000	10	5.0000	3	10.000	**-22**	20.000	-13	50.000	0	75.000	2	100.00	1
1,3-Dichlorobenzene			0.5000	15	2.0000	4	5.0000	4	10.000	-14	20.000	-9	50.000	-2	75.000	0	100.00	1
1,4-Dichlorobenzene			0.5000	12	2.0000	5	5.0000	1	10.000	-11	20.000	-8	50.000	-3	75.000	1	100.00	2
n-Butylbenzene			0.5000	20	2.0000	6	5.0000	-1	10.000	**-21**	20.000	-13	50.000	1	75.000	2	100.00	6
1,2-Dichlorobenzene			0.5000	10	2.0000	10	5.0000	3	10.000	-10	20.000	-8	50.000	-4	75.000	-1	100.00	1
1,2-Dibromo-3-Chloropropane					2.0000	**26**	5.0000	8	10.000	-6	20.000	-11	50.000	-12	75.000	-6	100.00	0
1,2,4-Trichlorobenzene			0.5000	12	2.0000	8	5.0000	2	10.000	-14	20.000	-10	50.000	-1	75.000	1	100.00	2
Hexachlorobutadiene			0.5000	3	2.0000	12	5.0000	3	10.000	**-25**	20.000	-13	50.000	5	75.000	7	100.00	8
Naphthalene			0.5000	17	2.0000	5	5.0000	6	10.000	-9	20.000	-9	50.000	-5	75.000	-4	100.00	-1
1,2,3-Trichlorobenzene			0.5000	7	2.0000	7	5.0000	5	10.000	-12	20.000	-11	50.000	-1	75.000	1	100.00	3
Dibromofluoromethane	50.000	-3	50.000	-1	50.000	-1	50.000	0	50.000	1	50.000	1	50.000	-1	50.000	0	50.000	3
1,2-Dichloroethane-d4	50.000	1	50.000	2	50.000	2	50.000	2	50.000	0	50.000	3	50.000	-3	50.000	-5	50.000	0
Toluene-d8	50.000	0	50.000	-2	50.000	-2	50.000	2	50.000	1	50.000	0	50.000	0	50.000	0	50.000	2
Bromofluorobenzene	50.000	-2	50.000	-1	50.000	1	50.000	2	50.000	-2	50.000	-2	50.000	4	50.000	0	50.000	0

DAR 04/16/15 [1,2-Dichloroethane]: Combined split peak1PPB (cdf21).

DAR 04/16/15 [1,3-Dichloropropane]: Combined split peak in 20PPB (cdf25).

DAR 04/16/15 [tert-Butyl Alcohol (TBA)]: insufficient secondary ion in the lowpoint, RL raised to 20ppb.

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

425152069005

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA03 Name : 8260GX3W
Calnum : 425152069005 Cal Date : 15-APR-2015 Type : WATER

ICV 425152069029 (cdf29 16-APR-2015) stds: S24978 (10000X), S26911 (5000X)
ICV 425152069030 (cdf30 16-APR-2015) stds: S26876 (10000X), S27022 (10000X), S26759 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	425152069029	20.00	17.25	ug/L	-14	30	
Chloromethane	425152069029	20.00	18.57	ug/L	-7	30	
Vinyl Chloride	425152069029	20.00	18.70	ug/L	-6	20	
Bromomethane	425152069029	20.00	15.49	ug/L	**-23**	30	!v-
Chloroethane	425152069029	20.00	17.71	ug/L	-11	30	
Trichlorofluoromethane	425152069029	20.00	18.61	ug/L	-7	30	
Acetone	425152069030	25.00	22.86	ug/L	-9	40	
Freon 113	425152069030	25.00	23.54	ug/L	-6	30	
1,1-Dichloroethene	425152069030	25.00	23.91	ug/L	-4	20	
Methylene Chloride	425152069030	25.00	22.93	ug/L	-8	30	
Carbon Disulfide	425152069030	25.00	24.87	ug/L	-1	30	
MTBE	425152069030	25.00	23.95	ug/L	-4	30	
trans-1,2-Dichloroethene	425152069030	25.00	23.49	ug/L	-6	30	
Vinyl Acetate	425152069030	25.00	25.35	ug/L	1	40	
1,1-Dichloroethane	425152069030	25.00	23.37	ug/L	-7	30	
2-Butanone	425152069030	25.00	24.29	ug/L	-3	40	
2,2-Dichloropropane	425152069030	25.00	22.78	ug/L	-9	30	
cis-1,2-Dichloroethene	425152069030	25.00	23.59	ug/L	-6	30	
Chloroform	425152069030	25.00	23.72	ug/L	-5	20	
Bromochloromethane	425152069030	25.00	24.79	ug/L	-1	30	
1,1,1-Trichloroethane	425152069030	25.00	24.82	ug/L	-1	30	
1,1-Dichloropropene	425152069030	25.00	23.79	ug/L	-5	30	
Carbon Tetrachloride	425152069030	25.00	24.22	ug/L	-3	30	
1,2-Dichloroethane	425152069030	25.00	24.05	ug/L	-4	30	
Benzene	425152069030	25.00	24.21	ug/L	-3	30	
Trichloroethene	425152069030	25.00	24.07	ug/L	-4	30	
1,2-Dichloropropane	425152069030	25.00	22.19	ug/L	-11	20	
Bromodichloromethane	425152069030	25.00	23.19	ug/L	-7	30	
Dibromomethane	425152069030	25.00	24.90	ug/L	0	30	
4-Methyl-2-Pentanone	425152069030	25.00	23.01	ug/L	-8	40	
cis-1,3-Dichloropropene	425152069030	25.00	23.62	ug/L	-6	30	
Toluene	425152069030	25.00	25.55	ug/L	2	20	
trans-1,3-Dichloropropene	425152069030	25.00	22.43	ug/L	-10	30	
1,1,2-Trichloroethane	425152069030	25.00	23.74	ug/L	-5	30	
2-Hexanone	425152069030	25.00	24.40	ug/L	-2	40	
1,3-Dichloropropane	425152069030	25.00	24.33	ug/L	-3	30	
Tetrachloroethene	425152069030	25.00	25.35	ug/L	1	30	
Dibromochloromethane	425152069030	25.00	24.67	ug/L	-1	30	
1,2-Dibromoethane	425152069030	25.00	24.82	ug/L	-1	30	
Chlorobenzene	425152069030	25.00	24.38	ug/L	-2	30	
1,1,1,2-Tetrachloroethane	425152069030	25.00	23.50	ug/L	-6	30	
Ethylbenzene	425152069030	25.00	24.68	ug/L	-1	20	
m,p-Xylenes	425152069030	50.00	48.99	ug/L	-2	30	
o-Xylene	425152069030	25.00	23.81	ug/L	-5	30	
Styrene	425152069030	25.00	24.21	ug/L	-3	30	
Bromoform	425152069030	25.00	23.89	ug/L	-4	30	
Isopropylbenzene	425152069030	25.00	23.91	ug/L	-4	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	425152069030	25.00	23.23	ug/L	-7	30	
1,2,3-Trichloropropane	425152069030	25.00	26.39	ug/L	6	30	
Propylbenzene	425152069030	25.00	24.66	ug/L	-1	30	
Bromobenzene	425152069030	25.00	24.61	ug/L	-2	30	
1,3,5-Trimethylbenzene	425152069030	25.00	25.28	ug/L	1	30	
2-Chlorotoluene	425152069030	25.00	24.56	ug/L	-2	30	
4-Chlorotoluene	425152069030	25.00	23.76	ug/L	-5	30	
tert-Butylbenzene	425152069030	25.00	24.53	ug/L	-2	30	
1,2,4-Trimethylbenzene	425152069030	25.00	23.82	ug/L	-5	30	
sec-Butylbenzene	425152069030	25.00	24.73	ug/L	-1	30	
para-Isopropyl Toluene	425152069030	25.00	24.53	ug/L	-2	30	
1,3-Dichlorobenzene	425152069030	25.00	24.96	ug/L	0	30	
1,4-Dichlorobenzene	425152069030	25.00	24.94	ug/L	0	30	
n-Butylbenzene	425152069030	25.00	24.53	ug/L	-2	30	
1,2-Dichlorobenzene	425152069030	25.00	24.21	ug/L	-3	30	
1,2-Dibromo-3-Chloropropane	425152069030	25.00	22.71	ug/L	-9	30	
1,2,4-Trichlorobenzene	425152069030	25.00	24.24	ug/L	-3	30	
Hexachlorobutadiene	425152069030	25.00	25.52	ug/L	2	30	
Naphthalene	425152069030	25.00	22.70	ug/L	-9	30	
1,2,3-Trichlorobenzene	425152069030	25.00	25.07	ug/L	0	30	

425152069029: Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15
425152069030: Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

!=warning -=low bias v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSVOA Water: EPA 8260B

Inst : MSVOA10 Name : 826GOX10
Calnum : 495052755001 Date : 05-FEB-2015 23:42 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	jb512	495052755012	0.25/0.5PPB	05-FEB-2015 23:42	S26396 (2000000X), S24979 (1000000X), S26526 (2500X)
L2	jb513	495052755013	0.5/1PPB	06-FEB-2015 00:13	S24977 (1000000X), S26560 (1000000X), S26396 (1000000X), S24979 (500000X), S26526 (2500X)
L3	jb514	495052755014	2PPB	06-FEB-2015 00:44	S24977 (500000X), S26560 (250000X), S26396 (250000X), S24979 (250000X), S26526 (2500X)
L4	jb515	495052755015	5PPB	06-FEB-2015 01:14	S24977 (200000X), S26560 (100000X), S26396 (100000X), S24979 (100000X), S26526 (2500X)
L5	jb516	495052755016	10PPB	06-FEB-2015 01:45	S24977 (100000X), S26560 (50000X), S26396 (50000X), S24979 (50000X), S26526 (2500X)
L6	jb517	495052755017	20PPB	06-FEB-2015 02:16	S24977 (50000X), S26560 (25000X), S26396 (25000X), S24979 (25000X), S26526 (2500X)
L7	jb518	495052755018	50PPB	06-FEB-2015 02:47	S24977 (20000X), S26560 (10000X), S26396 (10000X), S24979 (10000X), S26526 (2500X)
L8	jb519	495052755019	75PPB	06-FEB-2015 03:18	S24977 (13330X), S26560 (6667X), S26396 (6667X), S24979 (6667X), S26526 (2500X)
L9	jb520	495052755020	100PPB	06-FEB-2015 03:49	S24977 (10000X), S26560 (5000X), S26396 (5000X), S24979 (5000X), S26526 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7200	0.7451m	0.8762	0.7208	0.6960	0.6389	0.6668	0.6609	AVRG		1.39743		0.7156	10	15	0.05	0.99	
Chloromethane	1.1933	1.2818	1.1197	1.2258	1.1109	1.0486	0.9426	0.9730	0.9073	AVRG		0.91809		1.0892	12	15	0.10	0.99	
Vinyl Chloride	0.7817	0.9720m	0.9155	0.9942m	0.8852	0.8307	0.7593	0.7691	0.7363	AVRG		1.17739		0.8493	11	15	0.05	0.99	
Bromomethane		0.5414	0.5647	0.5824	0.5280	0.5145	0.4859	0.5045	0.4923	AVRG		1.89857		0.5267	7	15	0.05	0.99	
Chloroethane		0.5721	0.5790	0.5959	0.5419	0.5287	0.4890	0.4966	0.4727	AVRG		1.87092		0.5345	9	15	0.05	0.99	
Trichlorofluoromethane		1.0020	1.0131	1.1562	1.0019	0.9429	0.8883	0.9107	0.8904	AVRG		1.02490		0.9757	9	15	0.05	0.99	
Acetone			0.5128	0.4662	0.3925	0.4166	0.3674	0.3615	0.3758	AVRG		2.41983		0.4133	14	15	0.05	0.99	
Freon 113			0.5620	0.5767	0.5236	0.5341	0.5023	0.4860	0.4818	AVRG		1.90918		0.5238	7	15	0.05	0.99	
1,1-Dichloroethene		0.4993	0.5135	0.5326	0.4759	0.5052	0.4701	0.4779	0.4626	AVRG		2.03197		0.4921	5	15	0.05	0.99	
Methylene Chloride		0.6928	0.6848	0.7158	0.6763	0.6506	0.6552	0.6657	0.6522	AVRG		1.48330		0.6742	3	15	0.05	0.99	
Carbon Disulfide		2.1802	2.1319	2.1963	2.0551	2.0269	1.8866	1.8940	1.8560	AVRG		0.49300		2.0284	7	15	0.05	0.99	
MTBE		2.0578	2.0223	2.1270	1.9500	1.9035	1.8303	1.8291	1.7568	AVRG		0.51690		1.9346	7	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5917	0.6014	0.6057	0.5815	0.5828	0.5553	0.5657	0.5500	AVRG		1.72633		0.5793	4	15	0.05	0.99	
Vinyl Acetate				0.9843	0.9642	0.8943	0.9551	1.0593	0.9550	AVRG		1.03230		0.9687	6	15	0.05	0.99	
1,1-Dichloroethane		1.4531	1.3966	1.4640	1.3806	1.3453	1.2564	1.2484	1.1707	AVRG		0.74661		1.3394	8	15	0.10	0.99	
2-Butanone				0.5369	0.4890	0.4919	0.4547	0.4471	0.4530	AVRG		2.08881		0.4787	7	15	0.05	0.99	
2,2-Dichloropropane		1.0050	0.9369	0.9579	0.8991	0.8855	0.8104	0.7842	0.7384	AVRG		1.14004		0.8772	10	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6240	0.6904	0.6785	0.6445	0.6364	0.6263	0.6313	0.6154	AVRG		1.55436		0.6434	4	15	0.05	0.99	
Chloroform		1.3821	1.2397	1.3161	1.2331	1.2004	1.1243	1.1062	1.0572	AVRG		0.82822		1.2074	9	15	0.05	0.99	
Bromochloromethane		0.2969	0.3233	0.3388	0.3260	0.3207	0.3293	0.3379	0.3312	AVRG		3.07196		0.3255	4	15	0.05	0.99	
1,1,1-Trichloroethane		0.9230	0.9601	0.9344	0.9385	0.9308	0.8579	0.8415	0.8022	AVRG		1.11291		0.8985	6	15	0.05	0.99	
1,1-Dichloropropene		0.6346	0.6106	0.5925	0.5617	0.5771	0.5451	0.5334	0.4940	AVRG		1.75865		0.5686	8	15	0.05	0.99	
Carbon Tetrachloride		0.5027	0.4792	0.4774	0.4647	0.4858	0.4506	0.4425	0.4118	AVRG		2.15365		0.4643	6	15	0.05	0.99	
1,2-Dichloroethane		0.7522	0.7258	0.7686	0.6972	0.6987	0.6515	0.6269	0.5945	AVRG		1.45048		0.6894	9	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5955	1.5498	1.5987	1.4798	1.4985	1.4439	1.4355	1.3590	AVRG		0.66886		1.4951	6	15	0.05	0.99	
Trichloroethene		0.4183	0.4091	0.4142	0.3913	0.4097	0.3867	0.3905	0.3830	AVRG		2.49782		0.4003	3	15	0.05	0.99	
1,2-Dichloropropane		0.5200	0.5002	0.5217m	0.4687	0.4896	0.4649	0.4658	0.4440	AVRG		2.06457		0.4844	6	15	0.05	0.99	
Bromodichloromethane		0.5727	0.5832	0.6325	0.5890	0.5967	0.5784	0.5842	0.5568	AVRG		1.70445		0.5867	4	15	0.05	0.99	
Dibromomethane		0.3044	0.3106	0.3088	0.3004	0.2988	0.2949	0.2972	0.2894	AVRG		3.32702		0.3006	2	15	0.05	0.99	
4-Methyl-2-Pentanone				0.5905	0.5533	0.5623	0.5691	0.5590	0.5772	AVRG		1.75887		0.5685	2	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6562	0.6577	0.6951	0.6677	0.6842	0.6684	0.6731	0.6429	AVRG		1.49665		0.6682	2	15	0.05	0.99	
Toluene		1.0720	1.0784	1.0924	1.0502	1.0513	1.0110	1.0183	0.9900	AVRG		0.95652		1.0455	3	15	0.05	0.99	
trans-1,3-Dichloropropene		0.7118	0.6669	0.7483	0.6914	0.7069	0.6968	0.6916	0.6828	AVRG		1.42949		0.6996	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.2157	0.2475	0.2527	0.2465	0.2362	0.2368	0.2402	0.2358	AVRG		4.18505		0.2389	5	15	0.05	0.99	
2-Hexanone				0.3721	0.3744	0.3847	0.4284	0.4177	0.4596	AVRG		2.46219		0.4061	9	15	0.05	0.99	
1,3-Dichloropropane		0.7704	0.7965	0.8339	0.7816	0.7746	0.7614	0.7373	0.7344	AVRG		1.29239		0.7738	4	15	0.05	0.99	
Tetrachloroethene		0.4103	0.4076	0.4114	0.4001	0.4113	0.4061	0.4037	0.4074	AVRG		2.45558		0.4072	1	15	0.05	0.99	
Dibromochloromethane		0.4356	0.4572	0.4972	0.4843	0.4782	0.4920	0.5065	0.4988	AVRG		2.07800		0.4812	5	15	0.05	0.99	
1,2-Dibromoethane		0.3744	0.4435	0.4571	0.4376	0.4388	0.4442	0.4514	0.4552	AVRG		2.28423		0.4378	6	15	0.05	0.99	
Chlorobenzene		1.1235	1.1661	1.1597	1.1019	1.1030	1.0896	1.0841	1.0648	AVRG		0.89963		1.1116	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3591	0.4004	0.4183	0.4126	0.4086	0.4106	0.4107	0.4107	AVRG		2.47586		0.4039	5	15	0.05	0.99	
Ethylbenzene		2.0799	2.1015	2.0978	2.0228	2.0023	1.8702	1.7861	1.7335	AVRG		0.50975		1.9618	7	15	0.05	0.99	
m,p-Xylenes	0.7071	0.6294	0.6895	0.6940	0.6778	0.6830	0.6715	0.6620	0.6462	AVRG		1.48502		0.6734	4	15	0.05	0.99	
o-Xylene		0.5943	0.6283	0.6658	0.6521	0.6704	0.6792	0.6783	0.6662	AVRG		1.52828		0.6543	4	15	0.05	0.99	
Styrene		1.0119	1.0540	1.1558	1.1576	1.2079	1.2371	1.2408	1.1911	AVRG		0.86429		1.1570	7	15	0.05	0.99	
Bromoform		0.2094	0.2757	0.3074	0.3150	0.3230	0.3430	0.3541	0.3475	AVRG		3.23212		0.3094	15	15	0.10	0.99	
Isopropylbenzene		4.0805	3.8570	3.9751	3.6328	3.6697	3.4409	3.2053	3.0739	AVRG		0.27648		3.6169	10	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.2852	1.2136	1.2701	1.1512	1.1111	1.0564	1.0467	1.0399	AVRG		0.87201		1.1468	9	15	0.30	0.99	
1,2,3-Trichloropropane		1.4019	1.2382	1.3190	1.0960	1.0800	0.9962	0.9628	0.9457	AVRG		0.88499		1.1300	15	15	0.05	0.99	
Propylbenzene		4.6469	4.3546	4.7909	4.4771	4.4759	4.1443	3.8595	3.6983	AVRG		0.23224		4.3060	9	15	0.05	0.99	
Bromobenzene		1.1197	0.9459	1.0758	0.9840	0.9911	0.9608	0.9637	0.9591	AVRG		0.99999		1.0000	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.7964	2.8019	2.8336	2.8206	2.8874	2.7151	2.5826	2.5288	AVRG		0.36419		2.7458	5	15	0.05	0.99	
2-Chlorotoluene		3.7702	3.4710	3.5555	3.2554	3.1988	2.8756	2.7201	2.5787	AVRG		0.31465		3.1782	13	15	0.05	0.99	
4-Chlorotoluene		3.3585	3.0137	3.1933	2.8930	2.8492	2.6993	2.5674	2.5238	AVRG		0.34635		2.8873	10	15	0.05	0.99	
tert-Butylbenzene		2.3736	2.2773	2.4316	2.3282	2.3894	2.3481	2.2056	2.2390	AVRG		0.43028		2.3241	3	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.6441	2.4735	2.5929	2.5615	2.6183	2.6631	2.5504	2.5599	AVRG		0.38716		2.5829	2	15	0.05	0.99	
sec-Butylbenzene		3.3514	3.4433	3.6630	3.5277	3.6279	3.6391	3.3886	3.3609	AVRG		0.28569		3.5002	4	15	0.05	0.99	
para-Isopropyl Toluene		2.3776	2.4086	2.5805	2.5510	2.6590	2.7715	2.6488	2.7277	AVRG		0.38602		2.5906	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.8227	1.6950	1.8321	1.6981	1.7086	1.6837	1.7444	1.6544	AVRG		0.57808		1.7299	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.8639	1.7326	1.8446	1.6865	1.6853	1.6716	1.6618	1.6619	AVRG		0.57936		1.7260	5	15	0.05	0.99	
n-Butylbenzene		3.0117	2.3175	2.3703	2.2201	2.3418	2.4260	2.3264	2.4226	AVRG		0.41160		2.4296	10	15	0.05	0.99	
1,2-Dichlorobenzene		1.6828	1.6233	1.6917	1.6331	1.6417	1.6194	1.6176	1.5972	AVRG		0.61036		1.6384	2	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1978	0.1800	0.1735	0.1761	0.1810	0.1744	0.1802	AVRG		5.54231		0.1804	5	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.9896	0.8408	0.8444	0.7605	0.7734	0.7979	0.7924	0.8406	AVRG		1.20491		0.8299	9	15	0.05	0.99	
Hexachlorobutadiene		0.3478	0.3840	0.4367	0.4108	0.4406	0.4551	0.4319	0.4509	AVRG		2.38247		0.4197	9	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		2.4361	1.9481	1.9968	1.8420	1.7589	1.7477	1.7264	1.7987	AVRG		0.52443		1.9068	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.9061	0.7404	0.7739	0.6986	0.6977	0.7415	0.7343	0.7857	AVRG		1.31617		0.7598	9	15	0.05	0.99	
Dibromofluoromethane	0.5993	0.6291	0.6044	0.6057	0.6330	0.6055	0.5949	0.5974	0.5851	AVRG		1.65001		0.6061	3	15	0.05	0.99	
1,2-Dichloroethane-d4	0.5398	0.5422	0.5347	0.5343	0.5169	0.5031	0.4564	0.4318	0.3982	AVRG		2.01902		0.4953	11	15	0.05	0.99	
Toluene-d8	1.3617	1.3871	1.3766	1.3745	1.3766	1.3634	1.3069	1.3411	1.3332	AVRG		0.73643		1.3579	2	15	0.05	0.99	
Bromofluorobenzene	1.2724	1.2981	1.2201	1.2356	1.1561	1.1360	1.0830	1.0708	1.0535	AVRG		0.85506		1.1695	8	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	1	2.0000	4	5.0000	**22**	10.000	1	20.000	-3	50.000	-11	75.000	-7	100.00	-8
Chloromethane	0.5000	10	1.0000	18	2.0000	3	5.0000	13	10.000	2	20.000	-4	50.000	-13	75.000	-11	100.00	-17
Vinyl Chloride	0.5000	-8	1.0000	14	2.0000	8	5.0000	17	10.000	4	20.000	-2	50.000	-11	75.000	-9	100.00	-13
Bromomethane			1.0000	3	2.0000	7	5.0000	11	10.000	0	20.000	-2	50.000	-8	75.000	-4	100.00	-7
Chloroethane			1.0000	7	2.0000	8	5.0000	11	10.000	1	20.000	-1	50.000	-9	75.000	-7	100.00	-12
Trichlorofluoromethane			1.0000	3	2.0000	4	5.0000	18	10.000	3	20.000	-3	50.000	-9	75.000	-7	100.00	-9
Acetone					2.0000	**24**	5.0000	13	10.000	-5	20.000	1	50.000	-11	75.000	-13	100.00	-9
Freon 113					2.0000	7	5.0000	10	10.000	0	20.000	2	50.000	-4	75.000	-7	100.00	-8
1,1-Dichloroethene			0.5000	1	2.0000	4	5.0000	8	10.000	-3	20.000	3	50.000	-4	75.000	-3	100.00	-6
Methylene Chloride			0.5000	3	2.0000	2	5.0000	6	10.000	0	20.000	-4	50.000	-3	75.000	-1	100.00	-3
Carbon Disulfide			0.5000	7	2.0000	5	5.0000	8	10.000	1	20.000	0	50.000	-7	75.000	-7	100.00	-8
MTBE			0.5000	6	2.0000	5	5.0000	10	10.000	1	20.000	-2	50.000	-5	75.000	-5	100.00	-9
trans-1,2-Dichloroethene			0.5000	2	2.0000	4	5.0000	5	10.000	0	20.000	1	50.000	-4	75.000	-2	100.00	-5
Vinyl Acetate							5.0000	2	10.000	0	20.000	-8	50.000	-1	75.000	9	100.00	-1
1,1-Dichloroethane			0.5000	8	2.0000	4	5.0000	9	10.000	3	20.000	0	50.000	-6	75.000	-7	100.00	-13
2-Butanone							5.0000	12	10.000	2	20.000	3	50.000	-5	75.000	-7	100.00	-5
2,2-Dichloropropane			0.5000	15	2.0000	7	5.0000	9	10.000	3	20.000	1	50.000	-8	75.000	-11	100.00	-16
cis-1,2-Dichloroethene			0.5000	-3	2.0000	7	5.0000	5	10.000	0	20.000	-1	50.000	-3	75.000	-2	100.00	-4
Chloroform			0.5000	14	2.0000	3	5.0000	9	10.000	2	20.000	-1	50.000	-7	75.000	-8	100.00	-12
Bromochloromethane			0.5000	-9	2.0000	-1	5.0000	4	10.000	0	20.000	-1	50.000	1	75.000	4	100.00	2
1,1,1-Trichloroethane			0.5000	3	2.0000	7	5.0000	4	10.000	4	20.000	4	50.000	-5	75.000	-6	100.00	-11
1,1-Dichloropropene			0.5000	12	2.0000	7	5.0000	4	10.000	-1	20.000	1	50.000	-4	75.000	-6	100.00	-13
Carbon Tetrachloride			0.5000	8	2.0000	3	5.0000	3	10.000	0	20.000	5	50.000	-3	75.000	-5	100.00	-11
1,2-Dichloroethane			0.5000	9	2.0000	5	5.0000	11	10.000	1	20.000	1	50.000	-6	75.000	-9	100.00	-14
Benzene			0.5000	7	2.0000	4	5.0000	7	10.000	-1	20.000	0	50.000	-3	75.000	-4	100.00	-9
Trichloroethene			0.5000	4	2.0000	2	5.0000	3	10.000	-2	20.000	2	50.000	-3	75.000	-2	100.00	-4
1,2-Dichloropropane			0.5000	7	2.0000	3	5.0000	8	10.000	-3	20.000	1	50.000	-4	75.000	-4	100.00	-8
Bromodichloromethane			0.5000	-2	2.0000	-1	5.0000	8	10.000	0	20.000	2	50.000	-1	75.000	0	100.00	-5
Dibromomethane			0.5000	1	2.0000	3	5.0000	3	10.000	0	20.000	-1	50.000	-2	75.000	-1	100.00	-4
4-Methyl-2-Pentanone							5.0000	4	10.000	-3	20.000	-1	50.000	0	75.000	-2	100.00	2
cis-1,3-Dichloropropene			0.5000	-2	2.0000	-2	5.0000	4	10.000	0	20.000	2	50.000	0	75.000	1	100.00	-4
Toluene			0.5000	3	2.0000	3	5.0000	4	10.000	0	20.000	1	50.000	-3	75.000	-3	100.00	-5
trans-1,3-Dichloropropene			0.5000	2	2.0000	-5	5.0000	7	10.000	-1	20.000	1	50.000	0	75.000	-1	100.00	-2
1,1,2-Trichloroethane			0.5000	-10	2.0000	4	5.0000	6	10.000	3	20.000	-1	50.000	-1	75.000	1	100.00	-1
2-Hexanone							5.0000	-8	10.000	-8	20.000	-5	50.000	5	75.000	3	100.00	13
1,3-Dichloropropane			0.5000	0	2.0000	3	5.0000	8	10.000	1	20.000	0	50.000	-2	75.000	-5	100.00	-5
Tetrachloroethene			0.5000	1	2.0000	0	5.0000	1	10.000	-2	20.000	1	50.000	0	75.000	-1	100.00	0
Dibromochloromethane			0.5000	-9	2.0000	-5	5.0000	3	10.000	1	20.000	-1	50.000	2	75.000	5	100.00	4
1,2-Dibromoethane			0.5000	-14	2.0000	1	5.0000	4	10.000	0	20.000	0	50.000	1	75.000	3	100.00	4
Chlorobenzene			0.5000	1	2.0000	5	5.0000	4	10.000	-1	20.000	-1	50.000	-2	75.000	-2	100.00	-4
1,1,1,2-Tetrachloroethane			0.5000	-11	2.0000	-1	5.0000	4	10.000	2	20.000	1	50.000	2	75.000	2	100.00	2
Ethylbenzene			0.5000	6	2.0000	7	5.0000	7	10.000	3	20.000	2	50.000	-5	75.000	-9	100.00	-12

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	5	1.0000	-7	4.0000	2	10.000	3	20.000	1	40.000	1	100.00	0	150.00	-2	200.00	-4
o-Xylene			0.5000	-9	2.0000	-4	5.0000	2	10.000	0	20.000	2	50.000	4	75.000	4	100.00	2
Styrene			0.5000	-13	2.0000	-9	5.0000	0	10.000	0	20.000	4	50.000	7	75.000	7	100.00	3
Bromoform			0.5000	**-32**	2.0000	-11	5.0000	-1	10.000	2	20.000	4	50.000	11	75.000	14	100.00	12
Isopropylbenzene			0.5000	13	2.0000	7	5.0000	10	10.000	0	20.000	1	50.000	-5	75.000	-11	100.00	-15
1,1,2,2-Tetrachloroethane			0.5000	12	2.0000	6	5.0000	11	10.000	0	20.000	-3	50.000	-8	75.000	-9	100.00	-9
1,2,3-Trichloropropane			0.5000	**24**	2.0000	10	5.0000	17	10.000	-3	20.000	-4	50.000	-12	75.000	-15	100.00	-16
Propylbenzene			0.5000	8	2.0000	1	5.0000	11	10.000	4	20.000	4	50.000	-4	75.000	-10	100.00	-14
Bromobenzene			0.5000	12	2.0000	-5	5.0000	8	10.000	-2	20.000	-1	50.000	-4	75.000	-4	100.00	-4
1,3,5-Trimethylbenzene			0.5000	2	2.0000	2	5.0000	3	10.000	3	20.000	5	50.000	-1	75.000	-6	100.00	-8
2-Chlorotoluene			0.5000	19	2.0000	9	5.0000	12	10.000	2	20.000	1	50.000	-10	75.000	-14	100.00	-19
4-Chlorotoluene			0.5000	16	2.0000	4	5.0000	11	10.000	0	20.000	-1	50.000	-7	75.000	-11	100.00	-13
tert-Butylbenzene			0.5000	2	2.0000	-2	5.0000	5	10.000	0	20.000	3	50.000	1	75.000	-5	100.00	-4
1,2,4-Trimethylbenzene			0.5000	2	2.0000	-4	5.0000	0	10.000	-1	20.000	1	50.000	3	75.000	-1	100.00	-1
sec-Butylbenzene			0.5000	-4	2.0000	-2	5.0000	5	10.000	1	20.000	4	50.000	4	75.000	-3	100.00	-4
para-Isopropyl Toluene			0.5000	-8	2.0000	-7	5.0000	0	10.000	-2	20.000	3	50.000	7	75.000	2	100.00	5
1,3-Dichlorobenzene			0.5000	5	2.0000	-2	5.0000	6	10.000	-2	20.000	-1	50.000	-3	75.000	1	100.00	-4
1,4-Dichlorobenzene			0.5000	8	2.0000	0	5.0000	7	10.000	-2	20.000	-2	50.000	-3	75.000	-4	100.00	-4
n-Butylbenzene			0.5000	**24**	2.0000	-5	5.0000	-2	10.000	-9	20.000	-4	50.000	0	75.000	-4	100.00	0
1,2-Dichlorobenzene			0.5000	3	2.0000	-1	5.0000	3	10.000	0	20.000	0	50.000	-1	75.000	-1	100.00	-3
1,2-Dibromo-3-Chloropropane					2.0000	10	5.0000	0	10.000	-4	20.000	-2	50.000	0	75.000	-3	100.00	0
1,2,4-Trichlorobenzene			0.5000	19	2.0000	1	5.0000	2	10.000	-8	20.000	-7	50.000	-4	75.000	-5	100.00	1
Hexachlorobutadiene			0.5000	-17	2.0000	-9	5.0000	4	10.000	-2	20.000	5	50.000	8	75.000	3	100.00	7
Naphthalene			0.5000	**28**	2.0000	2	5.0000	5	10.000	-3	20.000	-8	50.000	-8	75.000	-9	100.00	-6
1,2,3-Trichlorobenzene			0.5000	19	2.0000	-3	5.0000	2	10.000	-8	20.000	-8	50.000	-2	75.000	-3	100.00	3
Dibromofluoromethane	50.000	-1	50.000	4	50.000	0	50.000	0	50.000	4	50.000	0	50.000	-2	50.000	-1	50.000	-3
1,2-Dichloroethane-d4	50.000	9	50.000	9	50.000	8	50.000	8	50.000	4	50.000	2	50.000	-8	50.000	-13	50.000	-20
Toluene-d8	50.000	0	50.000	2	50.000	1	50.000	1	50.000	1	50.000	0	50.000	-4	50.000	-1	50.000	-2
Bromofluorobenzene	50.000	9	50.000	11	50.000	4	50.000	6	50.000	-1	50.000	-3	50.000	-7	50.000	-8	50.000	-10

DAR 02/06/15 [Freon 12]: Combined split peak in 2PPB (jb514).

DAR 02/06/15 [Vinyl Chloride]: Combined split peak in multiple levels.

DAR 02/06/15 [Ethanol]: Combined split peak in multiple levels.

DAR 02/06/15 [1,2-Dichloropropane]: Corrected automatically drawn baseline in 5PPB (jb515).

DAR 02/06/15 [2-Chloroethylvinylether]: Average RF under 0.05, not usable

Analyst: DAR Date: 02/06/15 Reviewer: LW Date: 02/09/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

495052755001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA10 Name : 826GOX10
Calnum : 495052755001 Cal Date : 05-FEB-2015 Type : WATER

ICV 495052755021 (jb521 06-FEB-2015) stds: S24978 (10000X), S26526 (2500X)
ICV 495052755022 (jb522 06-FEB-2015) stds: S26221 (10000X), S26275 (10000X), S26249 (10000X), S26526 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	495052755021	20.00	20.67	ug/L	3	30	
Chloromethane	495052755021	20.00	18.07	ug/L	-10	30	
Vinyl Chloride	495052755021	20.00	18.96	ug/L	-5	20	
Bromomethane	495052755021	20.00	17.20	ug/L	-14	30	
Chloroethane	495052755021	20.00	18.98	ug/L	-5	30	
Trichlorofluoromethane	495052755021	20.00	18.51	ug/L	-7	30	
Acetone	495052755022	25.00	17.54	ug/L	**-30**	40	!v-
Freon 113	495052755022	25.00	20.08	ug/L	-20	30	
1,1-Dichloroethene	495052755022	25.00	23.86	ug/L	-5	20	
Methylene Chloride	495052755022	25.00	23.96	ug/L	-4	30	
Carbon Disulfide	495052755022	25.00	24.95	ug/L	0	30	
MTBE	495052755022	25.00	23.27	ug/L	-7	30	
trans-1,2-Dichloroethene	495052755022	25.00	24.02	ug/L	-4	30	
Vinyl Acetate	495052755022	25.00	30.63	ug/L	**23**	40	!v+
1,1-Dichloroethane	495052755022	25.00	23.06	ug/L	-8	30	
2-Butanone	495052755022	25.00	21.33	ug/L	-15	40	
2,2-Dichloropropane	495052755022	25.00	21.72	ug/L	-13	30	
cis-1,2-Dichloroethene	495052755022	25.00	24.75	ug/L	-1	30	
Chloroform	495052755022	25.00	23.68	ug/L	-5	20	
Bromochloromethane	495052755022	25.00	25.95	ug/L	4	30	
1,1,1-Trichloroethane	495052755022	25.00	24.35	ug/L	-3	30	
1,1-Dichloropropene	495052755022	25.00	23.32	ug/L	-7	30	
Carbon Tetrachloride	495052755022	25.00	24.44	ug/L	-2	30	
1,2-Dichloroethane	495052755022	25.00	23.56	ug/L	-6	30	
Benzene	495052755022	25.00	23.97	ug/L	-4	30	
Trichloroethene	495052755022	25.00	25.19	ug/L	1	30	
1,2-Dichloropropane	495052755022	25.00	23.75	ug/L	-5	20	
Bromodichloromethane	495052755022	25.00	24.89	ug/L	0	30	
Dibromomethane	495052755022	25.00	24.69	ug/L	-1	30	
4-Methyl-2-Pentanone	495052755022	25.00	22.30	ug/L	-11	40	
cis-1,3-Dichloropropene	495052755022	25.00	25.83	ug/L	3	30	
Toluene	495052755022	25.00	24.90	ug/L	0	20	
trans-1,3-Dichloropropene	495052755022	25.00	23.96	ug/L	-4	30	
1,1,2-Trichloroethane	495052755022	25.00	24.95	ug/L	0	30	
2-Hexanone	495052755022	25.00	22.25	ug/L	-11	40	
1,3-Dichloropropane	495052755022	25.00	24.62	ug/L	-2	30	
Tetrachloroethene	495052755022	25.00	25.63	ug/L	3	30	
Dibromochloromethane	495052755022	25.00	25.66	ug/L	3	30	
1,2-Dibromoethane	495052755022	25.00	25.24	ug/L	1	30	
Chlorobenzene	495052755022	25.00	25.87	ug/L	3	30	
1,1,1,2-Tetrachloroethane	495052755022	25.00	25.81	ug/L	3	30	
Ethylbenzene	495052755022	25.00	24.50	ug/L	-2	20	
m,p-Xylenes	495052755022	50.00	51.12	ug/L	2	30	
o-Xylene	495052755022	25.00	26.55	ug/L	6	30	
Styrene	495052755022	25.00	26.19	ug/L	5	30	
Bromoform	495052755022	25.00	27.62	ug/L	10	30	
Isopropylbenzene	495052755022	25.00	25.53	ug/L	2	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	495052755022	25.00	24.23	ug/L	-3	30	
1,2,3-Trichloropropane	495052755022	25.00	22.99	ug/L	-8	30	
Propylbenzene	495052755022	25.00	26.60	ug/L	6	30	
Bromobenzene	495052755022	25.00	26.42	ug/L	6	30	
1,3,5-Trimethylbenzene	495052755022	25.00	25.79	ug/L	3	30	
2-Chlorotoluene	495052755022	25.00	24.95	ug/L	0	30	
4-Chlorotoluene	495052755022	25.00	24.85	ug/L	-1	30	
tert-Butylbenzene	495052755022	25.00	26.20	ug/L	5	30	
1,2,4-Trimethylbenzene	495052755022	25.00	25.19	ug/L	1	30	
sec-Butylbenzene	495052755022	25.00	27.19	ug/L	9	30	
para-Isopropyl Toluene	495052755022	25.00	25.77	ug/L	3	30	
1,3-Dichlorobenzene	495052755022	25.00	26.60	ug/L	6	30	
1,4-Dichlorobenzene	495052755022	25.00	25.24	ug/L	1	30	
n-Butylbenzene	495052755022	25.00	24.07	ug/L	-4	30	
1,2-Dichlorobenzene	495052755022	25.00	26.75	ug/L	7	30	
1,2-Dibromo-3-Chloropropane	495052755022	25.00	23.88	ug/L	-4	30	
1,2,4-Trichlorobenzene	495052755022	25.00	25.16	ug/L	1	30	
Hexachlorobutadiene	495052755022	25.00	27.41	ug/L	10	30	
Naphthalene	495052755022	25.00	26.74	ug/L	7	30	
1,2,3-Trichlorobenzene	495052755022	25.00	26.21	ug/L	5	30	

495052755021: Analyst: DAR Date: 02/06/15 Reviewer: LW Date: 02/09/15
495052755022: Analyst: DAR Date: 02/06/15 Reviewer: LW Date: 02/09/15

!=warning +=high bias -=low bias v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : 15PPB IDF : 1.0
Seqnum : 425171890004 File : cdt04 Time : 29-APR-2015 11:41
Cal : 425152069005 Caldate : 15-APR-2015 Caltype : WATER
Standards: S25695 (33330X), S26948 (33330X), S26838 (33330X), S26957 (33330X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5268	0.4678	15.00	13.32	ug/L	-11	30	0.0500	
Chloromethane	0.7176	0.6073	15.00	12.70	ug/L	-15	30	0.1000	
Vinyl Chloride	0.6230	0.5840	15.00	14.06	ug/L	-6	20	0.0500	
Bromomethane	0.3637	0.3250	15.00	13.40	ug/L	-11	30	0.0500	!v-
Chloroethane	0.3581	0.3462	15.00	14.50	ug/L	-3	30	0.0500	
Trichlorofluoromethane	0.5849	0.5456	15.00	13.99	ug/L	-7	30	0.0500	
Acetone	0.1113	0.1093	15.00	14.73	ug/L	-2	40	0.0500	
Freon 113	0.3839	0.4237	15.00	16.55	ug/L	10	30	0.0500	
1,1-Dichloroethene	0.4234	0.4125	15.00	14.61	ug/L	-3	20	0.0500	
Methylene Chloride	0.5526	0.5594	15.00	15.19	ug/L	1	30	0.0500	
Carbon Disulfide	1.5749	1.7491	15.00	16.66	ug/L	11	30	0.0500	
MTBE	1.1384	1.1376	15.00	14.99	ug/L	0	30	0.0500	
trans-1,2-Dichloroethene	0.4970	0.5047	15.00	15.23	ug/L	2	30	0.0500	
Vinyl Acetate	0.7048	0.9149	15.00	19.47	ug/L	**30**	40	0.0500	!c+
1,1-Dichloroethane	0.9178	0.9300	15.00	15.20	ug/L	1	30	0.1000	
2-Butanone	0.1524	0.1790	15.00	17.62	ug/L	17	40	0.0500	
2,2-Dichloropropane	0.6313	0.6884	15.00	16.36	ug/L	9	30	0.0500	
cis-1,2-Dichloroethene	0.5815	0.5870	15.00	15.14	ug/L	1	30	0.0500	
Chloroform	0.9114	0.8979	15.00	14.78	ug/L	-1	20	0.0500	
Bromochloromethane	0.2428	0.2412	15.00	14.91	ug/L	-1	30	0.0500	
1,1,1-Trichloroethane	0.6578	0.6493	15.00	14.81	ug/L	-1	30	0.0500	
1,1-Dichloropropene	0.3946	0.4066	15.00	15.46	ug/L	3	30	0.0500	
Carbon Tetrachloride	0.3064	0.2875	15.00	14.07	ug/L	-6	30	0.0500	
1,2-Dichloroethane	0.3697	0.3507	15.00	14.23	ug/L	-5	30	0.0500	
Benzene	1.1612	1.1571	15.00	14.95	ug/L	0	30	0.0500	
Trichloroethene	0.3044	0.2931	15.00	14.45	ug/L	-4	30	0.0500	
1,2-Dichloropropane	0.3201	0.3387	15.00	15.87	ug/L	6	20	0.0500	
Bromodichloromethane	0.4097	0.4020	15.00	14.72	ug/L	-2	30	0.0500	
Dibromomethane	0.1817	0.1937	15.00	15.99	ug/L	7	30	0.0500	
4-Methyl-2-Pentanone	0.2305	0.2374	15.00	15.45	ug/L	3	40	0.0500	
cis-1,3-Dichloropropene	0.5035	0.5074	15.00	15.11	ug/L	1	30	0.0500	
Toluene	0.7420	0.7442	15.00	15.04	ug/L	0	20	0.0500	
trans-1,3-Dichloropropene	0.4527	0.4627	15.00	15.33	ug/L	2	30	0.0500	
1,1,2-Trichloroethane	0.1417	0.1560	15.00	16.51	ug/L	10	30	0.0500	
2-Hexanone	0.1646	0.1827	15.00	16.65	ug/L	11	40	0.0500	
1,3-Dichloropropane	0.4587	0.4787	15.00	15.66	ug/L	4	30	0.0500	
Tetrachloroethene	0.2796	0.2827	15.00	15.17	ug/L	1	30	0.0500	
Dibromochloromethane	0.2887	0.2789	15.00	14.49	ug/L	-3	30	0.0500	
1,2-Dibromoethane	0.2681	0.2664	15.00	14.90	ug/L	-1	30	0.0500	
Chlorobenzene	0.7996	0.7819	15.00	14.67	ug/L	-2	30	0.3000	
1,1,1,2-Tetrachloroethane	0.2752	0.2679	15.00	14.60	ug/L	-3	30	0.0500	
Ethylbenzene	1.4003	1.4038	15.00	15.04	ug/L	0	20	0.0500	
m,p-Xylenes	0.5114	0.5040	30.00	29.57	ug/L	-1	30	0.0500	
o-Xylene	0.5079	0.5037	15.00	14.88	ug/L	-1	30	0.0500	
Styrene	0.9181	0.9125	15.00	14.91	ug/L	-1	30	0.0500	
Bromoform	0.1798	0.1699	15.00	14.18	ug/L	-5	30	0.1000	
Isopropylbenzene	2.5259	2.4872	15.00	14.77	ug/L	-2	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6267	0.6722	15.00	16.09	ug/L	7	30	0.3000	
1,2,3-Trichloropropane	0.5518	0.5412	15.00	16.61	ug/L	11	30	0.0500	
Propylbenzene	3.1689	3.3008	15.00	15.62	ug/L	4	30	0.0500	
Bromobenzene	0.6546	0.6591	15.00	15.10	ug/L	1	30	0.0500	
1,3,5-Trimethylbenzene	2.0846	2.0285	15.00	14.60	ug/L	-3	30	0.0500	
2-Chlorotoluene	2.1133	2.2065	15.00	15.66	ug/L	4	30	0.0500	
4-Chlorotoluene	2.0462	2.1596	15.00	15.83	ug/L	6	30	0.0500	
tert-Butylbenzene	1.6274	1.6123	15.00	14.86	ug/L	-1	30	0.0500	
1,2,4-Trimethylbenzene	2.1922	2.1521	15.00	14.73	ug/L	-2	30	0.0500	
sec-Butylbenzene	2.6661	2.6869	15.00	15.12	ug/L	1	30	0.0500	
para-Isopropyl Toluene	2.0552	2.0879	15.00	15.24	ug/L	2	30	0.0500	
1,3-Dichlorobenzene	1.1587	1.1676	15.00	15.12	ug/L	1	30	0.0500	
1,4-Dichlorobenzene	1.1649	1.2063	15.00	15.53	ug/L	4	30	0.0500	
n-Butylbenzene	2.0678	2.2642	15.00	16.42	ug/L	9	30	0.0500	
1,2-Dichlorobenzene	1.0909	1.0959	15.00	15.07	ug/L	0	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.0957	0.1023	15.00	16.03	ug/L	7	30	0.0500	
1,2,4-Trichlorobenzene	0.7416	0.7629	15.00	15.43	ug/L	3	30	0.0500	
Hexachlorobutadiene	0.3021	0.3279	15.00	16.28	ug/L	9	30	0.0500	
Naphthalene	1.5151	1.5657	15.00	15.50	ug/L	3	30	0.0500	
1,2,3-Trichlorobenzene	0.6452	0.6627	15.00	15.41	ug/L	3	30	0.0500	
Dibromofluoromethane	0.6069	0.6304	50.00	51.94	ug/L	4	30	0.0500	
1,2-Dichloroethane-d4	0.3740	0.3716	50.00	49.68	ug/L	-1	30	0.0500	
Toluene-d8	1.3238	1.3640	50.00	51.52	ug/L	3	30	0.0500	
Bromofluorobenzene	1.0712	1.0897	50.00	50.86	ug/L	2	30	0.0500	

ISTD (ICAL cdf26)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	420665	420229	-0.10	10.41	10.36	-0.05
1,4-Difluorobenzene	704518	734047	4.19	11.57	11.53	-0.04
Chlorobenzene-d5	660609	667273	1.01	15.64	15.61	-0.03
1,4-Dichlorobenzene-d4	318122	330060	3.75	18.40	18.37	-0.03

LW 04/30/15 [tert-Butyl Alcohol (TBA)]: Both calculated values round to 235.8

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 04/30/15

!=warning +=high bias -=low bias c=CCV v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : QC785831 IDF : 1.0
Seqnum : 495170847004.4 File : jds04 Time : 28-APR-2015 16:49
Cal : 495052755001 Caldate : 05-FEB-2015 Caltype : WATER
Standards: S26876 (20000X), S27022 (20000X), S26759 (20000X), S26358 (20000X), S26941 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7156	0.8017	10.00	11.20	ug/L	12	30	0.0500	?LOD u
Chloromethane	1.0892	1.1540	10.00	10.59	ug/L	6	30	0.1000	u
Vinyl Chloride	0.8493	0.9798	10.00	11.54	ug/L	15	20	0.0500	u
Bromomethane	0.5267	0.4814	10.00	9.139	ug/L	-9	30	0.0500	u
Chloroethane	0.5345	0.5920	10.00	11.08	ug/L	11	30	0.0500	u
Trichlorofluoromethane	0.9757	1.1927	10.00	12.22	ug/L	22	30	0.0500	u
Acetone	0.4133	0.4012	12.50	12.14	ug/L	-3	40	0.0500	!v- m u
Freon 113	0.5238	0.5387	12.50	12.86	ug/L	3	30	0.0500	u
1,1-Dichloroethene	0.4921	0.5230	12.50	13.28	ug/L	6	20	0.0500	u
Methylene Chloride	0.6742	0.7230	12.50	13.41	ug/L	7	30	0.0500	u
Carbon Disulfide	2.0284	2.2350	12.50	13.77	ug/L	10	30	0.0500	u
MTBE	1.9346	2.1938	12.50	14.17	ug/L	13	30	0.0500	u
trans-1,2-Dichloroethene	0.5793	0.6184	12.50	13.35	ug/L	7	30	0.0500	u
Vinyl Acetate	0.9687	2.4684	12.50	31.85	ug/L	**155**	40	0.0500	!v+ ?LOD c+ u ***
1,1-Dichloroethane	1.3394	1.4968	12.50	13.97	ug/L	12	30	0.1000	u
2-Butanone	0.4787	0.5661	12.50	14.78	ug/L	18	40	0.0500	u
cis-1,2-Dichloroethene	0.6434	0.7039	12.50	13.68	ug/L	9	30	0.0500	u
2,2-Dichloropropane	0.8772	1.1751	12.50	16.75	ug/L	**34**	30	0.0500	c+ u ***
Chloroform	1.2074	1.3901	12.50	14.39	ug/L	15	20	0.0500	u
Bromochloromethane	0.3255	0.3531	12.50	13.56	ug/L	8	30	0.0500	u
1,1,1-Trichloroethane	0.8985	1.0937	12.50	15.22	ug/L	22	30	0.0500	u
1,1-Dichloropropene	0.5686	0.6053	12.50	13.31	ug/L	6	30	0.0500	u
Carbon Tetrachloride	0.4643	0.5502	12.50	14.81	ug/L	19	30	0.0500	u
1,2-Dichloroethane	0.6894	0.8191	12.50	14.85	ug/L	19	30	0.0500	u
Benzene	1.4951	1.6280	12.50	13.61	ug/L	9	30	0.0500	u
Trichloroethene	0.4003	0.4412	12.50	13.77	ug/L	10	30	0.0500	u
1,2-Dichloropropane	0.4844	0.5098	12.50	13.16	ug/L	5	20	0.0500	u
Bromodichloromethane	0.5867	0.6476	12.50	13.80	ug/L	10	30	0.0500	u
Dibromomethane	0.3006	0.3317	12.50	13.79	ug/L	10	30	0.0500	u
4-Methyl-2-Pentanone	0.5685	0.7560	12.50	16.62	ug/L	33	40	0.0500	u
cis-1,3-Dichloropropene	0.6682	0.7445	12.50	13.93	ug/L	11	30	0.0500	u
Toluene	1.0455	1.1655	12.50	13.94	ug/L	11	20	0.0500	u
trans-1,3-Dichloropropene	0.6996	0.7987	12.50	14.27	ug/L	14	30	0.0500	u
1,1,2-Trichloroethane	0.2389	0.2613	12.50	13.67	ug/L	9	30	0.0500	u
2-Hexanone	0.4061	0.6269	12.50	19.30	ug/L	**54**	40	0.0500	c+ u ***
1,3-Dichloropropane	0.7738	0.8894	12.50	14.37	ug/L	15	30	0.0500	u
Tetrachloroethene	0.4072	0.4435	12.50	13.61	ug/L	9	30	0.0500	u
Dibromochloromethane	0.4812	0.5269	12.50	13.69	ug/L	9	30	0.0500	u
1,2-Dibromoethane	0.4378	0.4966	12.50	14.18	ug/L	13	30	0.0500	u
Chlorobenzene	1.1116	1.2067	12.50	13.57	ug/L	9	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.4039	0.4633	12.50	14.34	ug/L	15	30	0.0500	u
Ethylbenzene	1.9618	2.2531	12.50	14.36	ug/L	15	20	0.0500	u
m,p-Xylenes	0.6734	0.7855	25.00	29.16	ug/L	17	30	0.0500	u
o-Xylene	0.6543	0.7521	12.50	14.37	ug/L	15	30	0.0500	u
Styrene	1.1570	1.3061	12.50	14.11	ug/L	13	30	0.0500	u
Bromoform	0.3094	0.3489	12.50	14.10	ug/L	13	30	0.1000	u
Isopropylbenzene	3.6169	4.2818	12.50	14.80	ug/L	18	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.1468	1.4352	12.50	15.64	ug/L	25	30	0.3000	u
1,2,3-Trichloropropane	1.1300	1.3825	12.50	15.29	ug/L	22	30	0.0500	u
Propylbenzene	4.3060	5.1192	12.50	14.86	ug/L	19	30	0.0500	u
Bromobenzene	1.0000	1.0999	12.50	13.75	ug/L	10	30	0.0500	u
1,3,5-Trimethylbenzene	2.7458	3.4410	12.50	15.66	ug/L	25	30	0.0500	u
2-Chlorotoluene	3.1782	3.7229	12.50	14.64	ug/L	17	30	0.0500	u
4-Chlorotoluene	2.8873	3.4085	12.50	14.76	ug/L	18	30	0.0500	u
tert-Butylbenzene	2.3241	2.6560	12.50	14.28	ug/L	14	30	0.0500	u
1,2,4-Trimethylbenzene	2.5829	3.0848	12.50	14.93	ug/L	19	30	0.0500	u
sec-Butylbenzene	3.5002	4.0309	12.50	14.40	ug/L	15	30	0.0500	u
para-Isopropyl Toluene	2.5906	2.8486	12.50	13.74	ug/L	10	30	0.0500	u
1,3-Dichlorobenzene	1.7299	1.9035	12.50	13.75	ug/L	10	30	0.0500	u
1,4-Dichlorobenzene	1.7260	1.8936	12.50	13.71	ug/L	10	30	0.0500	u
n-Butylbenzene	2.4296	2.5889	12.50	13.32	ug/L	7	30	0.0500	u
1,2-Dichlorobenzene	1.6384	1.8029	12.50	13.76	ug/L	10	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1804	0.2470	12.50	17.11	ug/L	**37**	30	0.0500	c+ u ***
1,2,4-Trichlorobenzene	0.8299	0.8404	12.50	12.66	ug/L	1	30	0.0500	?LOD u
Hexachlorobutadiene	0.4197	0.4025	12.50	11.99	ug/L	-4	30	0.0500	u
Naphthalene	1.9068	1.8703	12.50	12.26	ug/L	-2	30	0.0500	?LOD u
1,2,3-Trichlorobenzene	0.7598	0.7752	12.50	12.75	ug/L	2	30	0.0500	?LOD u
Dibromofluoromethane	0.6061	0.6457	50.00	53.27	ug/L	7	30	0.0500	u
1,2-Dichloroethane-d4	0.4953	0.5587	50.00	56.40	ug/L	13	30	0.0500	u
Toluene-d8	1.3579	1.3923	50.00	51.27	ug/L	3	30	0.0500	u
Bromofluorobenzene	1.1695	1.2534	50.00	53.59	ug/L	7	30	0.0500	u

ISTD (ICAL jb518)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1056928	1077841	1.98	11.08	11.06	-0.02
1,4-Difluorobenzene	1663360	1764535	6.08	12.25	12.23	-0.02
Chlorobenzene-d5	1426786	1459485	2.29	16.18	16.16	-0.02
1,4-Dichlorobenzene-d4	723184	688533	-4.79	18.89	18.89	0.00

KER 04/28/15 [Acetone]: Picked or reassigned peak. [general version]

5% spike rule

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 05/04/15

!=warning +=high bias -=low bias ?LOD=no LOD c=CCV m=manual integration u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : A/A IDF : 1.0
Seqnum : 495170847006 File : jds06 Time : 28-APR-2015 18:14
Cal : 495052755001 Caldate : 05-FEB-2015 Caltype : WATER
Standards: S27011 (50000X), S26941 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Dibromofluoromethane	0.6061	0.6261	50.00	51.65	ug/L	3	30	0.0500	
1,2-Dichloroethane-d4	0.4953	0.5659	50.00	57.13	ug/L	14	30	0.0500	
Toluene-d8	1.3579	1.3875	50.00	51.09	ug/L	2	30	0.0500	
Bromofluorobenzene	1.1695	1.3960	50.00	59.68	ug/L	19	30	0.0500	

ISTD (ICAL jb518)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1056928	1143795	8.22	11.08	11.07	-0.01
1,4-Difluorobenzene	1663360	1830967	10.08	12.25	12.23	-0.02
Chlorobenzene-d5	1426786	1540441	7.97	16.18	16.16	-0.02
1,4-Dichlorobenzene-d4	723184	620836	-14.15	18.89	18.88	-0.01

LW 05/04/15 : A/A CCV - not needed and not worked up

Analyst: DJA Date: 04/29/15 Reviewer: LW Date: 05/04/15

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425171890

Date : 04/29/15 Reference : cdf26
Sequence : MSVOA03 cdt Analyzed : 04/15/15 00:51

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	420665	10.41	704518	11.57	660609	15.64	318122	18.40
		LOWER LIMIT	210333	9.91	352259	11.07	330305	15.14	159061	17.90
		UPPER LIMIT	841330	10.91	1409036	12.07	1321218	16.14	636244	18.90
002	IB		378184	10.37	648194	11.53	623359	15.62	317103	18.37
004	CCV	15PPB	420229	10.36	734047	11.53	667273	15.61	330060	18.37
005	BS	QC785928	398766	10.37	688966	11.53	630314	15.61	311657	18.37
006	BSD	QC785929	379491	10.36	660297	11.53	609115	15.61	300174	18.37
008	IB		368154	10.37	638757	11.53	567250	15.62	296967	18.37
009	BLANK	QC785930	372553	10.37	642272	11.53	589091	15.61	289528	18.37
010	SAMPLE	266326-003	373708	10.37	650773	11.54	591749	15.62	294676	18.38
011	SAMPLE	266370-001	352308	10.37	613530	11.53	560912	15.62	282064	18.37
012	SAMPLE	266234-005	347435	10.37	603290	11.53	566890	15.62	279988	18.38
013	SAMPLE	266161-013	345963	10.37	596831	11.53	551500	15.61	279254	18.38
014	SAMPLE	266371-010	340553	10.37	567201	11.53	553975	15.62	275253	18.38
015	SAMPLE	266374-012	352105	10.37	602491	11.53	569281	15.62	274517	18.38
016	SAMPLE	266306-008	350691	10.37	618864	11.54	570810	15.62	285582	18.38
017	SAMPLE	266326-001	357592	10.37	615676	11.53	561855	15.62	287080	18.38
018	SAMPLE	266326-002	357642	10.38	611907	11.54	563491	15.62	286283	18.38
019	SAMPLE	266370-002	370708	10.37	647920	11.54	592005	15.61	286116	18.38
020	SAMPLE	266370-003	366348	10.37	622850	11.53	580802	15.61	294933	18.38
021	SAMPLE	266370-004	381166	10.38	668629	11.54	605713	15.62	297766	18.38
022	SAMPLE	266370-005	386181	10.37	658958	11.53	621231	15.62	304342	18.38
023	SAMPLE	266409-001	365988	10.37	645977	11.53	600734	15.62	306265	18.37
024	IB		397176	10.37	687549	11.53	626632	15.62	308715	18.38
025	IB		373801	10.37	659628	11.54	596329	15.62	298988	18.38

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 495170847

Date : 04/28/15 Reference : jb518
Sequence : MSVOA10 jds Analyzed : 02/06/15 02:47

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1056928	11.08	1663360	12.25	1426786	16.18	723184	18.89
		LOWER LIMIT	528464	10.58	831680	11.75	713393	15.68	361592	18.39
		UPPER LIMIT	2113856	11.58	3326720	12.75	2853572	16.68	1446368	19.39
002	IB		1116986	11.06	1857035	12.24	1509261	16.16	602138	18.88
004	CCV/BS	QC785831	1077841	11.06	1764535	12.23	1459485	16.16	688533	18.89
005	BSD	QC785832	1138267	11.07	1837674	12.24	1534294	16.17	708975	18.88
006	CCV	A/A	1143795	11.07	1830967	12.23	1540441	16.16	620836	18.88
007	IB		1173873	11.07	1866340	12.23	1571537	16.17	650480	18.88
008	BLANK	QC785833	1112063	11.06	1822562	12.23	1510974	16.16	626525	18.88
009	SAMPLE	266378-003	1120217	11.07	1786851	12.23	1517328	16.16	621380	18.89
010	SAMPLE	266257-001	1058509	11.07	1765689	12.24	1484050	16.16	608319	18.88
011	SAMPLE	266257-005	1056142	11.06	1761924	12.23	1470583	16.16	615958	18.88
012	SAMPLE	266257-006	1062604	11.06	1747811	12.23	1471463	16.16	617811	18.88
013	SAMPLE	266374-001	1072681	11.07	1786469	12.23	1488735	16.16	674381	18.88
014	SAMPLE	266374-002	1098000	11.07	1829158	12.23	1526909	16.16	652301	18.88
015	SAMPLE	266374-008	1049808	11.07	1747221	12.23	1467196	16.16	584526	18.88
016	SAMPLE	266367-010	1096955	11.06	1781506	12.23	1477036	16.16	601888	18.88
017	SAMPLE	266374-012	1104184	11.07	1795651	12.23	1498960	16.16	693352	18.88
018	SAMPLE	266367-007	1064341	11.07	1714657	12.23	1443018	16.16	611372	18.88
019	SAMPLE	266378-001	1073748	11.07	1750152	12.23	1445827	16.16	613539	18.89
020	SAMPLE	266378-002	1064934	11.06	1733661	12.23	1453420	16.16	578933	18.88
021	SAMPLE	266367-008	999180	11.07	1680012	12.23	1401210	16.16	571723	18.88
022	SAMPLE	266367-009	1042495	11.07	1765836	12.23	1469430	16.16	607300	18.89
023	SAMPLE	266342-001	1068919	11.07	1773656	12.24	1512500	16.16	617993	18.89
024	IB		1088585	11.07	1783240	12.23	1505267	16.16	608312	18.89
025	IB		1133147	11.07	1853424	12.23	1550334	16.16	616874	18.89
026	IB		1151111	11.07	1911875	12.23	1599268	16.16	614583	18.89
027	IB		1135983	11.07	1857123	12.23	1552126	16.16	633275	18.89
028	IB		1152003	11.07	1874005	12.23	1557627	16.16	609535	18.88

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425152069

Instrument : MSVOA03 Begun : 04/15/15 00:30
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
006	cdf06	TUN	BFB			04/15/15 14:29	1.0	1	t
007	cdf07	TUN	BFB			04/15/15 14:51	1.0	1	
008	cdf08	TUN	BFB			04/15/15 15:12	1.0	1	
009	cdf09	IB				04/15/15 15:34	1.0	2	
010	cdf10	X	LOWPT			04/15/15 15:55	1.0	2	
011	cdf11	IB				04/15/15 16:59	1.0	2	
012	cdf12	IB				04/15/15 17:42	1.0	2	
013	cdf13	TUN	BFB			04/15/15 18:04	1.0	1	t
014	cdf14	TUN	BFB			04/15/15 18:25	1.0	1	
015	cdf15	IB				04/15/15 19:08	1.0	2	
016	cdf16	IB				04/15/15 19:30	1.0	2	
017	cdf17	IB				04/15/15 20:12	1.0	2	
018	cdf18	IB				04/15/15 20:34	1.0	2	
019	cdf19	IB	CALIB			04/15/15 21:17	1.0	2	
020	cdf20	ICAL	.25/.5PPB			04/15/15 21:38	1.0	3 4 5 6 2	
021	cdf21	ICAL	.5/1PPB			04/15/15 22:21	1.0	2 3 4 5 6	
022	cdf22	ICAL	2PPB			04/15/15 22:43	1.0	3 4 5 6 2	
023	cdf23	ICAL	5PPB			04/15/15 23:26	1.0	2 3 4 5 6	
024	cdf24	ICAL	10PPB			04/15/15 23:47	1.0	2 3 4 5 6	
025	cdf25	ICAL	20PPB			04/15/15 00:30	1.0	2 3 4 5 6	
026	cdf26	ICAL	50PPB			04/15/15 00:51	1.0	2 3 4 5 6	
027	cdf27	ICAL	75PPB			04/16/15 01:34	1.0	2 3 4 5 6	
028	cdf28	ICAL	100PPB			04/16/15 01:56	1.0	2 3 4 5 6	
029	cdf29	ICV	GAS			04/16/15 02:39	1.0	7 2	
030	cdf30	ICV				04/16/15 03:00	1.0	8 9 10 2	
031	cdf31	IB				04/16/15 03:43	1.0	2	
032	cdf32	IB				04/16/15 04:04	1.0	2	

DAR 04/16/15 : adjusted tune after file 8

DAR 04/16/15 : started sequence at file 6 no files 1-5

DAR 04/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 32.

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

Standards used: 1=S26000 2=S26911 3=S25695 4=S26948 5=S26838 6=S25156 7=S24978 8=S26876 9=S27022 10=S26759

Flags used: t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425171890

Instrument : MSVOA03 Begun : 04/29/15 08:50
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	cdt01	X	HIGH GAS			04/29/15 08:50	1.0	1	
002	cdt02	IB				04/29/15 09:33	1.0	1	?t
003	cdt03	TUN	BFB			04/29/15 11:20	1.0	2	
004	cdt04	CCV	15PPB			04/29/15 11:41	1.0	3 4 5 6 1	
005	cdt05	BS	QC785928	Water	222684	04/29/15 12:46	1.0	7 8 9 10 1	
006	cdt06	BSD	QC785929	Water	222684	04/29/15 13:29	1.0	7 8 9 10 1	
007	cdt07	X	A/A CCV			04/29/15 13:50	1.0	1	
008	cdt08	IB				04/29/15 14:33	1.0	1	
009	cdt09	BLANK	QC785930	Water	222684	04/29/15 15:16	1.0	1	
010	cdt10	SAMPLE	266326-003	Water	222684	04/29/15 15:37	1.0	1	spk
011	cdt11	SAMPLE	266370-001	Water	222684	04/29/15 16:20	1.0	1	
012	cdt12	SAMPLE	266234-005	Water	222684	04/29/15 17:03	1.0	1	
013	cdt13	SAMPLE	266161-013	Water	222684	04/29/15 17:25	1.0	1	
014	cdt14	SAMPLE	266371-010	Water	222684	04/29/15 18:07	1.0	1	
015	cdt15	SAMPLE	266374-012	Water	222684	04/29/15 18:29	1.0	1	
016	cdt16	SAMPLE	266306-008	Water	222684	04/29/15 19:12	1.0	1	
017	cdt17	SAMPLE	266326-001	Water	222684	04/29/15 19:33	1.0	1	spk
018	cdt18	SAMPLE	266326-002	Water	222684	04/29/15 20:16	1.0	1	spk
019	cdt19	SAMPLE	266370-002	Water	222684	04/29/15 20:38	1.0	1	
020	cdt20	SAMPLE	266370-003	Water	222684	04/29/15 21:21	1.0	1	
021	cdt21	SAMPLE	266370-004	Water	222684	04/29/15 21:42	1.0	1	
022	cdt22	SAMPLE	266370-005	Water	222684	04/29/15 22:25	1.0	1	
023	cdt23	SAMPLE	266409-001	Water	222684	04/29/15 22:46	1.0	1	
024	cdt24	IB				04/29/15 23:29	222700	1	<<t
025	cdt25	IB				04/29/15 23:51	222700	1	<<t

DJA 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

DJA 04/30/15 : Matrix spikes were not performed for this analysis in batch 222684 due to insufficient sample amount.

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 04/30/15

Standards used: 1=S26911 2=S26000 3=S25695 4=S26948 5=S26838 6=S26957 7=S26876 8=S27022 9=S26759 10=S26358

Flags used: <<t=out of clock ?t=missing tune spk=5% spike rule

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 495052755

Instrument : MSVOA10 Begun : 02/05/15 15:15
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	jb501	X	IB			02/05/15 15:15	1.0	1	
002	jb502	TUN	BFB			02/05/15 17:15	1.0	2	t
003	jb503	TUN	BFB			02/05/15 18:32	1.0	2	
004	jb504	IB	LOWPT			02/05/15 19:08	1.0	1	
005	jb505	IB	LOWPT			02/05/15 20:05	1.0	1	
006	jb506	TUN	BFB			02/05/15 20:36	1.0	2	
007	jb507	X	IB			02/05/15 21:07	1.0	1	
008	jb508	X	IB			02/05/15 21:38	1.0	1	
009	jb509	X	IB			02/05/15 22:09	1.0	1	
010	jb510	X	IB			02/05/15 22:40	1.0	1	
011	jb511	IB	CALIB IB			02/05/15 23:11	1.0	1	
012	jb512	ICAL	0.25/0.5PPB			02/05/15 23:42	1.0	3 4 1	
013	jb513	ICAL	0.5/1PPB			02/06/15 00:13	1.0	5 6 3 4 1	
014	jb514	ICAL	2PPB			02/06/15 00:44	1.0	5 6 3 4 1	
015	jb515	ICAL	5PPB			02/06/15 01:14	1.0	5 6 3 4 1	
016	jb516	ICAL	10PPB			02/06/15 01:45	1.0	5 6 3 4 1	
017	jb517	ICAL	20PPB			02/06/15 02:16	1.0	5 6 3 4 1	
018	jb518	ICAL	50PPB			02/06/15 02:47	1.0	5 6 3 4 1	
019	jb519	ICAL	75PPB			02/06/15 03:18	1.0	5 6 3 4 1	
020	jb520	ICAL	100PPB			02/06/15 03:49	1.0	5 6 3 4 1	
021	jb521	ICV	20PPB			02/06/15 04:19	1.0	7 1	
022	jb522	ICV	25PPB			02/06/15 04:50	1.0	8 9 10 1	
023	jb523	X	IB			02/06/15 05:21	1.0	1	
024	jb524	X	IB			02/06/15 05:52	1.0	1	
025	jb525	X	IB			02/06/15 06:23	1.0	1	
026	jb526	X	IB			02/06/15 06:54	1.0	1	
027	jb527	X	IB			02/06/15 07:25	1.0	1	

DAR 02/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

Analyst: DAR Date: 02/06/15 Reviewer: LW Date: 02/09/15

Standards used: 1=S26526 2=S26000 3=S26396 4=S24979 5=S24977 6=S26560 7=S24978 8=S26221 9=S26275 10=S26249

Flags used: t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 495170847

Instrument : MSVOA10 Begun : 04/28/15 15:27
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	jds01	X	HIGH GAS			04/28/15 15:27	1.0	1	
002	jds02	IB				04/28/15 15:58	1.0	1	?t
003	jds03	TUN	BFB			04/28/15 16:24	1.0	2	
004	jds04	CCV/BS	QC785831	Water	222659	04/28/15 16:49	1.0	3 4 5 6 1	spk
005	jds05	BSD	QC785832	Water	222659	04/28/15 17:33	1.0	3 4 5 6 1	
006	jds06	CCV	A/A			04/28/15 18:14	1.0	7 1	
007	jds07	IB				04/28/15 18:45	1.0	1	
008	jds08	BLANK	QC785833	Water	222659	04/28/15 19:16	1.0	1	
009	jds09	SAMPLE	266378-003	Water	222659	04/28/15 19:47	1.0	1	spk
010	jds10	SAMPLE	266257-001	Water	222659	04/28/15 20:18	1.0	1	
011	jds11	SAMPLE	266257-005	Water	222659	04/28/15 20:49	1.0	1	pH > 2
012	jds12	SAMPLE	266257-006	Water	222659	04/28/15 21:20	1.0	1	pH > 2
013	jds13	SAMPLE	266374-001	Water	222659	04/28/15 21:51	1.0	1	spk
014	jds14	SAMPLE	266374-002	Water	222659	04/28/15 22:22	1.0	1	spk
015	jds15	SAMPLE	266374-008	Water	222659	04/28/15 22:53	1.0	1	spk
016	jds16	SAMPLE	266367-010	Water	222659	04/28/15 23:24	1.0	1	
017	jds17	SAMPLE	266374-012	Water	222659	04/28/15 23:55	2.500	1	spk
018	jds18	SAMPLE	266367-007	Water	222659	04/29/15 00:26	5.0	1	
019	jds19	SAMPLE	266378-001	Water	222659	04/29/15 00:57	7.143	1	spk , foamer, pH > 2
020	jds20	SAMPLE	266378-002	Water	222659	04/29/15 01:28	7.143	1	spk , foamer, pH > 2
021	jds21	SAMPLE	266367-008	Water	222659	04/29/15 01:59	7.143	1	
022	jds22	SAMPLE	266367-009	Water	222659	04/29/15 02:30	10.0	1	
023	jds23	SAMPLE	266342-001	Water	222659	04/29/15 03:01	10.0	1	spk , foamer, pH > 2
024	jds24	IB				04/29/15 03:32	1.0	1	
025	jds25	IB				04/29/15 04:03	1.0	1	
026	jds26	IB				04/29/15 04:34	1.0	1	<<t
027	jds27	IB				04/29/15 05:05	1.0	1	<<t
028	jds28	IB				04/29/15 05:36	1.0	1	<<t

KER 04/29/15 : Matrix spikes were not performed for this analysis in batch 222659 due to insufficient sample amount.

KER 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Analyst: KER Date: 04/29/15 Reviewer: LW Date: 04/29/15

Standards used: 1=S26941 2=S26000 3=S26876 4=S27022 5=S26759 6=S26358 7=S27011

Flags used: <<t=out of clock ?t=missing tune spk=5% spike rule

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): FB 4/28

For Undiluted samples, pH checked (initials/date): JA 4/29/15

Batch #: 266259

Prep Date: 4-28-15

Instrument: MS 10

		Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
21	1	266257-1	B	✓			+	1	1x	TBA raised RL (no hit) TB				
	2	-5	F		7		⊥	1	↓	↓				
	3	-6	F		7		~~+ rec~~	1	↓	↓				
22	4	266367-7	A	✓			2		5x					
	5	-8	A	✓			8		7.14x					
	6	-9	A	✓			9		10x					
	7	-10	A	✓					1x					
22	8	266378-1	C		4		4		~~5x~~ 7.14	FOAMER			4/29	X
	9	-2	B		4		7		↓	↓ dup			↓	X
	10	-3	B	✓					1x	TB				Y
22	11	266342-1	C		6		11		10x	FOAMER				
	12	266374-1	B	✓					1x					
	13	-2	B	✓					1x					
	14	-8	C	✓					1x					
	15	-12	C	✓			1		2.5x					
	16													
	17													
	18													
	19													
	20													
	21													
	22													

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): _____

For Undiluted samples, pH checked (initials/date): ~~ZR 4/30/15~~

Batch #: 222684
Prep Date: 4/29/15
Instrument: MS3

		Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
22	1	266306-8	A	✓				1	1X	gro ok, confirm J value hms				
22	2	266371-10	B	✓				1	1X	@hihex c.o ✓				
21	3	~~266285-22~~						1	~~50X~~	~~OD~~				
	4	266234-5	B	✓				1	1X	c- bromth + F113 20%				
22	5	266326-1	B	✓					1X					
	6	-2	B	✓					↓					
	7	-3	A	✓					↓	TB				
22	8	266400-1	A	✓					1X					
22	9	266379-12	D	✓				1	1X	OD # Due 5/4				
22	10	266370-1	B	✓					1X	TB				
	11	-2	↓	✓					↓					
	12	-3		✓										
	13	-4		✓										
	14	-5	↓	✓					↓					
21	15	266161-13	C	✓				1	1X	OD				
	16													
	17													
	18													
	19													
	20													
	21													
	22													

Laboratory Job Number 266374

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Soil

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(4.5)	Diln Fac:	0.7657
Lab ID:	266374-003	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 9%

Analyte	Result	RL
Freon 12	ND	8.4
Chloromethane	ND	8.4
Vinyl Chloride	ND	8.4
Bromomethane	ND	8.4
Chloroethane	ND	8.4
Trichlorofluoromethane	ND	4.2
Acetone	ND	17
Freon 113	ND	4.2
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	42
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	8.4
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	8.4
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	8.4
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(4.5)	Dil'n Fac:	0.7657
Lab ID:	266374-003	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	ND	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	4.2
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	4.2
Naphthalene	ND	4.2
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	100	78-134
1,2-Dichloroethane-d4	96	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(8)	Dil'n Fac:	0.8224
Lab ID:	266374-004	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 16%

Analyte	Result	RL
Freon 12	ND	9.8
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Acetone	ND	20
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	ND	9.8
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.8
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.8
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(8)	Dil'n Fac:	0.8224
Lab ID:	266374-004	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	ND	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	ND	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	98	78-134
1,2-Dichloroethane-d4	96	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(2)	Dil'n Fac:	0.7924
Lab ID:	266374-005	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 6%

Analyte	Result	RL
Freon 12	ND	8.4
Chloromethane	ND	8.4
Vinyl Chloride	ND	8.4
Bromomethane	ND	8.4
Chloroethane	ND	8.4
Trichlorofluoromethane	ND	4.2
Acetone	ND	17
Freon 113	ND	4.2
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	42
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	8.4
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	8.4
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	8.4
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(2)	Dil'n Fac:	0.7924
Lab ID:	266374-005	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	ND	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	4.2
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	4.2
Naphthalene	ND	4.2
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	97	78-134
1,2-Dichloroethane-d4	96	80-138
Toluene-d8	99	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(4.5)	Diln Fac:	0.7062
Lab ID:	266374-006	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 10%

Analyte	Result	RL
Freon 12	ND	7.8
Chloromethane	ND	7.8
Vinyl Chloride	ND	7.8
Bromomethane	ND	7.8
Chloroethane	ND	7.8
Trichlorofluoromethane	ND	3.9
Acetone	ND	16
Freon 113	ND	3.9
1,1-Dichloroethene	ND	3.9
Methylene Chloride	ND	16
Carbon Disulfide	ND	3.9
MTBE	ND	3.9
trans-1,2-Dichloroethene	ND	3.9
Vinyl Acetate	ND	39
1,1-Dichloroethane	ND	3.9
2-Butanone	ND	7.8
cis-1,2-Dichloroethene	ND	3.9
2,2-Dichloropropane	ND	3.9
Chloroform	ND	3.9
Bromochloromethane	ND	3.9
1,1,1-Trichloroethane	ND	3.9
1,1-Dichloropropene	ND	3.9
Carbon Tetrachloride	ND	3.9
1,2-Dichloroethane	ND	3.9
Benzene	ND	3.9
Trichloroethene	ND	3.9
1,2-Dichloropropane	ND	3.9
Bromodichloromethane	ND	3.9
Dibromomethane	ND	3.9
4-Methyl-2-Pentanone	ND	7.8
cis-1,3-Dichloropropene	ND	3.9
Toluene	ND	3.9
trans-1,3-Dichloropropene	ND	3.9
1,1,2-Trichloroethane	ND	3.9
2-Hexanone	ND	7.8
1,3-Dichloropropane	ND	3.9
Tetrachloroethene	ND	3.9
Dibromochloromethane	ND	3.9
1,2-Dibromoethane	ND	3.9
Chlorobenzene	ND	3.9
1,1,1,2-Tetrachloroethane	ND	3.9
Ethylbenzene	ND	3.9
m,p-Xylenes	ND	3.9
o-Xylene	ND	3.9
Styrene	ND	3.9
Bromoform	ND	3.9
Isopropylbenzene	ND	3.9
1,1,2,2-Tetrachloroethane	ND	3.9
1,2,3-Trichloropropane	ND	3.9
Propylbenzene	ND	3.9
Bromobenzene	ND	3.9
1,3,5-Trimethylbenzene	ND	3.9

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(4.5)	Dil'n Fac:	0.7062
Lab ID:	266374-006	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	3.9
4-Chlorotoluene	ND	3.9
tert-Butylbenzene	ND	3.9
1,2,4-Trimethylbenzene	ND	3.9
sec-Butylbenzene	ND	3.9
para-Isopropyl Toluene	ND	3.9
1,3-Dichlorobenzene	ND	3.9
1,4-Dichlorobenzene	ND	3.9
n-Butylbenzene	ND	3.9
1,2-Dichlorobenzene	ND	3.9
1,2-Dibromo-3-Chloropropane	ND	3.9
1,2,4-Trichlorobenzene	ND	3.9
Hexachlorobutadiene	ND	3.9
Naphthalene	ND	3.9
1,2,3-Trichlorobenzene	ND	3.9

Surrogate	%REC	Limits
Dibromofluoromethane	97	78-134
1,2-Dichloroethane-d4	98	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	93	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(8.5)	Diln Fac:	0.9901
Lab ID:	266374-007	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 15%

Analyte	Result	RL
Freon 12	ND	12
Chloromethane	ND	12
Vinyl Chloride	ND	12
Bromomethane	ND	12
Chloroethane	ND	12
Trichlorofluoromethane	ND	5.8
Acetone	ND	23
Freon 113	ND	5.8
1,1-Dichloroethene	ND	5.8
Methylene Chloride	ND	23
Carbon Disulfide	ND	5.8
MTBE	ND	5.8
trans-1,2-Dichloroethene	ND	5.8
Vinyl Acetate	ND	58
1,1-Dichloroethane	ND	5.8
2-Butanone	ND	12
cis-1,2-Dichloroethene	ND	5.8
2,2-Dichloropropane	ND	5.8
Chloroform	ND	5.8
Bromochloromethane	ND	5.8
1,1,1-Trichloroethane	ND	5.8
1,1-Dichloropropene	ND	5.8
Carbon Tetrachloride	ND	5.8
1,2-Dichloroethane	ND	5.8
Benzene	ND	5.8
Trichloroethene	ND	5.8
1,2-Dichloropropane	ND	5.8
Bromodichloromethane	ND	5.8
Dibromomethane	ND	5.8
4-Methyl-2-Pentanone	ND	12
cis-1,3-Dichloropropene	ND	5.8
Toluene	ND	5.8
trans-1,3-Dichloropropene	ND	5.8
1,1,2-Trichloroethane	ND	5.8
2-Hexanone	ND	12
1,3-Dichloropropane	ND	5.8
Tetrachloroethene	ND	5.8
Dibromochloromethane	ND	5.8
1,2-Dibromoethane	ND	5.8
Chlorobenzene	ND	5.8
1,1,1,2-Tetrachloroethane	ND	5.8
Ethylbenzene	ND	5.8
m,p-Xylenes	ND	5.8
o-Xylene	ND	5.8
Styrene	ND	5.8
Bromoform	ND	5.8
Isopropylbenzene	ND	5.8
1,1,2,2-Tetrachloroethane	ND	5.8
1,2,3-Trichloropropane	ND	5.8
Propylbenzene	ND	5.8
Bromobenzene	ND	5.8
1,3,5-Trimethylbenzene	ND	5.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-10(8.5)	Dil'n Fac:	0.9901
Lab ID:	266374-007	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.8
4-Chlorotoluene	ND	5.8
tert-Butylbenzene	ND	5.8
1,2,4-Trimethylbenzene	ND	5.8
sec-Butylbenzene	ND	5.8
para-Isopropyl Toluene	ND	5.8
1,3-Dichlorobenzene	ND	5.8
1,4-Dichlorobenzene	ND	5.8
n-Butylbenzene	ND	5.8
1,2-Dichlorobenzene	ND	5.8
1,2-Dibromo-3-Chloropropane	ND	5.8
1,2,4-Trichlorobenzene	ND	5.8
Hexachlorobutadiene	ND	5.8
Naphthalene	ND	5.8
1,2,3-Trichlorobenzene	ND	5.8

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-134
1,2-Dichloroethane-d4	97	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(2)	Dil'n Fac:	0.9398
Lab ID:	266374-009	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 8%

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.1
Acetone	ND	20
Freon 113	ND	5.1
1,1-Dichloroethene	ND	5.1
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.1
MTBE	ND	5.1
trans-1,2-Dichloroethene	ND	5.1
Vinyl Acetate	ND	51
1,1-Dichloroethane	ND	5.1
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.1
2,2-Dichloropropane	ND	5.1
Chloroform	ND	5.1
Bromochloromethane	ND	5.1
1,1,1-Trichloroethane	ND	5.1
1,1-Dichloropropene	ND	5.1
Carbon Tetrachloride	ND	5.1
1,2-Dichloroethane	ND	5.1
Benzene	ND	5.1
Trichloroethene	ND	5.1
1,2-Dichloropropane	ND	5.1
Bromodichloromethane	ND	5.1
Dibromomethane	ND	5.1
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.1
Toluene	ND	5.1
trans-1,3-Dichloropropene	ND	5.1
1,1,2-Trichloroethane	ND	5.1
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.1
Tetrachloroethene	ND	5.1
Dibromochloromethane	ND	5.1
1,2-Dibromoethane	ND	5.1
Chlorobenzene	ND	5.1
1,1,1,2-Tetrachloroethane	ND	5.1
Ethylbenzene	ND	5.1
m,p-Xylenes	ND	5.1
o-Xylene	ND	5.1
Styrene	ND	5.1
Bromoform	ND	5.1
Isopropylbenzene	ND	5.1
1,1,2,2-Tetrachloroethane	ND	5.1
1,2,3-Trichloropropane	ND	5.1
Propylbenzene	ND	5.1
Bromobenzene	ND	5.1
1,3,5-Trimethylbenzene	ND	5.1

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(2)	Dil'n Fac:	0.9398
Lab ID:	266374-009	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.1
4-Chlorotoluene	ND	5.1
tert-Butylbenzene	ND	5.1
1,2,4-Trimethylbenzene	ND	5.1
sec-Butylbenzene	ND	5.1
para-Isopropyl Toluene	ND	5.1
1,3-Dichlorobenzene	ND	5.1
1,4-Dichlorobenzene	ND	5.1
n-Butylbenzene	ND	5.1
1,2-Dichlorobenzene	ND	5.1
1,2-Dibromo-3-Chloropropane	ND	5.1
1,2,4-Trichlorobenzene	ND	5.1
Hexachlorobutadiene	ND	5.1
Naphthalene	ND	5.1
1,2,3-Trichlorobenzene	ND	5.1

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-134
1,2-Dichloroethane-d4	105	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(4.5)	Diln Fac:	0.8237
Lab ID:	266374-010	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 4%

Analyte	Result	RL
Freon 12	ND	8.6
Chloromethane	ND	8.6
Vinyl Chloride	ND	8.6
Bromomethane	ND	8.6
Chloroethane	ND	8.6
Trichlorofluoromethane	ND	4.3
Acetone	ND	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	ND	8.6
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.6
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.6
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(4.5)	Dil'n Fac:	0.8237
Lab ID:	266374-010	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	105	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(5.5)	Diln Fac:	38.64
Lab ID:	266374-011	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Moisture: 16%

Analyte	Result	RL
Freon 12	ND	460
Chloromethane	ND	460
Vinyl Chloride	ND	460
Bromomethane	ND	460
Chloroethane	ND	460
Trichlorofluoromethane	ND	230
Acetone	ND	920
Freon 113	ND	230
1,1-Dichloroethene	ND	230
Methylene Chloride	ND	920
Carbon Disulfide	ND	230
MTBE	ND	230
trans-1,2-Dichloroethene	ND	230
Vinyl Acetate	ND	2,300
1,1-Dichloroethane	ND	230
2-Butanone	ND	460
cis-1,2-Dichloroethene	ND	230
2,2-Dichloropropane	ND	230
Chloroform	ND	230
Bromochloromethane	ND	230
1,1,1-Trichloroethane	ND	230
1,1-Dichloropropene	ND	230
Carbon Tetrachloride	ND	230
1,2-Dichloroethane	ND	230
Benzene	ND	230
Trichloroethene	ND	230
1,2-Dichloropropane	ND	230
Bromodichloromethane	ND	230
Dibromomethane	ND	230
4-Methyl-2-Pentanone	ND	460
cis-1,3-Dichloropropene	ND	230
Toluene	ND	230
trans-1,3-Dichloropropene	ND	230
1,1,2-Trichloroethane	ND	230
2-Hexanone	ND	460
1,3-Dichloropropane	ND	230
Tetrachloroethene	ND	230
Dibromochloromethane	ND	230
1,2-Dibromoethane	ND	230
Chlorobenzene	ND	230
1,1,1,2-Tetrachloroethane	ND	230
Ethylbenzene	ND	230
m,p-Xylenes	ND	230
o-Xylene	ND	230
Styrene	ND	230
Bromoform	ND	230
Isopropylbenzene	ND	230
1,1,2,2-Tetrachloroethane	ND	230
1,2,3-Trichloropropane	ND	230
Propylbenzene	ND	230
Bromobenzene	ND	230
1,3,5-Trimethylbenzene	ND	230

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-8(5.5)	Dln Fac:	38.64
Lab ID:	266374-011	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Analyte	Result	RL
2-Chlorotoluene	ND	230
4-Chlorotoluene	ND	230
tert-Butylbenzene	ND	230
1,2,4-Trimethylbenzene	ND	230
sec-Butylbenzene	780	230
para-Isopropyl Toluene	ND	230
1,3-Dichlorobenzene	ND	230
1,4-Dichlorobenzene	ND	230
n-Butylbenzene	1,000	230
1,2-Dichlorobenzene	ND	230
1,2-Dibromo-3-Chloropropane	ND	230
1,2,4-Trichlorobenzene	ND	230
Hexachlorobutadiene	ND	230
Naphthalene	ND	230
1,2,3-Trichlorobenzene	ND	230

Surrogate	%REC	Limits
Dibromofluoromethane	94	78-134
1,2-Dichloroethane-d4	89	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	110	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(2.5)	Diln Fac:	0.8475
Lab ID:	266374-013	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 5%

Analyte	Result	RL
Freon 12	ND	8.9
Chloromethane	ND	8.9
Vinyl Chloride	ND	8.9
Bromomethane	ND	8.9
Chloroethane	ND	8.9
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	8.9
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	8.9
cis-1,3-Dichloropropene	ND	4.5
Toluene	4.7	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	8.9
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(2.5)	Dil'n Fac:	0.8475
Lab ID:	266374-013	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	78-134
1,2-Dichloroethane-d4	103	80-138
Toluene-d8	98	80-120
Bromofluorobenzene	102	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(4.5)	Diln Fac:	0.6925
Lab ID:	266374-014	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 10%

Analyte	Result	RL
Freon 12	ND	7.7
Chloromethane	ND	7.7
Vinyl Chloride	ND	7.7
Bromomethane	ND	7.7
Chloroethane	ND	7.7
Trichlorofluoromethane	ND	3.8
Acetone	ND	15
Freon 113	ND	3.8
1,1-Dichloroethene	ND	3.8
Methylene Chloride	ND	15
Carbon Disulfide	ND	3.8
MTBE	ND	3.8
trans-1,2-Dichloroethene	ND	3.8
Vinyl Acetate	ND	38
1,1-Dichloroethane	ND	3.8
2-Butanone	ND	7.7
cis-1,2-Dichloroethene	ND	3.8
2,2-Dichloropropane	ND	3.8
Chloroform	ND	3.8
Bromochloromethane	ND	3.8
1,1,1-Trichloroethane	ND	3.8
1,1-Dichloropropene	ND	3.8
Carbon Tetrachloride	ND	3.8
1,2-Dichloroethane	ND	3.8
Benzene	ND	3.8
Trichloroethene	ND	3.8
1,2-Dichloropropane	ND	3.8
Bromodichloromethane	ND	3.8
Dibromomethane	ND	3.8
4-Methyl-2-Pentanone	ND	7.7
cis-1,3-Dichloropropene	ND	3.8
Toluene	ND	3.8
trans-1,3-Dichloropropene	ND	3.8
1,1,2-Trichloroethane	ND	3.8
2-Hexanone	ND	7.7
1,3-Dichloropropane	ND	3.8
Tetrachloroethene	ND	3.8
Dibromochloromethane	ND	3.8
1,2-Dibromoethane	ND	3.8
Chlorobenzene	ND	3.8
1,1,1,2-Tetrachloroethane	ND	3.8
Ethylbenzene	ND	3.8
m,p-Xylenes	ND	3.8
o-Xylene	ND	3.8
Styrene	ND	3.8
Bromoform	ND	3.8
Isopropylbenzene	ND	3.8
1,1,2,2-Tetrachloroethane	ND	3.8
1,2,3-Trichloropropane	ND	3.8
Propylbenzene	ND	3.8
Bromobenzene	ND	3.8
1,3,5-Trimethylbenzene	ND	3.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(4.5)	Dil'n Fac:	0.6925
Lab ID:	266374-014	Batch#:	222648
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	3.8
4-Chlorotoluene	ND	3.8
tert-Butylbenzene	ND	3.8
1,2,4-Trimethylbenzene	ND	3.8
sec-Butylbenzene	ND	3.8
para-Isopropyl Toluene	ND	3.8
1,3-Dichlorobenzene	ND	3.8
1,4-Dichlorobenzene	ND	3.8
n-Butylbenzene	ND	3.8
1,2-Dichlorobenzene	ND	3.8
1,2-Dibromo-3-Chloropropane	ND	3.8
1,2,4-Trichlorobenzene	ND	3.8
Hexachlorobutadiene	ND	3.8
Naphthalene	ND	3.8
1,2,3-Trichlorobenzene	ND	3.8

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	106	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(6)	Dil'n Fac:	33.29
Lab ID:	266374-015	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Moisture: 13%

Analyte	Result	RL
Freon 12	ND	380
Chloromethane	ND	380
Vinyl Chloride	ND	380
Bromomethane	ND	380
Chloroethane	ND	380
Trichlorofluoromethane	ND	190
Acetone	ND	770
Freon 113	ND	190
1,1-Dichloroethene	ND	190
Methylene Chloride	ND	770
Carbon Disulfide	ND	190
MTBE	ND	190
trans-1,2-Dichloroethene	ND	190
Vinyl Acetate	ND	1,900
1,1-Dichloroethane	ND	190
2-Butanone	ND	380
cis-1,2-Dichloroethene	ND	190
2,2-Dichloropropane	ND	190
Chloroform	ND	190
Bromochloromethane	ND	190
1,1,1-Trichloroethane	ND	190
1,1-Dichloropropene	ND	190
Carbon Tetrachloride	ND	190
1,2-Dichloroethane	ND	190
Benzene	ND	190
Trichloroethene	ND	190
1,2-Dichloropropane	ND	190
Bromodichloromethane	ND	190
Dibromomethane	ND	190
4-Methyl-2-Pentanone	ND	380
cis-1,3-Dichloropropene	ND	190
Toluene	ND	190
trans-1,3-Dichloropropene	ND	190
1,1,2-Trichloroethane	ND	190
2-Hexanone	ND	380
1,3-Dichloropropane	ND	190
Tetrachloroethene	ND	190
Dibromochloromethane	ND	190
1,2-Dibromoethane	ND	190
Chlorobenzene	ND	190
1,1,1,2-Tetrachloroethane	ND	190
Ethylbenzene	ND	190
m,p-Xylenes	ND	190
o-Xylene	ND	190
Styrene	ND	190
Bromoform	ND	190
Isopropylbenzene	ND	190
1,1,2,2-Tetrachloroethane	ND	190
1,2,3-Trichloropropane	ND	190
Propylbenzene	ND	190
Bromobenzene	ND	190
1,3,5-Trimethylbenzene	ND	190

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-5(6)	Dil'n Fac:	33.29
Lab ID:	266374-015	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Analyte	Result	RL
2-Chlorotoluene	ND	190
4-Chlorotoluene	ND	190
tert-Butylbenzene	ND	190
1,2,4-Trimethylbenzene	ND	190
sec-Butylbenzene	ND	190
para-Isopropyl Toluene	ND	190
1,3-Dichlorobenzene	ND	190
1,4-Dichlorobenzene	ND	190
n-Butylbenzene	ND	190
1,2-Dichlorobenzene	ND	190
1,2-Dibromo-3-Chloropropane	ND	190
1,2,4-Trichlorobenzene	ND	190
Hexachlorobutadiene	ND	190
Naphthalene	ND	190
1,2,3-Trichlorobenzene	ND	190

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-134
1,2-Dichloroethane-d4	88	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	100	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(2.5)	Dil'n Fac:	0.7246
Lab ID:	266374-016	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Moisture: 7%

Analyte	Result	RL
Freon 12	ND	7.8
Chloromethane	ND	7.8
Vinyl Chloride	ND	7.8
Bromomethane	ND	7.8
Chloroethane	ND	7.8
Trichlorofluoromethane	ND	3.9
Acetone	ND	16
Freon 113	ND	3.9
1,1-Dichloroethene	ND	3.9
Methylene Chloride	ND	16
Carbon Disulfide	ND	3.9
MTBE	ND	3.9
trans-1,2-Dichloroethene	ND	3.9
Vinyl Acetate	ND	39
1,1-Dichloroethane	ND	3.9
2-Butanone	ND	7.8
cis-1,2-Dichloroethene	ND	3.9
2,2-Dichloropropane	ND	3.9
Chloroform	ND	3.9
Bromochloromethane	ND	3.9
1,1,1-Trichloroethane	ND	3.9
1,1-Dichloropropene	ND	3.9
Carbon Tetrachloride	ND	3.9
1,2-Dichloroethane	ND	3.9
Benzene	ND	3.9
Trichloroethene	ND	3.9
1,2-Dichloropropane	ND	3.9
Bromodichloromethane	ND	3.9
Dibromomethane	ND	3.9
4-Methyl-2-Pentanone	ND	7.8
cis-1,3-Dichloropropene	ND	3.9
Toluene	ND	3.9
trans-1,3-Dichloropropene	ND	3.9
1,1,2-Trichloroethane	ND	3.9
2-Hexanone	ND	7.8
1,3-Dichloropropane	ND	3.9
Tetrachloroethene	ND	3.9
Dibromochloromethane	ND	3.9
1,2-Dibromoethane	ND	3.9
Chlorobenzene	ND	3.9
1,1,1,2-Tetrachloroethane	ND	3.9
Ethylbenzene	ND	3.9
m,p-Xylenes	ND	3.9
o-Xylene	ND	3.9
Styrene	ND	3.9
Bromoform	ND	3.9
Isopropylbenzene	ND	3.9
1,1,2,2-Tetrachloroethane	ND	3.9
1,2,3-Trichloropropane	ND	3.9
Propylbenzene	ND	3.9
Bromobenzene	ND	3.9
1,3,5-Trimethylbenzene	ND	3.9

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(2.5)	Dil'n Fac:	0.7246
Lab ID:	266374-016	Batch#:	222688
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/29/15

Analyte	Result	RL
2-Chlorotoluene	ND	3.9
4-Chlorotoluene	ND	3.9
tert-Butylbenzene	ND	3.9
1,2,4-Trimethylbenzene	ND	3.9
sec-Butylbenzene	ND	3.9
para-Isopropyl Toluene	ND	3.9
1,3-Dichlorobenzene	ND	3.9
1,4-Dichlorobenzene	ND	3.9
n-Butylbenzene	ND	3.9
1,2-Dichlorobenzene	ND	3.9
1,2-Dibromo-3-Chloropropane	ND	3.9
1,2,4-Trichlorobenzene	ND	3.9
Hexachlorobutadiene	ND	3.9
Naphthalene	ND	3.9
1,2,3-Trichlorobenzene	ND	3.9

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	102	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	107	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(4.5)	Diln Fac:	0.8389
Lab ID:	266374-017	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(4.5)	Dil'n Fac:	0.8389
Lab ID:	266374-017	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-134
1,2-Dichloroethane-d4	120	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	100	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(5.5)	Dil'n Fac:	0.7728
Lab ID:	266374-018	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 14%

Analyte	Result	RL
Freon 12	ND	9.0
Chloromethane	ND	9.0
Vinyl Chloride	ND	9.0
Bromomethane	ND	9.0
Chloroethane	ND	9.0
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	9.0
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	9.0
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	9.0
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-6(5.5)	Dil'n Fac:	0.7728
Lab ID:	266374-018	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	118	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	91	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(2)	Dil'n Fac:	0.9091
Lab ID:	266374-019	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 4%

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(2)	Dil'n Fac:	0.9091
Lab ID:	266374-019	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-134
1,2-Dichloroethane-d4	129	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	92	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(4.5)	Diln Fac:	0.8117
Lab ID:	266374-020	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 14%

Analyte	Result	RL
Freon 12	ND	9.4
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.4
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.4
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.4
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(4.5)	Dil'n Fac:	0.8117
Lab ID:	266374-020	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-134
1,2-Dichloroethane-d4	123	80-138
Toluene-d8	88	80-120
Bromofluorobenzene	92	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(6.5)	Diln Fac:	0.7716
Lab ID:	266374-021	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 15%

Analyte	Result	RL
Freon 12	ND	9.1
Chloromethane	ND	9.1
Vinyl Chloride	ND	9.1
Bromomethane	ND	9.1
Chloroethane	ND	9.1
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	9.1
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	9.1
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	9.1
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-7(6.5)	Dil'n Fac:	0.7716
Lab ID:	266374-021	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	130	80-138
Toluene-d8	88	80-120
Bromofluorobenzene	91	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(2)	Dil'n Fac:	0.8319
Lab ID:	266374-022	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Moisture: 4%

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.3
Acetone	ND	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-9(2)	Dil'n Fac:	0.8319
Lab ID:	266374-022	Batch#:	222639
Matrix:	Soil	Sampled:	04/27/15
Units:	ug/Kg	Received:	04/27/15
Basis:	dry	Analyzed:	04/28/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	126	80-138
Toluene-d8	93	80-120
Bromofluorobenzene	92	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222639
Units:	ug/Kg	Analyzed:	04/28/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785743

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	28.99	116	70-134
Benzene	25.00	25.46	102	80-123
Trichloroethene	25.00	24.70	99	80-128
Toluene	25.00	23.98	96	80-120
Chlorobenzene	25.00	25.20	101	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	116	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	89	78-123

Type: BSD Lab ID: QC785744

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	29.07	116	70-134	0	22
Benzene	25.00	25.40	102	80-123	0	21
Trichloroethene	25.00	23.22	93	80-128	6	23
Toluene	25.00	23.99	96	80-120	0	20
Chlorobenzene	25.00	24.92	100	80-123	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	113	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	88	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785745	Batch#:	222639
Matrix:	Soil	Analyzed:	04/28/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785745	Batch#:	222639
Matrix:	Soil	Analyzed:	04/28/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	115	80-138
Toluene-d8	90	80-120
Bromofluorobenzene	88	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222648
Units:	ug/Kg	Analyzed:	04/28/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785786

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	22.50	23.68	105	70-134
Benzene	22.50	24.71	110	80-123
Trichloroethene	22.50	23.54	105	80-128
Toluene	22.50	23.71	105	80-120
Chlorobenzene	22.50	23.21	103	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	101	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	92	78-123

Type: BSD Lab ID: QC785787

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	22.50	23.49	104	70-134	1	22
Benzene	22.50	24.72	110	80-123	0	21
Trichloroethene	22.50	24.12	107	80-128	2	23
Toluene	22.50	24.38	108	80-120	3	20
Chlorobenzene	22.50	24.11	107	80-123	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	101	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	89	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785788	Batch#:	222648
Matrix:	Soil	Analyzed:	04/28/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785788	Batch#:	222648
Matrix:	Soil	Analyzed:	04/28/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	102	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222688
Units:	ug/Kg	Analyzed:	04/29/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785946

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	22.50	22.10	98	70-134
Benzene	22.50	23.92	106	80-123
Trichloroethene	22.50	22.62	101	80-128
Toluene	22.50	22.85	102	80-120
Chlorobenzene	22.50	23.08	103	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	93	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	93	78-123

Type: BSD Lab ID: QC785947

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	22.50	22.67	101	70-134	3	22
Benzene	22.50	22.94	102	80-123	4	21
Trichloroethene	22.50	22.43	100	80-128	1	23
Toluene	22.50	22.34	99	80-120	2	20
Chlorobenzene	22.50	22.59	100	80-123	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	93	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	91	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785948	Batch#:	222688
Matrix:	Soil	Analyzed:	04/29/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785948	Batch#:	222688
Matrix:	Soil	Analyzed:	04/29/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	98	80-138
Toluene-d8	98	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	222688
MSS Lab ID:	266420-002	Sampled:	04/29/15
Matrix:	Soil	Received:	04/29/15
Units:	ug/Kg	Analyzed:	04/29/15
Basis:	as received		

Type: MS Diln Fac: 0.9542
Lab ID: QC786011

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.8045	47.71	42.86	90	56-133
Benzene	<0.7725	47.71	48.72	102	57-120
Trichloroethene	<0.7150	47.71	51.07	107	49-145
Toluene	<0.6090	47.71	48.19	101	51-120
Chlorobenzene	<0.5874	47.71	46.53	98	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	92	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	91	78-123

Type: MSD Diln Fac: 0.9488
Lab ID: QC786012

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.44	41.14	87	56-133	4	46
Benzene	47.44	46.52	98	57-120	4	44
Trichloroethene	47.44	47.10	99	49-145	8	46
Toluene	47.44	43.64	92	51-120	9	47
Chlorobenzene	47.44	43.10	91	47-120	7	50

Surrogate	%REC	Limits
Dibromofluoromethane	99	78-134
1,2-Dichloroethane-d4	92	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	93	78-123

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : BFB IDF : 1.0
Seqnum : 435131479003 File : dd103 Time : 01-APR-2015 10:31

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	58297	27.87	
75	30% - 60% of mass 95	108866	52.05	
95		209173	100.00	
96	5% - 9% of mass 95	13910	6.65	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	139413	66.65	
175	5% - 9% of mass 174	10912	7.83	
176	> 95% and < 101% of mass 174	136026	97.57	
177	5% - 9% of mass 176	9022	6.63	

Analyst: DJA Date: 04/02/15 Reviewer: LW Date: 04/03/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : BFB IDF : 1.0
Seqnum : 435170556004 File : dds04 Time : 28-APR-2015 12:13

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	54832	19.91	
75	30% - 60% of mass 95	125446	45.56	
95		275370	100.00	
96	5% - 9% of mass 95	18365	6.67	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	234602	85.20	
175	5% - 9% of mass 174	17051	7.27	
176	> 95% and < 101% of mass 174	227925	97.15	
177	5% - 9% of mass 176	14841	6.51	

Analyst: DJA Date: 04/29/15 Reviewer: LW Date: 04/29/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445154813012 File : edh12 Time : 17-APR-2015 18:00

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6388	22.40	
75	30% - 60% of mass 95	14154	49.63	
95		28520	100.00	
96	5% - 9% of mass 95	1939	6.80	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	22677	79.51	
175	5% - 9% of mass 174	1648	7.27	
176	> 95% and < 101% of mass 174	22103	97.47	
177	5% - 9% of mass 176	1322	5.98	

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445160525002 File : edl02 Time : 21-APR-2015 14:18

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6871	23.07	
75	30% - 60% of mass 95	14618	49.08	
95		29784	100.00	
96	5% - 9% of mass 95	1787	6.00	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	25338	85.07	
175	5% - 9% of mass 174	1840	7.26	
176	> 95% and < 101% of mass 174	24525	96.79	
177	5% - 9% of mass 176	1544	6.30	

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445170617002 File : eds02 Time : 28-APR-2015 12:13

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7703	23.90	
75	30% - 60% of mass 95	16789	52.10	
95		32224	100.00	
96	5% - 9% of mass 95	2148	6.67	
173	< 2% of mass 174	52	0.19	
174	> 50% and < 100% of mass 95	26920	83.54	
175	5% - 9% of mass 174	1887	7.01	
176	> 95% and < 101% of mass 174	26648	98.99	
177	5% - 9% of mass 176	1583	5.94	

Analyst: KKM Date: 04/29/15 Reviewer: LW Date: 05/01/15

CURTIS & TOMPKINS BFB TUNE FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445172046003 File : edt03 Time : 29-APR-2015 12:19

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7365	23.11	
75	30% - 60% of mass 95	15653	49.12	
95		31864	100.00	
96	5% - 9% of mass 95	2154	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	26333	82.64	
175	5% - 9% of mass 174	1902	7.22	
176	> 95% and < 101% of mass 174	25882	98.29	
177	5% - 9% of mass 176	1785	6.90	

Analyst: NJT Date: 04/29/15 Reviewer: LW Date: 04/30/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSVOA Soil: EPA 8260B

Inst : MSVOA04 Name : 826GOX4S
Calnum : 435131479001 Date : 01-APR-2015 12:05 Type : SOIL
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	dd106	435131479006		01-APR-2015 12:05	S26948 (200000X), S26838 (200000X), S25156 (200000X), S26911 (5000X)
L2	dd107	435131479007		01-APR-2015 12:39	S26948 (100000X), S26838 (100000X), S25156 (100000X), S26911 (5000X)
L3	dd108	435131479008		01-APR-2015 13:12	S26948 (50000X), S26838 (50000X), S25156 (50000X), S26911 (5000X)
L4	dd109	435131479009		01-APR-2015 13:46	S26948 (25000X), S26838 (25000X), S25156 (25000X), S26911 (5000X)
L5	dd110	435131479010		01-APR-2015 14:20	S26948 (10000X), S26838 (10000X), S25156 (10000X), S26911 (5000X)
L6	dd111	435131479011		01-APR-2015 14:53	S26948 (8333X), S26838 (8333X), S25156 (8333X), S26911 (5000X)
L7	dd112	435131479012		01-APR-2015 15:27	S26948 (6667X), S26838 (6667X), S25156 (6667X), S26911 (5000X)
L8	dd113	435131479013		01-APR-2015 16:01	S26948 (5000X), S26838 (5000X), S25156 (5000X), S26911 (5000X)
L9	dd114	435131479014		01-APR-2015 16:34	S26948 (2500X), S26838 (2500X), S25156 (2500X), S26911 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.1605m	1.3630	1.3098m	1.2934m	1.3407m	1.2989m	1.2929m	1.1490m	AVRG		0.78368		1.2760	6	15	0.05	0.99	
Chloromethane		0.9949	1.0039	1.0233	1.0085	0.9765	1.0177	1.0222	0.8893	AVRG		1.00801		0.9921	4	15	0.10	0.99	
Vinyl Chloride		0.8455	0.8689	0.8653m	0.8212	0.8213	0.8608m	0.8554m	0.7577	AVRG		1.19471		0.8370	4	15	0.05	0.99	
Bromomethane		0.4701	0.4674m	0.4500	0.4541	0.4435	0.4574	0.4491	0.4131	AVRG		2.21941		0.4506	4	15	0.05	0.99	
Chloroethane		0.3505	0.4092	0.4107m	0.3881m	0.3599m	0.3824m	0.3546	0.3317	AVRG		2.67808		0.3734	8	15	0.05	0.99	
Trichlorofluoromethane		1.0072	1.1232	1.0821m	1.1058	1.0895m	1.0801	1.0935	1.0044	AVRG		0.93175		1.0732	4	15	0.05	0.99	
Acetone				0.2224	0.2073	0.1916	0.2134	0.1650	0.1677	AVRG		5.13969		0.1946	12	15	0.05	0.99	
Freon 113		0.5018	0.4211	0.5762	0.5814	0.5505	0.5761	0.5753	0.5618	AVRG		1.84150		0.5430	10	15	0.05	0.99	
1,1-Dichloroethene		0.4933	0.4431	0.4871	0.5044	0.4728	0.4774	0.4815	0.4409	AVRG		2.10509		0.4750	5	15	0.05	0.99	
Methylene Chloride		0.5625	0.5607	0.5698	0.5534	0.5356	0.5391	0.5340	0.4768	AVRG		1.84679		0.5415	5	15	0.05	0.99	
Carbon Disulfide		1.8275	1.6405	1.8611	1.8762	1.7071	1.7797	1.7028	1.5908	AVRG		0.57201		1.7482	6	15	0.05	0.99	
MTBE		1.3812	1.4095	1.1600	1.2439	1.6616	1.1878	1.3580	1.1966	AVRG		0.75481		1.3248	13	15	0.05	0.99	
trans-1,2-Dichloroethene		0.7793	0.7304	0.6607	0.6266	0.7448	0.5828	0.7211	0.6025	AVRG		1.46835		0.6810	11	15	0.05	0.99	
Vinyl Acetate				0.9184	1.2187	1.1950	1.2121	1.3395	1.3172	AVRG		0.83324		1.2001	13	15	0.05	0.99	
1,1-Dichloroethane		1.7256	1.6533	1.6271	1.6215	1.5826	1.5297	1.5427	1.3647	AVRG		0.63255		1.5809	7	15	0.10	0.99	
2-Butanone			0.3201	0.3490	0.4035	0.3823	0.4001	0.3648	0.3472	AVRG		2.72704		0.3667	8	15	0.05	0.99	
2,2-Dichloropropane		0.7881	0.7414	0.8457	0.8862	0.9020	0.8990	0.8829	0.8326	AVRG		1.18031		0.8472	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8002	0.8035	0.8091	0.7937	0.7811	0.7858	0.7414	0.6730	AVRG		1.29287		0.7735	6	15	0.05	0.99	
Chloroform		1.4309	1.3849	1.3823	1.3237	1.3141	1.3253	1.3234	1.1438	AVRG		0.75270		1.3286	6	15	0.05	0.99	
Bromochloromethane		0.4166	0.3788	0.3892	0.3650	0.3702	0.3584	0.3456	0.3082	AVRG		2.72864		0.3665	9	15	0.05	0.99	
1,1,1-Trichloroethane		1.0301	0.9169	1.0646	1.0878	1.0540	1.0590	0.9844	0.9574	AVRG		0.98109		1.0193	6	15	0.05	0.99	
1,1-Dichloropropene		0.6058	0.5466	0.6363	0.6523	0.6246	0.6193	0.6229	0.5713	AVRG		1.63961		0.6099	6	15	0.05	0.99	
Carbon Tetrachloride		0.5090	0.4806	0.5654	0.5536	0.5561	0.5609	0.5475	0.5232	AVRG		1.86209		0.5370	6	15	0.05	0.99	
1,2-Dichloroethane		0.7019	0.6805	0.6481	0.6236	0.6413	0.6179	0.6281	0.5632	AVRG		1.56731		0.6380	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6499	1.6669	1.6627	1.5864	1.6371	1.6371	1.5404	1.4241	AVRG		0.62477		1.6006	5	15	0.05	0.99	
Trichloroethene		0.4501	0.4266	0.4613	0.4529	0.4428	0.4635	0.4391	0.4106	AVRG		2.25551		0.4434	4	15	0.05	0.99	
1,2-Dichloropropane		0.5572	0.5178	0.5647	0.5226	0.5453	0.5396	0.5181	0.4480	AVRG		1.89871		0.5267	7	15	0.05	0.99	
Bromodichloromethane		0.6400	0.6349	0.6358	0.6228	0.6101	0.6138	0.5986	0.5636	AVRG		1.62618		0.6149	4	15	0.05	0.99	
Dibromomethane		0.3401	0.3315	0.3151	0.3057	0.3098	0.2946	0.2966	0.2739	AVRG		3.24241		0.3084	7	15	0.05	0.99	
4-Methyl-2-Pentanone		0.4391	0.4208	0.4463	0.4409	0.4978	0.4789	0.4597	0.4503	AVRG		2.20154		0.4542	5	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6204	0.6231	0.6267	0.6546	0.6606	0.6358	0.6614	0.6163	AVRG		1.56893		0.6374	3	15	0.05	0.99	
Toluene		1.1897	1.1812	1.1681	1.1328	1.1120	1.0708	1.0378	1.0310	AVRG		0.89651		1.1154	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5642	0.6283	0.6359	0.6574	0.6707	0.6581	0.6687	0.6918	AVRG		1.54587		0.6469	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.2407	0.2511	0.2513	0.2607	0.2569	0.2458	0.2482	0.2435	AVRG		4.00365		0.2498	3	15	0.05	0.99	
2-Hexanone		0.4328	0.3825	0.3966	0.3986	0.4081	0.3992	0.3781	0.3584	AVRG		2.53620		0.3943	6	15	0.05	0.99	
1,3-Dichloropropane		0.6954	0.6792	0.7245	0.7263	0.7217	0.7177	0.7267	0.7014	AVRG		1.40523		0.7116	2	15	0.05	0.99	
Tetrachloroethene		0.4523	0.4554	0.4957	0.4965	0.4821	0.4693	0.4743	0.4935	AVRG		2.09475		0.4774	4	15	0.05	0.99	
Dibromochloromethane		0.5082	0.5422	0.5524	0.5554	0.5606	0.5645	0.5572	0.5820	AVRG		1.80896		0.5528	4	15	0.05	0.99	
1,2-Dibromoethane		0.4567	0.4705	0.4696	0.4709	0.4633	0.4437	0.4525	0.4391	AVRG		2.18209		0.4583	3	15	0.05	0.99	
Chlorobenzene		1.3131	1.2979	1.3273	1.2879	1.2439	1.2380	1.2172	1.1955	AVRG		0.79044		1.2651	4	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4077	0.4582	0.4457	0.4647	0.4406	0.4633	0.4495	0.4704	AVRG		2.22209		0.4500	4	15	0.05	0.99	
Ethylbenzene		2.1429	2.2460	2.2192	2.1668	2.0311	2.0705	1.9074	1.8572	AVRG		0.48074		2.0801	7	15	0.05	0.99	
m,p-Xylenes	0.8682	0.8348	0.8492	0.8737	0.8099	0.7636	0.7740	0.7121	0.6661	AVRG		1.25844		0.7946	9	15	0.05	0.99	
o-Xylene		0.8067	0.8522	0.8720	0.7990	0.7615	0.7608	0.7349	0.7144	AVRG		1.26953		0.7877	7	15	0.05	0.99	
Styrene		1.3854	1.4948	1.4814	1.3848	1.3082	1.3846	1.2707	1.2082	AVRG		0.73273		1.3648	7	15	0.05	0.99	
Bromoform		0.3351	0.3467	0.3574	0.3784	0.3789	0.3779	0.3910	0.4083	AVRG		2.69040		0.3717	6	15	0.10	0.99	
Isopropylbenzene		4.0556	3.8147	4.3362	4.0522	3.9913	4.0403	3.9164	3.6697	AVRG		0.25097		3.9845	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.1586	1.2131	1.2779	1.2523	1.1999	1.1493	1.1791	1.1577	AVRG		0.83438		1.1985	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.9206	0.9387	0.9549	0.9714	0.9199	0.8812	0.8882	0.8715	AVRG		1.08897		0.9183	4	15	0.05	0.99	
Propylbenzene		5.0184	5.0232	5.7050	5.1332	4.7447	4.7823	4.6179	4.1560	AVRG		0.20418		4.8976	9	15	0.05	0.99	
Bromobenzene		1.0794	1.0870	1.1567	1.0951	1.0224	1.0274	1.0499	0.9826	AVRG		0.94113		1.0625	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		3.5709	3.4922	3.8055	3.5182	3.3567	3.4402	3.3000	2.8584	AVRG		0.29259		3.4178	8	15	0.05	0.99	
2-Chlorotoluene		3.4670	3.4797	3.6516	3.4548	3.1205	3.0890	3.0553	2.6593	AVRG		0.30796		3.2471	10	15	0.05	0.99	
4-Chlorotoluene		3.2728	3.1742	3.3547	3.2526	3.0129	2.9739	2.9074	2.6797	AVRG		0.32483		3.0785	7	15	0.05	0.99	
tert-Butylbenzene		2.6609	2.5750	3.0519	2.8434	2.7594	2.6960	2.6327	2.4649	AVRG		0.36893		2.7105	7	15	0.05	0.99	
1,2,4-Trimethylbenzene		3.8570	3.7393	3.7988	3.6865	3.3288	3.3594	3.3776	2.9768	AVRG		0.28445		3.5155	9	15	0.05	0.99	
sec-Butylbenzene		4.3758	4.2611	4.9864	4.6696	4.4381	4.5503	4.3390	4.0184	AVRG		0.22447		4.4548	6	15	0.05	0.99	
para-Isopropyl Toluene		3.5515	3.4294	3.8597	3.7522	3.5787	3.7266	3.4800	3.2972	AVRG		0.27899		3.5844	5	15	0.05	0.99	
1,3-Dichlorobenzene		2.0472	1.9574	2.0491	1.9268	1.7795	1.8046	1.7699	1.7400	AVRG		0.53070		1.8843	7	15	0.05	0.99	
1,4-Dichlorobenzene		2.0007	1.9670	1.9916	1.9393	1.8161	1.8282	1.8164	1.7500	AVRG		0.52948		1.8887	5	15	0.05	0.99	
n-Butylbenzene		3.8823	3.5323	4.0441	3.9412	3.6882	3.6001	3.5729	3.1284	AVRG		0.27221		3.6737	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.9043	1.8614	1.9750	1.8793	1.7526	1.7547	1.7421	1.6671	AVRG		0.55034		1.8171	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2364	0.2239	0.2305	0.2218	0.2217	0.2198	0.2100	0.2133	AVRG		4.50114		0.2222	4	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.2421	1.2164	1.3244	1.2739	1.1999	1.2065	1.2283	1.1856	AVRG		0.80995		1.2346	4	15	0.05	0.99	
Hexachlorobutadiene		0.7097	0.6652	0.8070	0.8124	0.7824	0.7695	0.7413	0.8030	AVRG		1.31352		0.7613	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		2.7929	2.7732	3.1642	3.0316	2.9711	2.9423	2.9762	2.8248	AVRG		0.34077		2.9345	5	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.1854	1.1843	1.2804	1.2220	1.1581	1.1457	1.1652	1.1420	AVRG		0.84361		1.1854	4	15	0.05	0.99	
Dibromofluoromethane	0.6254	0.6581	0.6482	0.6644	0.6449	0.6511	0.6445	0.6301	0.6022	AVRG		1.56009		0.6410	3	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4055	0.3991	0.4124	0.3914	0.3764	0.3831	0.3906	0.3761	0.3523	AVRG		2.58118		0.3874	5	15	0.05	0.99	
Trifluorotoluene	0.6602	0.6331	0.5565	0.6685	0.6238	0.6745	0.6480	0.6331	0.6240	AVRG		1.57298		0.6357	6	15	0.05	0.99	
Toluene-d8	1.2452	1.3212	1.3936	1.2478	1.3194	1.2969	1.2633	1.2704	1.3278	AVRG		0.77018		1.2984	4	15	0.05	0.99	
Bromofluorobenzene	1.0299	1.0661	1.0240	1.0339	1.0473	0.9936	1.0346	1.0323	1.0279	AVRG		0.96883		1.0322	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	-9	10.000	7	20.000	3	50.000	1	60.000	5	75.000	2	100.00	1	200.00	-10
Chloromethane			5.0000	0	10.000	1	20.000	3	50.000	2	60.000	-2	75.000	3	100.00	3	200.00	-10
Vinyl Chloride			5.0000	1	10.000	4	20.000	3	50.000	-2	60.000	-2	75.000	3	100.00	2	200.00	-9
Bromomethane			5.0000	4	10.000	4	20.000	0	50.000	1	60.000	-2	75.000	2	100.00	0	200.00	-8
Chloroethane			5.0000	-6	10.000	10	20.000	10	50.000	4	60.000	-4	75.000	2	100.00	-5	200.00	-11
Trichlorofluoromethane			5.0000	-6	10.000	5	20.000	1	50.000	3	60.000	2	75.000	1	100.00	2	200.00	-6
Acetone							20.000	14	50.000	7	60.000	-2	75.000	10	100.00	-15	200.00	-14
Freon 113			5.0000	-8	10.000	**-22**	20.000	6	50.000	7	60.000	1	75.000	6	100.00	6	200.00	3
1,1-Dichloroethene			5.0000	4	10.000	-7	20.000	3	50.000	6	60.000	0	75.000	0	100.00	1	200.00	-7
Methylene Chloride			5.0000	4	10.000	4	20.000	5	50.000	2	60.000	-1	75.000	0	100.00	-1	200.00	-12
Carbon Disulfide			5.0000	5	10.000	-6	20.000	6	50.000	7	60.000	-2	75.000	2	100.00	-3	200.00	-9
MTBE			5.0000	4	10.000	6	20.000	-12	50.000	-6	60.000	**25**	75.000	-10	100.00	3	200.00	-10
trans-1,2-Dichloroethene			5.0000	14	10.000	7	20.000	-3	50.000	-8	60.000	9	75.000	-14	100.00	6	200.00	-12
Vinyl Acetate							20.000	**-23**	50.000	2	60.000	0	75.000	1	100.00	12	200.00	10
1,1-Dichloroethane			5.0000	9	10.000	5	20.000	3	50.000	3	60.000	0	75.000	-3	100.00	-2	200.00	-14
2-Butanone					10.000	-13	20.000	-5	50.000	10	60.000	4	75.000	9	100.00	-1	200.00	-5
2,2-Dichloropropane			5.0000	-7	10.000	-12	20.000	0	50.000	5	60.000	6	75.000	6	100.00	4	200.00	-2
cis-1,2-Dichloroethene			5.0000	3	10.000	4	20.000	5	50.000	3	60.000	1	75.000	2	100.00	-4	200.00	-13
Chloroform			5.0000	8	10.000	4	20.000	4	50.000	0	60.000	-1	75.000	0	100.00	0	200.00	-14
Bromochloromethane			5.0000	14	10.000	3	20.000	6	50.000	0	60.000	1	75.000	-2	100.00	-6	200.00	-16
1,1,1-Trichloroethane			5.0000	1	10.000	-10	20.000	4	50.000	7	60.000	3	75.000	4	100.00	-3	200.00	-6
1,1-Dichloropropene			5.0000	-1	10.000	-10	20.000	4	50.000	7	60.000	2	75.000	2	100.00	2	200.00	-6
Carbon Tetrachloride			5.0000	-5	10.000	-11	20.000	5	50.000	3	60.000	4	75.000	4	100.00	2	200.00	-3
1,2-Dichloroethane			5.0000	10	10.000	7	20.000	2	50.000	-2	60.000	1	75.000	-3	100.00	-2	200.00	-12
Benzene			5.0000	3	10.000	4	20.000	4	50.000	-1	60.000	2	75.000	2	100.00	-4	200.00	-11
Trichloroethene			5.0000	2	10.000	-4	20.000	4	50.000	2	60.000	0	75.000	5	100.00	-1	200.00	-7
1,2-Dichloropropane			5.0000	6	10.000	-2	20.000	7	50.000	-1	60.000	4	75.000	2	100.00	-2	200.00	-15
Bromodichloromethane			5.0000	4	10.000	3	20.000	3	50.000	1	60.000	-1	75.000	0	100.00	-3	200.00	-8
Dibromomethane			5.0000	10	10.000	7	20.000	2	50.000	-1	60.000	0	75.000	-4	100.00	-4	200.00	-11
4-Methyl-2-Pentanone			5.0000	-3	10.000	-7	20.000	-2	50.000	-3	60.000	10	75.000	5	100.00	1	200.00	-1
cis-1,3-Dichloropropene			5.0000	-3	10.000	-2	20.000	-2	50.000	3	60.000	4	75.000	0	100.00	4	200.00	-3
Toluene			5.0000	7	10.000	6	20.000	5	50.000	2	60.000	0	75.000	-4	100.00	-7	200.00	-8
trans-1,3-Dichloropropene			5.0000	-13	10.000	-3	20.000	-2	50.000	2	60.000	4	75.000	2	100.00	3	200.00	7
1,1,2-Trichloroethane			5.0000	-4	10.000	1	20.000	1	50.000	4	60.000	3	75.000	-2	100.00	-1	200.00	-3
2-Hexanone			5.0000	10	10.000	-3	20.000	1	50.000	1	60.000	3	75.000	1	100.00	-4	200.00	-9
1,3-Dichloropropane			5.0000	-2	10.000	-5	20.000	2	50.000	2	60.000	1	75.000	1	100.00	2	200.00	-1
Tetrachloroethene			5.0000	-5	10.000	-5	20.000	4	50.000	4	60.000	1	75.000	-2	100.00	-1	200.00	3
Dibromochloromethane			5.0000	-8	10.000	-2	20.000	0	50.000	0	60.000	1	75.000	2	100.00	1	200.00	5
1,2-Dibromoethane			5.0000	0	10.000	3	20.000	2	50.000	3	60.000	1	75.000	-3	100.00	-1	200.00	-4
Chlorobenzene			5.0000	4	10.000	3	20.000	5	50.000	2	60.000	-2	75.000	-2	100.00	-4	200.00	-5
1,1,1,2-Tetrachloroethane			5.0000	-9	10.000	2	20.000	-1	50.000	3	60.000	-2	75.000	3	100.00	0	200.00	5
Ethylbenzene			5.0000	3	10.000	8	20.000	7	50.000	4	60.000	-2	75.000	0	100.00	-8	200.00	-11

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	9	10.000	5	20.000	7	40.000	10	100.00	2	120.00	-4	150.00	-3	200.00	-10	400.00	-16
o-Xylene			5.0000	2	10.000	8	20.000	11	50.000	1	60.000	-3	75.000	-3	100.00	-7	200.00	-9
Styrene			5.0000	2	10.000	10	20.000	9	50.000	1	60.000	-4	75.000	1	100.00	-7	200.00	-11
Bromoform			5.0000	-10	10.000	-7	20.000	-4	50.000	2	60.000	2	75.000	2	100.00	5	200.00	10
Isopropylbenzene			5.0000	2	10.000	-4	20.000	9	50.000	2	60.000	0	75.000	1	100.00	-2	200.00	-8
1,1,2,2-Tetrachloroethane			5.0000	-3	10.000	1	20.000	7	50.000	4	60.000	0	75.000	-4	100.00	-2	200.00	-3
1,2,3-Trichloropropane			5.0000	0	10.000	2	20.000	4	50.000	6	60.000	0	75.000	-4	100.00	-3	200.00	-5
Propylbenzene			5.0000	2	10.000	3	20.000	16	50.000	5	60.000	-3	75.000	-2	100.00	-6	200.00	-15
Bromobenzene			5.0000	2	10.000	2	20.000	9	50.000	3	60.000	-4	75.000	-3	100.00	-1	200.00	-8
1,3,5-Trimethylbenzene			5.0000	4	10.000	2	20.000	11	50.000	3	60.000	-2	75.000	1	100.00	-3	200.00	-16
2-Chlorotoluene			5.0000	7	10.000	7	20.000	12	50.000	6	60.000	-4	75.000	-5	100.00	-6	200.00	-18
4-Chlorotoluene			5.0000	6	10.000	3	20.000	9	50.000	6	60.000	-2	75.000	-3	100.00	-6	200.00	-13
tert-Butylbenzene			5.0000	-2	10.000	-5	20.000	13	50.000	5	60.000	2	75.000	-1	100.00	-3	200.00	-9
1,2,4-Trimethylbenzene			5.0000	10	10.000	6	20.000	8	50.000	5	60.000	-5	75.000	-4	100.00	-4	200.00	-15
sec-Butylbenzene			5.0000	-2	10.000	-4	20.000	12	50.000	5	60.000	0	75.000	2	100.00	-3	200.00	-10
para-Isopropyl Toluene			5.0000	-1	10.000	-4	20.000	8	50.000	5	60.000	0	75.000	4	100.00	-3	200.00	-8
1,3-Dichlorobenzene			5.0000	9	10.000	4	20.000	9	50.000	2	60.000	-6	75.000	-4	100.00	-6	200.00	-8
1,4-Dichlorobenzene			5.0000	6	10.000	4	20.000	5	50.000	3	60.000	-4	75.000	-3	100.00	-4	200.00	-7
n-Butylbenzene			5.0000	6	10.000	-4	20.000	10	50.000	7	60.000	0	75.000	-2	100.00	-3	200.00	-15
1,2-Dichlorobenzene			5.0000	5	10.000	2	20.000	9	50.000	3	60.000	-4	75.000	-3	100.00	-4	200.00	-8
1,2-Dibromo-3-Chloropropane			5.0000	6	10.000	1	20.000	4	50.000	0	60.000	0	75.000	-1	100.00	-5	200.00	-4
1,2,4-Trichlorobenzene			5.0000	1	10.000	-1	20.000	7	50.000	3	60.000	-3	75.000	-2	100.00	-1	200.00	-4
Hexachlorobutadiene			5.0000	-7	10.000	-13	20.000	6	50.000	7	60.000	3	75.000	1	100.00	-3	200.00	5
Naphthalene			5.0000	-5	10.000	-5	20.000	8	50.000	3	60.000	1	75.000	0	100.00	1	200.00	-4
1,2,3-Trichlorobenzene			5.0000	0	10.000	0	20.000	8	50.000	3	60.000	-2	75.000	-3	100.00	-2	200.00	-4
Dibromofluoromethane	50.000	-2	50.000	3	50.000	1	50.000	4	50.000	1	50.000	2	50.000	1	50.000	-2	50.000	-6
1,2-Dichloroethane-d4	50.000	5	50.000	3	50.000	6	50.000	1	50.000	-3	50.000	-1	50.000	1	50.000	-3	50.000	-9
Trifluorotoluene	2.5000	4	5.0000	0	10.000	-12	20.000	5	50.000	-2	60.000	6	75.000	2	100.00	0	200.00	-2
Toluene-d8	50.000	-4	50.000	2	50.000	7	50.000	-4	50.000	2	50.000	0	50.000	-3	50.000	-2	50.000	2
Bromofluorobenzene	50.000	0	50.000	3	50.000	-1	50.000	0	50.000	1	50.000	-4	50.000	0	50.000	0	50.000	0

DAR 04/03/15 [Freon 12]: Combined split peak in all levels.

DAR 04/03/15 [Bromomethane]: Combined split peak in (dd109).

DAR 04/03/15 [Vinyl Chloride]: Combined split peak in multiple levels.

DAR 04/03/15 [Chloroethane]: Combined split peak in multiple levels.

DAR 04/03/15 [Trichlorofluoromethane]: Combined split peak in multiple levels.

DAR 04/03/15 [Ethanol]: Combined split peak in multiple levels.

DAR 04/03/15 [Isopropanol]: Combined split peak in multiple levels.

DAR 04/03/15 [Acetone]: Combined split peak in (dd108).

Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

435131479001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Name : 826GOX4S
Calnum : 435131479001 Cal Date : 01-APR-2015 Type : SOIL

ICV 435131479015 (dd115 01-APR-2015) stds: S26672 (10000X), S26911 (5000X)
ICV 435131479016 (dd116 01-APR-2015) stds: S26876 (10000X), S26759 (10000X), S26642 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	435131479015	20.00	15.24	ug/L	**-24**	30	!v- m
Chloromethane	435131479015	20.00	16.42	ug/L	-18	30	
Vinyl Chloride	435131479015	20.00	18.50	ug/L	-7	20	
Bromomethane	435131479015	20.00	16.82	ug/L	-16	30	m
Chloroethane	435131479015	20.00	18.88	ug/L	-6	30	
Trichlorofluoromethane	435131479015	20.00	18.50	ug/L	-7	30	
Acetone	435131479016	25.00	25.47	ug/L	2	40	
Freon 113	435131479016	25.00	24.13	ug/L	-3	30	
1,1-Dichloroethene	435131479016	25.00	25.07	ug/L	0	20	
Methylene Chloride	435131479016	25.00	23.65	ug/L	-5	30	
Carbon Disulfide	435131479016	25.00	26.20	ug/L	5	30	
MTBE	435131479016	25.00	19.93	ug/L	-20	30	
trans-1,2-Dichloroethene	435131479016	25.00	18.53	ug/L	**-26**	30	!v-
Vinyl Acetate	435131479016	25.00	28.92	ug/L	16	40	
1,1-Dichloroethane	435131479016	25.00	23.57	ug/L	-6	30	
2-Butanone	435131479016	25.00	22.31	ug/L	-11	40	
2,2-Dichloropropane	435131479016	25.00	23.98	ug/L	-4	30	
cis-1,2-Dichloroethene	435131479016	25.00	24.11	ug/L	-4	30	
Chloroform	435131479016	25.00	24.43	ug/L	-2	20	
Bromochloromethane	435131479016	25.00	24.16	ug/L	-3	30	
1,1,1-Trichloroethane	435131479016	25.00	24.65	ug/L	-1	30	
1,1-Dichloropropene	435131479016	25.00	24.75	ug/L	-1	30	
Carbon Tetrachloride	435131479016	25.00	25.63	ug/L	3	30	
1,2-Dichloroethane	435131479016	25.00	23.91	ug/L	-4	30	
Benzene	435131479016	25.00	25.99	ug/L	4	30	
Trichloroethene	435131479016	25.00	24.57	ug/L	-2	30	
1,2-Dichloropropane	435131479016	25.00	23.69	ug/L	-5	20	
Bromodichloromethane	435131479016	25.00	24.38	ug/L	-2	30	
Dibromomethane	435131479016	25.00	26.11	ug/L	4	30	
4-Methyl-2-Pentanone	435131479016	25.00	27.43	ug/L	10	40	
cis-1,3-Dichloropropene	435131479016	25.00	23.81	ug/L	-5	30	
Toluene	435131479016	25.00	25.46	ug/L	2	20	
trans-1,3-Dichloropropene	435131479016	25.00	22.05	ug/L	-12	30	
1,1,2-Trichloroethane	435131479016	25.00	24.85	ug/L	-1	30	
2-Hexanone	435131479016	25.00	30.15	ug/L	**21**	40	!v+
1,3-Dichloropropane	435131479016	25.00	26.47	ug/L	6	30	
Tetrachloroethene	435131479016	25.00	25.97	ug/L	4	30	
Dibromochloromethane	435131479016	25.00	24.50	ug/L	-2	30	
1,2-Dibromoethane	435131479016	25.00	24.84	ug/L	-1	30	
Chlorobenzene	435131479016	25.00	25.01	ug/L	0	30	
1,1,1,2-Tetrachloroethane	435131479016	25.00	24.64	ug/L	-1	30	
Ethylbenzene	435131479016	25.00	26.65	ug/L	7	20	
m,p-Xylenes	435131479016	50.00	51.10	ug/L	2	30	
o-Xylene	435131479016	25.00	25.89	ug/L	4	30	
Styrene	435131479016	25.00	25.51	ug/L	2	30	
Bromoform	435131479016	25.00	24.63	ug/L	-1	30	
Isopropylbenzene	435131479016	25.00	25.87	ug/L	3	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	435131479016	25.00	25.05	ug/L	0	30	
1,2,3-Trichloropropane	435131479016	25.00	22.77	ug/L	-9	30	
Propylbenzene	435131479016	25.00	25.67	ug/L	3	30	
Bromobenzene	435131479016	25.00	25.14	ug/L	1	30	
1,3,5-Trimethylbenzene	435131479016	25.00	26.73	ug/L	7	30	
2-Chlorotoluene	435131479016	25.00	25.13	ug/L	1	30	
4-Chlorotoluene	435131479016	25.00	24.78	ug/L	-1	30	
tert-Butylbenzene	435131479016	25.00	25.65	ug/L	3	30	
1,2,4-Trimethylbenzene	435131479016	25.00	24.86	ug/L	-1	30	
sec-Butylbenzene	435131479016	25.00	26.30	ug/L	5	30	
para-Isopropyl Toluene	435131479016	25.00	23.81	ug/L	-5	30	
1,3-Dichlorobenzene	435131479016	25.00	23.90	ug/L	-4	30	
1,4-Dichlorobenzene	435131479016	25.00	23.89	ug/L	-4	30	
n-Butylbenzene	435131479016	25.00	25.96	ug/L	4	30	
1,2-Dichlorobenzene	435131479016	25.00	25.59	ug/L	2	30	
1,2-Dibromo-3-Chloropropane	435131479016	25.00	22.84	ug/L	-9	30	
1,2,4-Trichlorobenzene	435131479016	25.00	24.54	ug/L	-2	30	
Hexachlorobutadiene	435131479016	25.00	24.97	ug/L	0	30	
Naphthalene	435131479016	25.00	23.90	ug/L	-4	30	
1,2,3-Trichlorobenzene	435131479016	25.00	25.40	ug/L	2	30	

435131479015: Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15
435131479016: Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15

!=warning +=high bias -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSVOA Soil: EPA 8260B

Inst : MSVOA05 Name : 826GOX5S
Calnum : 445154813001 Date : 17-APR-2015 20:12 Type : SOIL
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	edh16	445154813016	2.5PPB	17-APR-2015 20:12	S26948 (200000X), S26838 (200000X), S26957 (200000X), S26911 (5000X)
L2	edh17	445154813017	5PPB	17-APR-2015 20:47	S26948 (100000X), S26838 (100000X), S26957 (100000X), S26911 (5000X)
L3	edh18	445154813018	10PPB	17-APR-2015 21:22	S26948 (50000X), S26838 (50000X), S26957 (50000X), S26911 (5000X)
L4	edh19	445154813019	20PPB	17-APR-2015 21:56	S26948 (25000X), S26838 (25000X), S26957 (25000X), S26911 (5000X)
L5	edh20	445154813020	50PPB	17-APR-2015 22:31	S26948 (10000X), S26838 (10000X), S26957 (10000X), S26911 (5000X)
L6	edh21	445154813021	60PPB	17-APR-2015 23:06	S26948 (8333X), S26838 (8333X), S26957 (8333X), S26911 (5000X)
L7	edh22	445154813022	75PPB	17-APR-2015 23:41	S26948 (6667X), S26838 (6667X), S26957 (6667X), S26911 (5000X)
L8	edh23	445154813023	100PPB	18-APR-2015 00:15	S26948 (5000X), S26838 (5000X), S26957 (5000X), S26911 (5000X)
L9	edh24	445154813024	200PPB	18-APR-2015 00:50	S26948 (2500X), S26838 (2500X), S26957 (2500X), S26911 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.1582m	1.1754m	1.1815m	1.1640m	0.9736m	1.0828m	1.0365m	1.1088m	AVRG		0.90083		1.1101	7	15	0.05	0.99	
Chloromethane		1.1678m	1.3486m	1.1646m	1.1960m	1.0302m	1.1690m	1.0551m	1.0797m	AVRG		0.86853		1.1514	9	15	0.10	0.99	
Vinyl Chloride		0.9664m	1.0118m	0.9537m	0.9539m	0.7946m	0.9153m	0.8147m	0.8748m	AVRG		1.09812		0.9106	8	15	0.05	0.99	
Bromomethane		0.6140m	0.6340	0.5948m	0.5734m	0.4570m	0.4931m	0.4468m		AVRG		1.83573		0.5447	14	15	0.05	0.99	
Chloroethane		0.4607m	0.5325m	0.4824m	0.4749m	0.4079m	0.4502m	0.4053m	0.4034m	AVRG		2.21152		0.4522	10	15	0.05	0.99	
Trichlorofluoromethane		1.1575m	1.1655m	1.1882m	1.1766m	0.9981m	1.1176m	1.0572m	1.1357m	AVRG		0.88924		1.1246	6	15	0.05	0.99	
Acetone			0.5890	0.4205	0.3995	0.2970	0.3225	0.2763	0.2843	LINR	-12.554	3.75000		0.3699	0.989	15	0.05	0.99	
Freon 113		0.5433	0.5693	0.5909	0.6271	0.4987	0.5186	0.5271	0.5539	AVRG		1.80636		0.5536	8	15	0.05	0.99	
1,1-Dichloroethene		0.4782	0.5321	0.5014	0.5473	0.4235	0.4570	0.4360	0.4688	AVRG		2.08103		0.4805	9	15	0.05	0.99	
Methylene Chloride		0.6659	0.7245	0.6690	0.7544	0.5574	0.6485	0.6130	0.6050	AVRG		1.52740		0.6547	10	15	0.05	0.99	
Carbon Disulfide		1.9764	2.1056	1.9936	2.2278	1.6698	1.8787	1.8836	1.8033	AVRG		0.51484		1.9423	9	15	0.05	0.99	
MTBE		1.9596	2.1117	1.9323	2.2445	1.6632	1.9106	1.7414	1.8122	AVRG		0.52030		1.9220	10	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5640	0.6319	0.5709	0.6383	0.4796	0.5285	0.5094	0.5125	AVRG		1.80378		0.5544	10	15	0.05	0.99	
Vinyl Acetate		1.4243	1.5645	1.4767	1.5267	1.2166	1.4580	1.3269	1.4612	AVRG		0.69839		1.4319	8	15	0.05	0.99	
1,1-Dichloroethane		1.1858	1.3345	1.2078	1.3490	1.0550	1.1304	1.0659	1.0758	AVRG		0.85068		1.1755	10	15	0.10	0.99	
2-Butanone			0.4825	0.4206	0.4543	0.3469	0.4026	0.3559	0.3731	AVRG		2.46831		0.4051	13	15	0.05	0.99	
2,2-Dichloropropane		1.0114	1.1084	1.0106	1.0929	0.8294	0.9305	0.9019	0.9237	AVRG		1.02447		0.9761	10	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6692	0.6881	0.6182	0.7023	0.5200	0.5947	0.5740	0.5622	AVRG		1.62317		0.6161	11	15	0.05	0.99	
Chloroform		1.1804	1.3122	1.1786	1.3532	1.0066	1.1618	1.0895	1.0894	AVRG		0.85362		1.1715	10	15	0.05	0.99	
Bromochloromethane		0.3059	0.3363	0.3063	0.3367	0.2435	0.2773	0.2663	0.2507	AVRG		3.44365		0.2904	13	15	0.05	0.99	
1,1,1-Trichloroethane		0.8931	1.0205	0.9303	1.0250	0.7784	0.8661	0.8587	0.8887	AVRG		1.10180		0.9076	9	15	0.05	0.99	
1,1-Dichloropropene		0.6208	0.6452	0.6271	0.6775	0.5226	0.5516	0.5595	0.5560	AVRG		1.68050		0.5951	9	15	0.05	0.99	
Carbon Tetrachloride		0.5107	0.5562	0.5392	0.6010	0.4587	0.4852	0.5154	0.5186	AVRG		1.91161		0.5231	8	15	0.05	0.99	
1,2-Dichloroethane		0.6933	0.7299	0.6833	0.7736	0.5553	0.6476	0.6260	0.6245	AVRG		1.49998		0.6667	10	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6136	1.7175	1.5466	1.7323	1.2698	1.4148	1.3870	1.2824	AVRG		0.66867		1.4955	12	15	0.05	0.99	
Trichloroethene		0.4412	0.4607	0.4255	0.4818	0.3518	0.3931	0.3923	0.3887	AVRG		2.39875		0.4169	10	15	0.05	0.99	
1,2-Dichloropropane		0.4765	0.5000	0.4691	0.5438	0.3928	0.4403	0.4308	0.4227	AVRG		2.17623		0.4595	10	15	0.05	0.99	
Bromodichloromethane		0.6032	0.6955	0.6532	0.7776	0.5500	0.6315	0.6261	0.6194	AVRG		1.55146		0.6446	11	15	0.05	0.99	
Dibromomethane		0.3025	0.3403	0.3130	0.3615	0.2551	0.2944	0.2864	0.2858	AVRG		3.28007		0.3049	11	15	0.05	0.99	
4-Methyl-2-Pentanone			0.6844	0.6221	0.6891	0.5094	0.5931	0.5429	0.5830	AVRG		1.65723		0.6034	11	15	0.05	0.99	
cis-1,3-Dichloropropene		0.7584	0.7927	0.7354	0.8461	0.5990	0.7060	0.6761	0.6822	AVRG		1.38028		0.7245	11	15	0.05	0.99	
Toluene		1.0418	1.1460	1.0171	1.1044	0.8604	0.9608	0.9235	0.8819	AVRG		1.00809		0.9920	10	15	0.05	0.99	
trans-1,3-Dichloropropene		0.7418	0.8060	0.7647	0.8782	0.6448	0.7460	0.7172	0.7144	AVRG		1.33046		0.7516	9	15	0.05	0.99	
1,1,2-Trichloroethane		0.2449	0.2548	0.2404	0.2760	0.2016	0.2295	0.2226	0.2196	AVRG		4.23377		0.2362	10	15	0.05	0.99	
2-Hexanone			0.5271	0.5073	0.5576	0.4264	0.4878	0.4443	0.4703	AVRG		2.04633		0.4887	9	15	0.05	0.99	
1,3-Dichloropropane		0.7503	0.8198	0.7325	0.8369	0.6247	0.7025	0.6873	0.6626	AVRG		1.37535		0.7271	10	15	0.05	0.99	
Tetrachloroethene		0.4541	0.5283	0.4845	0.5123	0.3818	0.4160	0.4383	0.4198	AVRG		2.20082		0.4544	11	15	0.05	0.99	
Dibromochloromethane		0.4938	0.5653	0.5234	0.6027	0.4490	0.5108	0.4976	0.4906	AVRG		1.93560		0.5166	9	15	0.05	0.99	
1,2-Dibromoethane		0.4328	0.4653	0.4392	0.4883	0.3708	0.4174	0.4013	0.4031	AVRG		2.34045		0.4273	9	15	0.05	0.99	
Chlorobenzene		1.0922	1.2363	1.1145	1.2392	0.9352	1.0225	1.0104	0.9421	AVRG		0.93106		1.0740	11	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4514	0.5057	0.4356	0.5106	0.3696	0.4275	0.4170	0.4018	AVRG		2.27321		0.4399	11	15	0.05	0.99	
Ethylbenzene		2.0424	2.3366	2.0836	2.2387	1.7208	1.9216	1.8450	1.7390	AVRG		0.50226		1.9910	11	15	0.05	0.99	
m,p-Xylenes	0.7449	0.7026	0.7870	0.6843	0.7383	0.5583	0.6099	0.5860	0.5360	AVRG		1.51328		0.6608	14	15	0.05	0.99	
o-Xylene		0.7035	0.7969	0.6862	0.7753	0.5809	0.6352	0.6177	0.5774	AVRG		1.48890		0.6716	12	15	0.05	0.99	
Styrene		1.2116	1.3739	1.2217	1.3545	1.0115	1.1481	1.1011	1.0201	AVRG		0.84723		1.1803	12	15	0.05	0.99	
Bromoform		0.3848	0.4402	0.4062	0.4889	0.3477	0.3965	0.3892	0.3896	AVRG		2.46671		0.4054	10	15	0.10	0.99	
Isopropylbenzene		3.4099	3.5969	3.1839	3.4803	2.7197	2.9114	2.8970	2.8893	AVRG		0.31887		3.1360	10	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.1470	1.2232	1.1031	1.2405	0.9372	1.0686	1.0088	1.0211	AVRG		0.91433		1.0937	10	15	0.30	0.99	
1,2,3-Trichloropropane		0.8935	0.9084	0.8523	0.9594	0.7287	0.8373	0.7794	0.8133	AVRG		1.18130		0.8465	9	15	0.05	0.99	
Propylbenzene		4.3621	4.7052	4.3173	4.3725	3.4441	3.6849	3.4972	3.3488	AVRG		0.25211		3.9665	13	15	0.05	0.99	
Bromobenzene		0.9510	1.0538	0.9565	1.0467	0.7866	0.8598	0.8278	0.7964	AVRG		1.09912		0.9098	12	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.8009	2.9800	2.6756	2.8209	2.1931	2.4510	2.3120	2.2325	AVRG		0.39089		2.5582	12	15	0.05	0.99	
2-Chlorotoluene		3.0657	3.2387	2.8341	3.0137	2.3295	2.5932	2.3964	2.3152	AVRG		0.36720		2.7233	13	15	0.05	0.99	
4-Chlorotoluene		2.7803	2.9410	2.6761	2.9245	2.2068	2.4750	2.3451	2.2980	AVRG		0.38747		2.5809	11	15	0.05	0.99	
tert-Butylbenzene		2.3221	2.5566	2.2875	2.3806	1.8954	2.0700	2.0324	1.9851	AVRG		0.45637		2.1912	10	15	0.05	0.99	
1,2,4-Trimethylbenzene	2.9463	2.9440	3.1336	2.7648	2.9627	2.3350	2.5807	2.4301	2.3687	AVRG		0.36786		2.7184	11	15	0.05	0.99	
sec-Butylbenzene		3.6804	3.9165	3.6854	3.6997	2.9758	3.1954	3.1876	3.0190	AVRG		0.29240		3.4200	11	15	0.05	0.99	
para-Isopropyl Toluene		2.8774	3.1445	2.9346	3.0141	2.3573	2.5575	2.5389	2.4258	AVRG		0.36613		2.7313	11	15	0.05	0.99	
1,3-Dichlorobenzene		1.6651	1.8415	1.6228	1.8411	1.3731	1.5098	1.4617	1.3729	AVRG		0.63051		1.5860	12	15	0.05	0.99	
1,4-Dichlorobenzene		1.6235	1.8186	1.6281	1.7907	1.3638	1.5233	1.4590	1.3572	AVRG		0.63673		1.5705	11	15	0.05	0.99	
n-Butylbenzene		2.7654	2.9901	2.9223	3.0353	2.4515	2.5580	2.5241	2.4582	AVRG		0.36858		2.7131	9	15	0.05	0.99	
1,2-Dichlorobenzene		1.6194	1.7601	1.5850	1.7553	1.3265	1.4679	1.4375	1.3521	AVRG		0.65021		1.5380	11	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2109	0.2154	0.2027	0.2392	0.1812	0.2083	0.1977	0.2153	AVRG		4.78821		0.2088	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.7205	0.9004	0.8622	1.0618	0.7869	0.8735	0.8637	0.8822	AVRG		1.15088		0.8689	11	15	0.05	0.99	
Hexachlorobutadiene		0.6008	0.6655	0.6445	0.6684	0.5314	0.5655	0.5877	0.6111	AVRG		1.64104		0.6094	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.2602	1.5834	1.6814	2.1515	1.6162	1.8778	1.8164	1.9774	QUAD	1.38062	0.54627	-0.00011	1.7456	0.995	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6538	0.8260	0.8259	0.9908	0.7615	0.8525	0.8464	0.8612	AVRG		1.20880		0.8273	11	15	0.05	0.99	
Dibromofluoromethane	0.4873	0.4966	0.4919	0.5008	0.5107	0.5133	0.5168	0.5092	0.4996	AVRG		1.98842		0.5029	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4728	0.4781	0.4450	0.4572	0.4532	0.4499	0.4498	0.4426	0.4386	AVRG		2.20196		0.4541	3	15	0.05	0.99	
Trifluorotoluene	0.6829	0.6763	0.7037	0.6838	0.7261	0.5426	0.5880	0.6162	0.6103	AVRG		1.54380		0.6478	9	15	0.05	0.99	
Toluene-d8	1.2938	1.2641	1.2890	1.2789	1.2790	1.2782	1.2857	1.2943	1.2721	AVRG		0.78022		1.2817	1	15	0.05	0.99	
Bromofluorobenzene	1.0550	1.0493	0.9975	1.0275	1.0140	1.0230	1.0525	1.0142	1.0521	AVRG		0.96928		1.0317	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	4	10.000	6	20.000	6	50.000	5	60.000	-12	75.000	-2	100.00	-7	200.00	0
Chloromethane			5.0000	1	10.000	17	20.000	1	50.000	4	60.000	-11	75.000	2	100.00	-8	200.00	-6
Vinyl Chloride			5.0000	6	10.000	11	20.000	5	50.000	5	60.000	-13	75.000	1	100.00	-11	200.00	-4
Bromomethane			5.0000	13	10.000	16	20.000	9	50.000	5	60.000	-16	75.000	-9	100.00	-18		
Chloroethane			5.0000	2	10.000	18	20.000	7	50.000	5	60.000	-10	75.000	0	100.00	-10	200.00	-11
Trichlorofluoromethane			5.0000	3	10.000	4	20.000	6	50.000	5	60.000	-11	75.000	-1	100.00	-6	200.00	1
Acetone					10.000	-5	20.000	-5	50.000	**25**	60.000	-10	75.000	4	100.00	-9	200.00	0
Freon 113			5.0000	-2	10.000	3	20.000	7	50.000	13	60.000	-10	75.000	-6	100.00	-5	200.00	0
1,1-Dichloroethene			5.0000	0	10.000	11	20.000	4	50.000	14	60.000	-12	75.000	-5	100.00	-9	200.00	-2
Methylene Chloride			5.0000	2	10.000	11	20.000	2	50.000	15	60.000	-15	75.000	-1	100.00	-6	200.00	-8
Carbon Disulfide			5.0000	2	10.000	8	20.000	3	50.000	15	60.000	-14	75.000	-3	100.00	-3	200.00	-7
MTBE			5.0000	2	10.000	10	20.000	1	50.000	17	60.000	-13	75.000	-1	100.00	-9	200.00	-6
trans-1,2-Dichloroethene			5.0000	2	10.000	14	20.000	3	50.000	15	60.000	-13	75.000	-5	100.00	-8	200.00	-8
Vinyl Acetate			5.0000	-1	10.000	9	20.000	3	50.000	7	60.000	-15	75.000	2	100.00	-7	200.00	2
1,1-Dichloroethane			5.0000	1	10.000	14	20.000	3	50.000	15	60.000	-10	75.000	-4	100.00	-9	200.00	-8
2-Butanone					10.000	19	20.000	4	50.000	12	60.000	-14	75.000	-1	100.00	-12	200.00	-8
2,2-Dichloropropane			5.0000	4	10.000	14	20.000	4	50.000	12	60.000	-15	75.000	-5	100.00	-8	200.00	-5
cis-1,2-Dichloroethene			5.0000	9	10.000	12	20.000	0	50.000	14	60.000	-16	75.000	-3	100.00	-7	200.00	-9
Chloroform			5.0000	1	10.000	12	20.000	1	50.000	16	60.000	-14	75.000	-1	100.00	-7	200.00	-7
Bromochloromethane			5.0000	5	10.000	16	20.000	5	50.000	16	60.000	-16	75.000	-5	100.00	-8	200.00	-14
1,1,1-Trichloroethane			5.0000	-2	10.000	12	20.000	2	50.000	13	60.000	-14	75.000	-5	100.00	-5	200.00	-2
1,1-Dichloropropene			5.0000	4	10.000	8	20.000	5	50.000	14	60.000	-12	75.000	-7	100.00	-6	200.00	-7
Carbon Tetrachloride			5.0000	-2	10.000	6	20.000	3	50.000	15	60.000	-12	75.000	-7	100.00	-1	200.00	-1
1,2-Dichloroethane			5.0000	4	10.000	9	20.000	2	50.000	16	60.000	-17	75.000	-3	100.00	-6	200.00	-6
Benzene			5.0000	8	10.000	15	20.000	3	50.000	16	60.000	-15	75.000	-5	100.00	-7	200.00	-14
Trichloroethene			5.0000	6	10.000	11	20.000	2	50.000	16	60.000	-16	75.000	-6	100.00	-6	200.00	-7
1,2-Dichloropropane			5.0000	4	10.000	9	20.000	2	50.000	18	60.000	-15	75.000	-4	100.00	-6	200.00	-8
Bromodichloromethane			5.0000	-6	10.000	8	20.000	1	50.000	**21**	60.000	-15	75.000	-2	100.00	-3	200.00	-4
Dibromomethane			5.0000	-1	10.000	12	20.000	3	50.000	19	60.000	-16	75.000	-3	100.00	-6	200.00	-6
4-Methyl-2-Pentanone					10.000	13	20.000	3	50.000	14	60.000	-16	75.000	-2	100.00	-10	200.00	-3
cis-1,3-Dichloropropene			5.0000	5	10.000	9	20.000	2	50.000	17	60.000	-17	75.000	-3	100.00	-7	200.00	-6
Toluene			5.0000	5	10.000	16	20.000	3	50.000	11	60.000	-13	75.000	-3	100.00	-7	200.00	-11
trans-1,3-Dichloropropene			5.0000	-1	10.000	7	20.000	2	50.000	17	60.000	-14	75.000	-1	100.00	-5	200.00	-5
1,1,2-Trichloroethane			5.0000	4	10.000	8	20.000	2	50.000	17	60.000	-15	75.000	-3	100.00	-6	200.00	-7
2-Hexanone					10.000	8	20.000	4	50.000	14	60.000	-13	75.000	0	100.00	-9	200.00	-4
1,3-Dichloropropane			5.0000	3	10.000	13	20.000	1	50.000	15	60.000	-14	75.000	-3	100.00	-5	200.00	-9
Tetrachloroethene			5.0000	0	10.000	16	20.000	7	50.000	13	60.000	-16	75.000	-8	100.00	-4	200.00	-8
Dibromochloromethane			5.0000	-4	10.000	9	20.000	1	50.000	17	60.000	-13	75.000	-1	100.00	-4	200.00	-5
1,2-Dibromoethane			5.0000	1	10.000	9	20.000	3	50.000	14	60.000	-13	75.000	-2	100.00	-6	200.00	-6
Chlorobenzene			5.0000	2	10.000	15	20.000	4	50.000	15	60.000	-13	75.000	-5	100.00	-6	200.00	-12
1,1,1,2-Tetrachloroethane			5.0000	3	10.000	15	20.000	-1	50.000	16	60.000	-16	75.000	-3	100.00	-5	200.00	-9
Ethylbenzene			5.0000	3	10.000	17	20.000	5	50.000	12	60.000	-14	75.000	-3	100.00	-7	200.00	-13

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	13	10.000	6	20.000	19	40.000	4	100.00	12	120.00	-16	150.00	-8	200.00	-11	400.00	-19
o-Xylene			5.0000	5	10.000	19	20.000	2	50.000	15	60.000	-14	75.000	-5	100.00	-8	200.00	-14
Styrene			5.0000	3	10.000	16	20.000	4	50.000	15	60.000	-14	75.000	-3	100.00	-7	200.00	-14
Bromoform			5.0000	-5	10.000	9	20.000	0	50.000	**21**	60.000	-14	75.000	-2	100.00	-4	200.00	-4
Isopropylbenzene			5.0000	9	10.000	15	20.000	2	50.000	11	60.000	-13	75.000	-7	100.00	-8	200.00	-8
1,1,2,2-Tetrachloroethane			5.0000	5	10.000	12	20.000	1	50.000	13	60.000	-14	75.000	-2	100.00	-8	200.00	-7
1,2,3-Trichloropropane			5.0000	6	10.000	7	20.000	1	50.000	13	60.000	-14	75.000	-1	100.00	-8	200.00	-4
Propylbenzene			5.0000	10	10.000	19	20.000	9	50.000	10	60.000	-13	75.000	-7	100.00	-12	200.00	-16
Bromobenzene			5.0000	5	10.000	16	20.000	5	50.000	15	60.000	-14	75.000	-6	100.00	-9	200.00	-12
1,3,5-Trimethylbenzene			5.0000	9	10.000	16	20.000	5	50.000	10	60.000	-14	75.000	-4	100.00	-10	200.00	-13
2-Chlorotoluene			5.0000	13	10.000	19	20.000	4	50.000	11	60.000	-14	75.000	-5	100.00	-12	200.00	-15
4-Chlorotoluene			5.0000	8	10.000	14	20.000	4	50.000	13	60.000	-14	75.000	-4	100.00	-9	200.00	-11
tert-Butylbenzene			5.0000	6	10.000	17	20.000	4	50.000	9	60.000	-14	75.000	-6	100.00	-7	200.00	-9
1,2,4-Trimethylbenzene	2.5000	8	5.0000	8	10.000	15	20.000	2	50.000	9	60.000	-14	75.000	-5	100.00	-11	200.00	-13
sec-Butylbenzene			5.0000	8	10.000	15	20.000	8	50.000	8	60.000	-13	75.000	-7	100.00	-7	200.00	-12
para-Isopropyl Toluene			5.0000	5	10.000	15	20.000	7	50.000	10	60.000	-14	75.000	-6	100.00	-7	200.00	-11
1,3-Dichlorobenzene			5.0000	5	10.000	16	20.000	2	50.000	16	60.000	-13	75.000	-5	100.00	-8	200.00	-13
1,4-Dichlorobenzene			5.0000	3	10.000	16	20.000	4	50.000	14	60.000	-13	75.000	-3	100.00	-7	200.00	-14
n-Butylbenzene			5.0000	2	10.000	10	20.000	8	50.000	12	60.000	-10	75.000	-6	100.00	-7	200.00	-9
1,2-Dichlorobenzene			5.0000	5	10.000	14	20.000	3	50.000	14	60.000	-14	75.000	-5	100.00	-7	200.00	-12
1,2-Dibromo-3-Chloropropane			5.0000	1	10.000	3	20.000	-3	50.000	15	60.000	-13	75.000	0	100.00	-5	200.00	3
1,2,4-Trichlorobenzene			5.0000	-17	10.000	4	20.000	-1	50.000	**22**	60.000	-9	75.000	1	100.00	-1	200.00	2
Hexachlorobutadiene			5.0000	-1	10.000	9	20.000	6	50.000	10	60.000	-13	75.000	-7	100.00	-4	200.00	0
Naphthalene			5.0000	-4	10.000	0	20.000	-2	50.000	18	60.000	-11	75.000	2	100.00	-3	200.00	0
1,2,3-Trichlorobenzene			5.0000	**-21**	10.000	0	20.000	0	50.000	20	60.000	-8	75.000	3	100.00	2	200.00	4
Dibromofluoromethane	50.000	-3	50.000	-1	50.000	-2	50.000	0	50.000	2	50.000	2	50.000	3	50.000	1	50.000	-1
1,2-Dichloroethane-d4	50.000	4	50.000	5	50.000	-2	50.000	1	50.000	0	50.000	-1	50.000	-1	50.000	-3	50.000	-3
Trifluorotoluene	2.5000	5	5.0000	4	10.000	9	20.000	6	50.000	12	60.000	-16	75.000	-9	100.00	-5	200.00	-6
Toluene-d8	50.000	1	50.000	-1	50.000	1	50.000	0	50.000	0	50.000	0	50.000	0	50.000	1	50.000	-1
Bromofluorobenzene	50.000	2	50.000	2	50.000	-3	50.000	0	50.000	-2	50.000	-1	50.000	2	50.000	-2	50.000	2

NJT 04/21/15 [Freon 12]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Chloroethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Bromomethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Chloromethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Trichlorofluoromethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Ethanol]: Corrected fronting or tailing peak integration in multiple levels.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Name : 826GOX5S
Calnum : 445154813001 Cal Date : 17-APR-2015 Type : SOIL

ICV 445154813026 (edh26 18-APR-2015) stds: S26876 (10000X), S27022 (10000X), S26759 (10000X), S26911 (5000X)
ICV 445160525003 (edl03 21-APR-2015) stds: S26358 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	445160525003	21-APR-2015	20.00	17.67	ug/L	-12	30	m
Chloromethane	445160525003	21-APR-2015	20.00	22.09	ug/L	10	30	m
Vinyl Chloride	445160525003	21-APR-2015	20.00	22.24	ug/L	11	20	m
Bromomethane	445160525003	21-APR-2015	20.00	15.32	ug/L	**-23**	30	!v- m
Chloroethane	445160525003	21-APR-2015	20.00	22.34	ug/L	12	30	m
Trichlorofluoromethane	445160525003	21-APR-2015	20.00	18.93	ug/L	-5	30	m
Acetone	445154813026	18-APR-2015	25.00	24.77	ug/L	-1	40	
Freon 113	445154813026	18-APR-2015	25.00	23.27	ug/L	-7	30	
1,1-Dichloroethene	445154813026	18-APR-2015	25.00	25.33	ug/L	1	20	
Methylene Chloride	445154813026	18-APR-2015	25.00	25.16	ug/L	1	30	
Carbon Disulfide	445154813026	18-APR-2015	25.00	26.30	ug/L	5	30	
MTBE	445154813026	18-APR-2015	25.00	27.93	ug/L	12	30	
trans-1,2-Dichloroethene	445154813026	18-APR-2015	25.00	24.23	ug/L	-3	30	
Vinyl Acetate	445154813026	18-APR-2015	25.00	33.15	ug/L	**33**	40	!v+
1,1-Dichloroethane	445154813026	18-APR-2015	25.00	25.42	ug/L	2	30	
2-Butanone	445154813026	18-APR-2015	25.00	25.02	ug/L	0	40	
2,2-Dichloropropane	445154813026	18-APR-2015	25.00	25.31	ug/L	1	30	
cis-1,2-Dichloroethene	445154813026	18-APR-2015	25.00	25.48	ug/L	2	30	
Chloroform	445154813026	18-APR-2015	25.00	25.09	ug/L	0	20	
Bromochloromethane	445154813026	18-APR-2015	25.00	25.08	ug/L	0	30	
1,1,1-Trichloroethane	445154813026	18-APR-2015	25.00	25.19	ug/L	1	30	
1,1-Dichloropropene	445154813026	18-APR-2015	25.00	24.28	ug/L	-3	30	
Carbon Tetrachloride	445154813026	18-APR-2015	25.00	25.03	ug/L	0	30	
1,2-Dichloroethane	445154813026	18-APR-2015	25.00	24.08	ug/L	-4	30	
Benzene	445154813026	18-APR-2015	25.00	25.83	ug/L	3	30	
Trichloroethene	445154813026	18-APR-2015	25.00	24.98	ug/L	0	30	
1,2-Dichloropropane	445154813026	18-APR-2015	25.00	23.89	ug/L	-4	20	
Bromodichloromethane	445154813026	18-APR-2015	25.00	24.12	ug/L	-4	30	
Dibromomethane	445154813026	18-APR-2015	25.00	24.83	ug/L	-1	30	
4-Methyl-2-Pentanone	445154813026	18-APR-2015	25.00	24.86	ug/L	-1	40	
cis-1,3-Dichloropropene	445154813026	18-APR-2015	25.00	24.58	ug/L	-2	30	
Toluene	445154813026	18-APR-2015	25.00	25.44	ug/L	2	20	
trans-1,3-Dichloropropene	445154813026	18-APR-2015	25.00	23.03	ug/L	-8	30	
1,1,2-Trichloroethane	445154813026	18-APR-2015	25.00	24.59	ug/L	-2	30	
2-Hexanone	445154813026	18-APR-2015	25.00	24.96	ug/L	0	40	
1,3-Dichloropropane	445154813026	18-APR-2015	25.00	25.36	ug/L	1	30	
Tetrachloroethene	445154813026	18-APR-2015	25.00	25.07	ug/L	0	30	
Dibromochloromethane	445154813026	18-APR-2015	25.00	23.71	ug/L	-5	30	
1,2-Dibromoethane	445154813026	18-APR-2015	25.00	24.76	ug/L	-1	30	
Chlorobenzene	445154813026	18-APR-2015	25.00	24.96	ug/L	0	30	
1,1,1,2-Tetrachloroethane	445154813026	18-APR-2015	25.00	23.85	ug/L	-5	30	
Ethylbenzene	445154813026	18-APR-2015	25.00	25.50	ug/L	2	20	
m,p-Xylenes	445154813026	18-APR-2015	50.00	49.37	ug/L	-1	30	
o-Xylene	445154813026	18-APR-2015	25.00	25.34	ug/L	1	30	
Styrene	445154813026	18-APR-2015	25.00	24.78	ug/L	-1	30	
Bromoform	445154813026	18-APR-2015	25.00	23.33	ug/L	-7	30	
Isopropylbenzene	445154813026	18-APR-2015	25.00	24.06	ug/L	-4	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	445154813026	18-APR-2015	25.00	23.79	ug/L	-5	30	
1,2,3-Trichloropropane	445154813026	18-APR-2015	25.00	23.16	ug/L	-7	30	
Propylbenzene	445154813026	18-APR-2015	25.00	24.63	ug/L	-1	30	
Bromobenzene	445154813026	18-APR-2015	25.00	24.28	ug/L	-3	30	
1,3,5-Trimethylbenzene	445154813026	18-APR-2015	25.00	25.65	ug/L	3	30	
2-Chlorotoluene	445154813026	18-APR-2015	25.00	24.49	ug/L	-2	30	
4-Chlorotoluene	445154813026	18-APR-2015	25.00	23.38	ug/L	-6	30	
tert-Butylbenzene	445154813026	18-APR-2015	25.00	24.65	ug/L	-1	30	
1,2,4-Trimethylbenzene	445154813026	18-APR-2015	25.00	23.23	ug/L	-7	30	
sec-Butylbenzene	445154813026	18-APR-2015	25.00	24.63	ug/L	-1	30	
para-Isopropyl Toluene	445154813026	18-APR-2015	25.00	24.13	ug/L	-3	30	
1,3-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.09	ug/L	-4	30	
1,4-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.24	ug/L	-3	30	
n-Butylbenzene	445154813026	18-APR-2015	25.00	24.16	ug/L	-3	30	
1,2-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.29	ug/L	-3	30	
1,2-Dibromo-3-Chloropropane	445154813026	18-APR-2015	25.00	22.44	ug/L	-10	30	
1,2,4-Trichlorobenzene	445154813026	18-APR-2015	25.00	22.39	ug/L	-10	30	
Hexachlorobutadiene	445154813026	18-APR-2015	25.00	23.16	ug/L	-7	30	
Naphthalene	445154813026	18-APR-2015	25.00	21.74	ug/L	-13	30	
1,2,3-Trichlorobenzene	445154813026	18-APR-2015	25.00	22.48	ug/L	-10	30	

445154813026: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15
445160525003: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

!=warning +=high bias -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : QC785743 IDF : 1.0
Seqnum : 435170556005.1 File : dds05 Time : 28-APR-2015 12:43
Cal : 435131479001 Caldate : 01-APR-2015 Caltype : SOIL
Standards: S26876 (10000X), S27022 (10000X), S26759 (10000X), S24978 (10000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.2760	0.9937	20.00	15.57	ug/L	-22	30	0.0500	!v- m u
Chloromethane	0.9921	1.1201	20.00	22.58	ug/L	13	30	0.1000	u
Vinyl Chloride	0.8370	0.9907	20.00	23.67	ug/L	18	20	0.0500	u
Bromomethane	0.4506	0.6697	20.00	29.73	ug/L	**49**	30	0.0500	c+ u ***
Chloroethane	0.3734	0.4470	20.00	23.94	ug/L	20	30	0.0500	u
Trichlorofluoromethane	1.0732	1.2822	20.00	23.89	ug/L	19	30	0.0500	u
Acetone	0.1946	0.2306	25.00	29.63	ug/L	19	40	0.0500	u
Freon 113	0.5430	0.6089	25.00	28.03	ug/L	12	30	0.0500	u
1,1-Dichloroethene	0.4750	0.5509	25.00	28.99	ug/L	16	20	0.0500	u
Methylene Chloride	0.5415	0.8267	25.00	38.17	ug/L	**53**	30	0.0500	c+ u ***
Carbon Disulfide	1.7482	2.1897	25.00	31.31	ug/L	25	30	0.0500	u
MTBE	1.3248	1.3100	25.00	24.72	ug/L	-1	30	0.0500	u
trans-1,2-Dichloroethene	0.6810	0.7137	25.00	26.20	ug/L	5	30	0.0500	!v- u
Vinyl Acetate	1.2001	1.1285	25.00	23.51	ug/L	-6	40	0.0500	u
1,1-Dichloroethane	1.5809	1.4993	25.00	23.71	ug/L	-5	30	0.1000	u
2-Butanone	0.3667	0.2704	25.00	18.43	ug/L	-26	40	0.0500	u
cis-1,2-Dichloroethene	0.7735	0.7347	25.00	23.75	ug/L	-5	30	0.0500	u
2,2-Dichloropropane	0.8472	0.8614	25.00	25.42	ug/L	2	30	0.0500	u
Chloroform	1.3286	1.3545	25.00	25.49	ug/L	2	20	0.0500	u
Bromochloromethane	0.3665	0.4012	25.00	27.37	ug/L	9	30	0.0500	u
1,1,1-Trichloroethane	1.0193	1.1420	25.00	28.01	ug/L	12	30	0.0500	u
1,1-Dichloropropene	0.6099	0.5911	25.00	24.23	ug/L	-3	30	0.0500	u
Carbon Tetrachloride	0.5370	0.6832	25.00	31.80	ug/L	27	30	0.0500	u
1,2-Dichloroethane	0.6380	0.7400	25.00	29.00	ug/L	16	30	0.0500	u
Benzene	1.6006	1.6299	25.00	25.46	ug/L	2	30	0.0500	u
Trichloroethene	0.4434	0.4380	25.00	24.70	ug/L	-1	30	0.0500	u
1,2-Dichloropropane	0.5267	0.4467	25.00	21.20	ug/L	-15	20	0.0500	u
Bromodichloromethane	0.6149	0.6422	25.00	26.11	ug/L	4	30	0.0500	u
Dibromomethane	0.3084	0.3224	25.00	26.13	ug/L	5	30	0.0500	u
4-Methyl-2-Pentanone	0.4542	0.3989	25.00	21.96	ug/L	-12	40	0.0500	u
cis-1,3-Dichloropropene	0.6374	0.5888	25.00	23.09	ug/L	-8	30	0.0500	u
Toluene	1.1154	1.0699	25.00	23.98	ug/L	-4	20	0.0500	u
trans-1,3-Dichloropropene	0.6469	0.5145	25.00	19.88	ug/L	-20	30	0.0500	u
1,1,2-Trichloroethane	0.2498	0.2085	25.00	20.86	ug/L	-17	30	0.0500	u
2-Hexanone	0.3943	0.3173	25.00	20.12	ug/L	-20	40	0.0500	!v+ u
1,3-Dichloropropane	0.7116	0.6644	25.00	23.34	ug/L	-7	30	0.0500	u
Tetrachloroethene	0.4774	0.5156	25.00	27.00	ug/L	8	30	0.0500	u
Dibromochloromethane	0.5528	0.5416	25.00	24.49	ug/L	-2	30	0.0500	u
1,2-Dibromoethane	0.4583	0.3875	25.00	21.14	ug/L	-15	30	0.0500	u
Chlorobenzene	1.2651	1.2755	25.00	25.20	ug/L	1	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.4500	0.4684	25.00	26.02	ug/L	4	30	0.0500	u
Ethylbenzene	2.0801	2.1071	25.00	25.32	ug/L	1	20	0.0500	u
m,p-Xylenes	0.7946	0.7464	50.00	46.97	ug/L	-6	30	0.0500	u
o-Xylene	0.7877	0.7809	25.00	24.79	ug/L	-1	30	0.0500	u
Styrene	1.3648	1.3467	25.00	24.67	ug/L	-1	30	0.0500	u
Bromoform	0.3717	0.3968	25.00	26.69	ug/L	7	30	0.1000	u
Isopropylbenzene	3.9845	3.4366	25.00	21.56	ug/L	-14	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.1985	0.9786	25.00	20.41	ug/L	-18	30	0.3000	u
1,2,3-Trichloropropane	0.9183	0.7809	25.00	21.26	ug/L	-15	30	0.0500	u
Propylbenzene	4.8976	4.1965	25.00	21.42	ug/L	-14	30	0.0500	u
Bromobenzene	1.0625	0.9974	25.00	23.47	ug/L	-6	30	0.0500	u
1,3,5-Trimethylbenzene	3.4178	3.2002	25.00	23.41	ug/L	-6	30	0.0500	u
2-Chlorotoluene	3.2471	2.8936	25.00	22.28	ug/L	-11	30	0.0500	u
4-Chlorotoluene	3.0785	2.7051	25.00	21.97	ug/L	-12	30	0.0500	u
tert-Butylbenzene	2.7105	2.6292	25.00	24.25	ug/L	-3	30	0.0500	u
1,2,4-Trimethylbenzene	3.5155	3.2190	25.00	22.89	ug/L	-8	30	0.0500	u
sec-Butylbenzene	4.4548	4.1109	25.00	23.07	ug/L	-8	30	0.0500	u
para-Isopropyl Toluene	3.5844	3.4302	25.00	23.92	ug/L	-4	30	0.0500	u
1,3-Dichlorobenzene	1.8843	1.9055	25.00	25.28	ug/L	1	30	0.0500	u
1,4-Dichlorobenzene	1.8887	1.9703	25.00	26.08	ug/L	4	30	0.0500	u
n-Butylbenzene	3.6737	3.3930	25.00	23.09	ug/L	-8	30	0.0500	u
1,2-Dichlorobenzene	1.8171	1.8865	25.00	25.96	ug/L	4	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2222	0.1901	25.00	21.39	ug/L	-14	30	0.0500	u
1,2,4-Trichlorobenzene	1.2346	1.2825	25.00	25.97	ug/L	4	30	0.0500	u
Hexachlorobutadiene	0.7613	0.8033	25.00	26.38	ug/L	6	30	0.0500	u
Naphthalene	2.9345	2.4561	25.00	20.92	ug/L	-16	30	0.0500	u
1,2,3-Trichlorobenzene	1.1854	1.2037	25.00	25.39	ug/L	2	30	0.0500	u
Dibromofluoromethane	0.6410	0.6706	50.00	52.31	ug/L	5	30	0.0500	u
1,2-Dichloroethane-d4	0.3874	0.4507	50.00	58.17	ug/L	16	30	0.0500	u
Toluene-d8	1.2984	1.1853	50.00	45.64	ug/L	-9	30	0.0500	u
Bromofluorobenzene	1.0322	0.9159	50.00	44.37	ug/L	-11	30	0.0500	u

ISTD (ICAL dd110)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	831165	729376	-12.25	9.53	9.53	0.00
1,4-Difluorobenzene	1353475	1032772	-23.69	10.66	10.66	0.00
Chlorobenzene-d5	1056105	918827	-13.00	14.87	14.87	0.00
1,4-Dichlorobenzene-d4	538655	548296	1.79	17.60	17.60	0.00

DJA 04/29/15 [Freon 12]: Corrected fronting or tailing peak integration. [general version]

Analyst: NJT Date: 04/30/15 Reviewer: LW Date: 05/04/15

!=warning +=high bias -=low bias c=CCV m=manual integration u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : 35PPB IDF : 1.0
Seqnum : 445170617003 File : eds03 Time : 28-APR-2015 12:39
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S26948 (14290X), S27151 (14290X), S26957 (14290X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	1.3245	35.00	41.76	ug/L	19	30	0.0500	m
Chloromethane	1.1514	1.2334	35.00	37.49	ug/L	7	30	0.1000	m
Vinyl Chloride	0.9106	0.9998	35.00	38.43	ug/L	10	20	0.0500	m
Bromomethane	0.5447	0.5915	35.00	38.00	ug/L	9	30	0.0500	!v- m
Chloroethane	0.4522	0.5117	35.00	39.61	ug/L	13	30	0.0500	m
Trichlorofluoromethane	1.1246	1.3193	35.00	41.06	ug/L	17	30	0.0500	m
Acetone	0.3699	0.3703	35.00	36.05	ug/L	3	40	0.0500	
Freon 113	0.5536	0.6942	35.00	43.89	ug/L	**25**	30	0.0500	!c+
1,1-Dichloroethene	0.4805	0.5444	35.00	39.66	ug/L	13	20	0.0500	
Methylene Chloride	0.6547	0.7175	35.00	38.36	ug/L	10	30	0.0500	
Carbon Disulfide	1.9423	2.2704	35.00	40.91	ug/L	17	30	0.0500	
MTBE	1.9220	1.9419	35.00	35.36	ug/L	1	30	0.0500	
trans-1,2-Dichloroethene	0.5544	0.6098	35.00	38.50	ug/L	10	30	0.0500	
Vinyl Acetate	1.4319	1.3890	35.00	33.95	ug/L	-3	40	0.0500	!v+
1,1-Dichloroethane	1.1755	1.2352	35.00	36.78	ug/L	5	30	0.1000	
2-Butanone	0.4051	0.3957	35.00	34.18	ug/L	-2	40	0.0500	
2,2-Dichloropropane	0.9761	1.1415	35.00	40.93	ug/L	17	30	0.0500	
cis-1,2-Dichloroethene	0.6161	0.6568	35.00	37.31	ug/L	7	30	0.0500	
Chloroform	1.1715	1.2611	35.00	37.68	ug/L	8	20	0.0500	
Bromochloromethane	0.2904	0.3035	35.00	36.58	ug/L	5	30	0.0500	
1,1,1-Trichloroethane	0.9076	1.0153	35.00	39.15	ug/L	12	30	0.0500	
1,1-Dichloropropene	0.5951	0.6714	35.00	39.49	ug/L	13	30	0.0500	
Carbon Tetrachloride	0.5231	0.6021	35.00	40.28	ug/L	15	30	0.0500	
1,2-Dichloroethane	0.6667	0.6888	35.00	36.16	ug/L	3	30	0.0500	
Benzene	1.4955	1.5701	35.00	36.75	ug/L	5	30	0.0500	
Trichloroethene	0.4169	0.4494	35.00	37.73	ug/L	8	30	0.0500	
1,2-Dichloropropane	0.4595	0.4481	35.00	34.13	ug/L	-2	20	0.0500	
Bromodichloromethane	0.6446	0.6757	35.00	36.69	ug/L	5	30	0.0500	
Dibromomethane	0.3049	0.3093	35.00	35.51	ug/L	1	30	0.0500	
4-Methyl-2-Pentanone	0.6034	0.5394	35.00	31.29	ug/L	-11	40	0.0500	
cis-1,3-Dichloropropene	0.7245	0.7465	35.00	36.06	ug/L	3	30	0.0500	
Toluene	0.9920	1.0256	35.00	36.19	ug/L	3	20	0.0500	
trans-1,3-Dichloropropene	0.7516	0.7741	35.00	36.05	ug/L	3	30	0.0500	
1,1,2-Trichloroethane	0.2362	0.2346	35.00	34.77	ug/L	-1	30	0.0500	
2-Hexanone	0.4887	0.4404	35.00	31.55	ug/L	-10	40	0.0500	
1,3-Dichloropropane	0.7271	0.7282	35.00	35.06	ug/L	0	30	0.0500	
Tetrachloroethene	0.4544	0.5087	35.00	39.19	ug/L	12	30	0.0500	
Dibromochloromethane	0.5166	0.5359	35.00	36.30	ug/L	4	30	0.0500	
1,2-Dibromoethane	0.4273	0.4242	35.00	34.75	ug/L	-1	30	0.0500	
Chlorobenzene	1.0740	1.1106	35.00	36.19	ug/L	3	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4399	0.4493	35.00	35.75	ug/L	2	30	0.0500	
Ethylbenzene	1.9910	2.0863	35.00	36.67	ug/L	5	20	0.0500	
m,p-Xylenes	0.6608	0.7052	70.00	74.70	ug/L	7	30	0.0500	
o-Xylene	0.6716	0.7116	35.00	37.08	ug/L	6	30	0.0500	
Styrene	1.1803	1.2429	35.00	36.86	ug/L	5	30	0.0500	
Bromoform	0.4054	0.3971	35.00	34.29	ug/L	-2	30	0.1000	
Isopropylbenzene	3.1360	3.1162	35.00	34.78	ug/L	-1	30	0.0500	
1,1,2,2-Tetrachloroethane	1.0937	0.9959	35.00	31.87	ug/L	-9	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8465	0.7465	35.00	30.86	ug/L	-12	30	0.0500	
Propylbenzene	3.9665	4.0541	35.00	35.77	ug/L	2	30	0.0500	
Bromobenzene	0.9098	0.8921	35.00	34.32	ug/L	-2	30	0.0500	
1,3,5-Trimethylbenzene	2.5582	2.6212	35.00	35.86	ug/L	2	30	0.0500	
2-Chlorotoluene	2.7233	2.7239	35.00	35.01	ug/L	0	30	0.0500	
4-Chlorotoluene	2.5809	2.5543	35.00	34.64	ug/L	-1	30	0.0500	
tert-Butylbenzene	2.1912	2.2237	35.00	35.52	ug/L	1	30	0.0500	
1,2,4-Trimethylbenzene	2.7184	2.6894	35.00	34.63	ug/L	-1	30	0.0500	
sec-Butylbenzene	3.4200	3.5955	35.00	36.80	ug/L	5	30	0.0500	
para-Isopropyl Toluene	2.7313	2.8802	35.00	36.91	ug/L	5	30	0.0500	
1,3-Dichlorobenzene	1.5860	1.6918	35.00	37.33	ug/L	7	30	0.0500	
1,4-Dichlorobenzene	1.5705	1.6804	35.00	37.45	ug/L	7	30	0.0500	
n-Butylbenzene	2.7131	3.0217	35.00	38.98	ug/L	11	30	0.0500	
1,2-Dichlorobenzene	1.5380	1.5697	35.00	35.72	ug/L	2	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2088	0.1821	35.00	30.51	ug/L	-13	30	0.0500	
1,2,4-Trichlorobenzene	0.8689	0.9349	35.00	37.66	ug/L	8	30	0.0500	
Hexachlorobutadiene	0.6094	0.6760	35.00	38.82	ug/L	11	30	0.0500	
Naphthalene	1.7456	1.6289	35.00	32.17	ug/L	-8	30	0.0500	
1,2,3-Trichlorobenzene	0.8273	0.8353	35.00	35.34	ug/L	1	30	0.0500	
Dibromofluoromethane	0.5029	0.5373	50.00	53.42	ug/L	7	30	0.0500	
1,2-Dichloroethane-d4	0.4541	0.4650	50.00	51.20	ug/L	2	30	0.0500	
Trifluorotoluene	0.6478	0.7375	35.00	39.85	ug/L	14	30	0.0500	
Toluene-d8	1.2817	1.2270	50.00	47.87	ug/L	-4	30	0.0500	
Bromofluorobenzene	1.0317	0.9428	50.00	45.69	ug/L	-9	30	0.0500	

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	317478	9.39	9.69	9.68	-0.01
1,4-Difluorobenzene	407688	458991	12.58	10.79	10.79	0.00
Chlorobenzene-d5	373793	412967	10.48	14.90	14.90	0.00
1,4-Dichlorobenzene-d4	222007	264724	19.24	17.65	17.65	0.00

NJT 04/28/15 [Freon 12]: Corrected fronting or tailing peak integration.

NJT 04/28/15 [Chloromethane]: Corrected fronting or tailing peak integration.

NJT 04/28/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration.

NJT 04/28/15 [Bromomethane]: Corrected fronting or tailing peak integration.

NJT 04/28/15 [Chloroethane]: Corrected fronting or tailing peak integration.

NJT 04/28/15 [Trichlorofluoromethane]: Combined split peak.

Analyst: NJT Date: 04/28/15 * Reviewer: LW Date: 04/29/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : 30PPB IDF : 1.0
Seqnum : 445172046004 File : edt04 Time : 29-APR-2015 12:44
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S26948 (16670X), S27151 (16670X), S26957 (16670X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	1.2183	30.00	32.92	ug/L	10	30	0.0500	m
Chloromethane	1.1514	1.1041	30.00	28.77	ug/L	-4	30	0.1000	m
Vinyl Chloride	0.9106	0.9082	30.00	29.92	ug/L	0	20	0.0500	m
Bromomethane	0.5447	0.6318	30.00	34.80	ug/L	16	30	0.0500	!v- m
Chloroethane	0.4522	0.4793	30.00	31.80	ug/L	6	30	0.0500	m
Trichlorofluoromethane	1.1246	1.1341	30.00	30.26	ug/L	1	30	0.0500	m
Acetone	0.3699	0.2807	30.00	19.03	ug/L	**-37**	40	0.0500	!c-
Freon 113	0.5536	0.5923	30.00	32.10	ug/L	7	30	0.0500	
1,1-Dichloroethene	0.4805	0.4681	30.00	29.22	ug/L	-3	20	0.0500	
Methylene Chloride	0.6547	0.7318	30.00	33.53	ug/L	12	30	0.0500	
Carbon Disulfide	1.9423	1.8367	30.00	28.37	ug/L	-5	30	0.0500	
MTBE	1.9220	1.9951	30.00	31.14	ug/L	4	30	0.0500	
trans-1,2-Dichloroethene	0.5544	0.6560	30.00	35.50	ug/L	18	30	0.0500	
Vinyl Acetate	1.4319	1.5165	30.00	31.77	ug/L	6	40	0.0500	!v+
1,1-Dichloroethane	1.1755	1.3111	30.00	33.46	ug/L	12	30	0.1000	
2-Butanone	0.4051	0.4326	30.00	32.04	ug/L	7	40	0.0500	
2,2-Dichloropropane	0.9761	1.1413	30.00	35.08	ug/L	17	30	0.0500	
cis-1,2-Dichloroethene	0.6161	0.6997	30.00	34.07	ug/L	14	30	0.0500	
Chloroform	1.1715	1.2765	30.00	32.69	ug/L	9	20	0.0500	
Bromochloromethane	0.2904	0.3311	30.00	34.20	ug/L	14	30	0.0500	
1,1,1-Trichloroethane	0.9076	1.0085	30.00	33.34	ug/L	11	30	0.0500	
1,1-Dichloropropene	0.5951	0.7091	30.00	35.75	ug/L	19	30	0.0500	
Carbon Tetrachloride	0.5231	0.5822	30.00	33.39	ug/L	11	30	0.0500	
1,2-Dichloroethane	0.6667	0.6698	30.00	30.14	ug/L	0	30	0.0500	
Benzene	1.4955	1.7309	30.00	34.72	ug/L	16	30	0.0500	
Trichloroethene	0.4169	0.4710	30.00	33.89	ug/L	13	30	0.0500	
1,2-Dichloropropane	0.4595	0.4923	30.00	32.14	ug/L	7	20	0.0500	
Bromodichloromethane	0.6446	0.6688	30.00	31.13	ug/L	4	30	0.0500	
Dibromomethane	0.3049	0.3154	30.00	31.03	ug/L	3	30	0.0500	
4-Methyl-2-Pentanone	0.6034	0.6002	30.00	29.84	ug/L	-1	40	0.0500	
cis-1,3-Dichloropropene	0.7245	0.7868	30.00	32.58	ug/L	9	30	0.0500	
Toluene	0.9920	1.0984	30.00	33.22	ug/L	11	20	0.0500	
trans-1,3-Dichloropropene	0.7516	0.7760	30.00	30.98	ug/L	3	30	0.0500	
1,1,2-Trichloroethane	0.2362	0.2519	30.00	31.99	ug/L	7	30	0.0500	
2-Hexanone	0.4887	0.4760	30.00	29.22	ug/L	-3	40	0.0500	
1,3-Dichloropropane	0.7271	0.7763	30.00	32.03	ug/L	7	30	0.0500	
Tetrachloroethene	0.4544	0.5265	30.00	34.76	ug/L	16	30	0.0500	
Dibromochloromethane	0.5166	0.5217	30.00	30.30	ug/L	1	30	0.0500	
1,2-Dibromoethane	0.4273	0.4397	30.00	30.87	ug/L	3	30	0.0500	
Chlorobenzene	1.0740	1.1710	30.00	32.71	ug/L	9	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4399	0.4552	30.00	31.04	ug/L	3	30	0.0500	
Ethylbenzene	1.9910	2.2204	30.00	33.46	ug/L	12	20	0.0500	
m,p-Xylenes	0.6608	0.7424	60.00	67.40	ug/L	12	30	0.0500	
o-Xylene	0.6716	0.7471	30.00	33.37	ug/L	11	30	0.0500	
Styrene	1.1803	1.3080	30.00	33.25	ug/L	11	30	0.0500	
Bromoform	0.4054	0.3895	30.00	28.82	ug/L	-4	30	0.1000	
Isopropylbenzene	3.1360	3.4365	30.00	32.87	ug/L	10	30	0.0500	
1,1,2,2-Tetrachloroethane	1.0937	1.1204	30.00	30.73	ug/L	2	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8465	0.8395	30.00	29.75	ug/L	-1	30	0.0500	
Propylbenzene	3.9665	4.5563	30.00	34.46	ug/L	15	30	0.0500	
Bromobenzene	0.9098	0.9816	30.00	32.37	ug/L	8	30	0.0500	
1,3,5-Trimethylbenzene	2.5582	2.8706	30.00	33.66	ug/L	12	30	0.0500	
2-Chlorotoluene	2.7233	2.9184	30.00	32.15	ug/L	7	30	0.0500	
4-Chlorotoluene	2.5809	2.7630	30.00	32.12	ug/L	7	30	0.0500	
tert-Butylbenzene	2.1912	2.4665	30.00	33.77	ug/L	13	30	0.0500	
1,2,4-Trimethylbenzene	2.7184	2.9973	30.00	33.08	ug/L	10	30	0.0500	
sec-Butylbenzene	3.4200	3.9817	30.00	34.93	ug/L	16	30	0.0500	
para-Isopropyl Toluene	2.7313	3.2126	30.00	35.29	ug/L	18	30	0.0500	
1,3-Dichlorobenzene	1.5860	1.8021	30.00	34.09	ug/L	14	30	0.0500	
1,4-Dichlorobenzene	1.5705	1.8165	30.00	34.70	ug/L	16	30	0.0500	
n-Butylbenzene	2.7131	3.3125	30.00	36.63	ug/L	**22**	30	0.0500	!c+
1,2-Dichlorobenzene	1.5380	1.7231	30.00	33.61	ug/L	12	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2088	0.1902	30.00	27.32	ug/L	-9	30	0.0500	
1,2,4-Trichlorobenzene	0.8689	0.9817	30.00	33.90	ug/L	13	30	0.0500	
Hexachlorobutadiene	0.6094	0.6877	30.00	33.86	ug/L	13	30	0.0500	
Naphthalene	1.7456	1.7908	30.00	30.41	ug/L	1	30	0.0500	
1,2,3-Trichlorobenzene	0.8273	0.8967	30.00	32.52	ug/L	8	30	0.0500	
Dibromofluoromethane	0.5029	0.5248	50.00	52.17	ug/L	4	30	0.0500	
1,2-Dichloroethane-d4	0.4541	0.4157	50.00	45.77	ug/L	-8	30	0.0500	
Trifluorotoluene	0.6478	0.7751	30.00	35.90	ug/L	20	30	0.0500	
Toluene-d8	1.2817	1.2490	50.00	48.73	ug/L	-3	30	0.0500	
Bromofluorobenzene	1.0317	0.9857	50.00	47.77	ug/L	-4	30	0.0500	

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	329056	13.38	9.69	9.68	-0.01
1,4-Difluorobenzene	407688	470048	15.30	10.79	10.79	0.00
Chlorobenzene-d5	373793	426376	14.07	14.90	14.91	0.01
1,4-Dichlorobenzene-d4	222007	253247	14.07	17.65	17.66	0.01

NJT 04/29/15 [Freon 12]: Corrected fronting or tailing peak integration.

NJT 04/29/15 [Chloromethane]: Corrected fronting or tailing peak integration.

NJT 04/29/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration.

NJT 04/29/15 [Bromomethane]: Corrected fronting or tailing peak integration.

NJT 04/29/15 [Chloroethane]: Corrected fronting or tailing peak integration.

NJT 04/29/15 [Trichlorofluoromethane]: Corrected fronting or tailing peak integration.

Analyst: NJT Date: 04/29/15 Reviewer: LW Date: 04/30/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 435170556

Date : 04/28/15 Reference : dd110
Sequence : MSVOA04 dds Analyzed : 04/01/15 14:20

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4		RT
		ICAL STD	831165	9.53	1353475	10.66	1056105	14.87	538655		17.60
		LOWER LIMIT	415583	9.03	676738	10.16	528053	14.37	269328		17.10
		UPPER LIMIT	1662330	10.03	2706950	11.16	2112210	15.37	1077310		18.10
001	IB		785799	9.53	1013436	10.66	942595	14.87	548332		17.59
003	CCV/BS	QC785743	699265	9.52	966942	10.66	879040	14.87	522990		17.59
005	CCV/BS	QC785743	729376	9.53	1032772	10.66	918827	14.87	548296		17.60
006	BSD	QC785744	765704	9.53	1088627	10.66	951284	14.88	553010		17.61
007	IB		648007	9.53	931827	10.66	812117	14.87	452585		17.60
008	BLANK	QC785745	689107	9.52	962156	10.66	858909	14.87	460869		17.60
009	SAMPLE	266387-001	679680	9.53	976223	10.66	824401	14.88	455053		17.60
010	SAMPLE	266374-016	632066	9.53	898859	10.66	616532	14.88	194790	*	17.60
011	SAMPLE	266374-017	684707	9.53	997447	10.66	813166	14.88	423403		17.61
012	SAMPLE	266374-018	675965	9.52	1008790	10.67	812920	14.87	488770		17.60
013	SAMPLE	266374-019	682252	9.53	966665	10.67	792370	14.87	422143		17.60
014	SAMPLE	266374-020	644845	9.53	970181	10.66	825711	14.88	445910		17.60
015	SAMPLE	266374-021	655212	9.53	920370	10.66	818539	14.88	484431		17.60
016	SAMPLE	266374-022	657356	9.53	981123	10.66	828574	14.88	464608		17.60
017	SAMPLE	266388-001	683112	9.53	955327	10.66	817521	14.88	474571		17.60

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445170617

Date : 04/28/15 Reference : edh20
Sequence : MSVOA05 eds Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		316809	9.68	450376	10.79	393132	14.91	216785	17.65
003	CCV	35PPB	317478	9.68	458991	10.79	412967	14.90	264724	17.65
004	BS	QC785786	311564	9.68	448791	10.79	411894	14.91	253448	17.66
005	BSD	QC785787	307770	9.69	437593	10.79	399638	14.91	247170	17.65
006	BLANK	QC785788	303305	9.69	449306	10.79	400877	14.91	234794	17.65
007	SAMPLE	266368-015	301948	9.69	428214	10.79	399332	14.91	238895	17.65
008	SAMPLE	266368-016	280988	9.69	398707	10.79	364648	14.91	215085	17.65
009	SAMPLE	266364-001	262953	9.69	409680	10.80	376071	14.92	237249	17.65
010	SAMPLE	266364-003	342342	9.69	481587	10.79	449119	14.91	282137	17.65
011	SAMPLE	266364-004	357654	9.68	502053	10.79	451452	14.91	270321	17.66
012	SAMPLE	266364-005	333463	9.69	475671	10.80	443557	14.91	243809	17.65
013	SAMPLE	266374-003	351318	9.69	501201	10.79	462863	14.91	274988	17.65
014	SAMPLE	266374-004	321191	9.69	460069	10.79	436527	14.91	252673	17.65
015	SAMPLE	266374-005	366925	9.69	534419	10.79	480827	14.90	282776	17.65
016	SAMPLE	266374-006	330538	9.69	471821	10.79	436709	14.91	261151	17.65
017	SAMPLE	266374-007	331727	9.69	473363	10.79	437576	14.91	264419	17.65
018	SAMPLE	266374-009	327282	9.69	463098	10.79	439808	14.90	249388	17.65
019	SAMPLE	266374-010	318964	9.69	449577	10.79	423422	14.90	250942	17.65
020	SAMPLE	266374-013	296619	9.69	428999	10.79	384078	14.91	205922	17.65
021	SAMPLE	266374-014	298750	9.69	432492	10.79	411223	14.91	242561	17.65
022	SAMPLE	266364-002	252974	9.69	399604	10.79	349966	14.91	219322	17.66
023	IB		306539	9.69	451319	10.79	412881	14.90	236002	17.65
024	IB		323713	9.69	475525	10.79	424615	14.91	235869	17.65

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445172046

Date : 04/29/15 Reference : edh20
Sequence : MSVOA05 edt Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		346079	9.68	517352	10.79	456405	14.90	252437	17.65
004	CCV	30PPB	329056	9.68	470048	10.79	426376	14.91	253247	17.66
005	BS	QC785946	324296	9.68	466138	10.78	417592	14.90	254779	17.65
006	BSD	QC785947	306005	9.69	445180	10.79	402678	14.91	247703	17.65
007	BLANK	QC785948	294697	9.69	420878	10.79	385954	14.91	218623	17.65
008	PREPBLK	QC785975	301242	9.67	435157	10.78	391220	14.91	232301	17.66
009	SAMPLE	266374-016	289008	9.69	405368	10.79	337914	14.91	163454	17.65
010	SAMPLE	266396-002	252818	9.69	375508	10.80	354767	14.92	207164	17.66
011	SAMPLE	266396-003	269630	9.69	376304	10.80	330016	14.92	196873	17.66
012	SAMPLE	266396-004	287806	9.69	407607	10.79	377184	14.91	227883	17.65
013	SAMPLE	266396-005	239487	9.70	291740	10.80	259291	14.93	133115	17.69
014	IB		281988	9.69	403875	10.79	362727	14.91	213993	17.65
015	SAMPLE	266396-008	247665	9.69	346387	10.79	318962	14.91	186102	17.65
016	IB		280137	9.69	397063	10.80	365989	14.90	206635	17.65
017	MSS	266420-002	278631	9.69	399877	10.79	373305	14.91	219176	17.65
018	MS	QC786011	277816	9.69	401774	10.79	368664	14.91	225177	17.65
019	MSD	QC786012	275375	9.68	396029	10.79	368937	14.91	219754	17.66
020	SAMPLE	266364-005	264215	9.67	381569	10.78	353286	14.91	212348	17.66
021	SAMPLE	266374-011	278235	9.68	411243	10.78	380763	14.91	220617	17.65
022	SAMPLE	266374-015	287941	9.68	415621	10.79	385988	14.91	224766	17.65
023	SAMPLE	266396-001	286876	9.68	409741	10.79	334410	14.90	205725	17.65
024	IB		290314	9.69	416532	10.78	375282	14.90	209538	17.65
025	IB		296905	9.69	421631	10.79	385964	14.91	219666	17.65

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 435131479

Instrument : MSVOA04 Begun : 04/01/15 07:19
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	dd101	X	IB			04/01/15 07:19	1.0	1	
002	dd102	TUN	BFB			04/01/15 08:24	1.0	2	
003	dd103	TUN	BFB			04/01/15 10:31	1.0	2	
004	dd104	X	IB			04/01/15 10:58	1.0	1	
005	dd105	IB	CALIB			04/01/15 11:32	1.0	1	
006	dd106	ICAL				04/01/15 12:05	1.0	3 4 5 1	
007	dd107	ICAL				04/01/15 12:39	1.0	3 4 5 1	
008	dd108	ICAL				04/01/15 13:12	1.0	3 4 5 1	
009	dd109	ICAL				04/01/15 13:46	1.0	3 4 5 1	
010	dd110	ICAL				04/01/15 14:20	1.0	3 4 5 1	
011	dd111	ICAL				04/01/15 14:53	1.0	3 4 5 1	
012	dd112	ICAL				04/01/15 15:27	1.0	3 4 5 1	
013	dd113	ICAL				04/01/15 16:01	1.0	3 4 5 1	
014	dd114	ICAL				04/01/15 16:34	1.0	3 4 5 1	
015	dd115	ICV				04/01/15 17:08	1.0	6 1	
016	dd116	ICV				04/01/15 17:41	1.0	7 8 9 1	
017	dd117	X	IB			04/01/15 18:15	1.0	1	
018	dd118	X	IB			04/01/15 18:48	1.0	1	

DJA 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: DJA Date: 04/02/15 Reviewer: LW Date: 04/03/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S26838 5=S25156 6=S26672 7=S26876 8=S26759 9=S26642

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 435170556

Instrument : MSVOA04 Begun : 04/28/15 10:36
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	dds01	IB				04/28/15 10:36	1.0	1	?t
002	dds02	TUN	BFB			04/28/15 11:13	1.0	2	
003	dds03	CCV/BS	QC785743	Soil	222639	04/28/15 11:42	1.0	3 4 5 6 1	cc+
004	dds04	TUN	BFB			04/28/15 12:13	1.0	2	
005	dds05	CCV/BS	QC785743	Soil	222639	04/28/15 12:43	1.0	3 4 5 6 1	
006	dds06	BSD	QC785744	Soil	222639	04/28/15 14:25	1.0	3 4 5 6 1	
007	dds07	IB				04/28/15 14:59	1.0	1	
008	dds08	BLANK	QC785745	Soil	222639	04/28/15 15:33	1.0	1	
009	dds09	SAMPLE	266387-001	Soil	222639	04/28/15 16:06	0.9653	1	
010	dds10	SAMPLE	266374-016	Soil	222639	04/28/15 16:40	0.7092	1	
011	dds11	SAMPLE	266374-017	Soil	222639	04/28/15 17:14	0.8389	1	
012	dds12	SAMPLE	266374-018	Soil	222639	04/28/15 17:48	0.7728	1	
013	dds13	SAMPLE	266374-019	Soil	222639	04/28/15 18:22	0.9091	1	
014	dds14	SAMPLE	266374-020	Soil	222639	04/28/15 18:55	0.8117	1	
015	dds15	SAMPLE	266374-021	Soil	222639	04/28/15 19:29	0.7716	1	
016	dds16	SAMPLE	266374-022	Soil	222639	04/28/15 20:02	0.8319	1	
017	dds17	SAMPLE	266388-001	Soil	222639	04/28/15 20:36	0.8681	1	
018	dds18	X	IB			04/28/15 21:10	1.0	1	
019	dds19	X	IB			04/28/15 21:43	1.0	1	

DJA 04/29/15 : retuned after file 3

DJA 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

DJA 04/29/15 : Matrix spikes were not performed for this analysis in batch 222639 due to insufficient sample amount.

Analyst: DJA Date: 04/29/15 Reviewer: LW Date: 04/29/15

Standards used: 1=S26911 2=S26000 3=S26876 4=S27022 5=S26759 6=S24978

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445154813

Instrument : MSVOA05 Begun : 04/17/15 12:13
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	edh01	IB				04/17/15 12:13	1.0	1	?t
002	edh02	IB				04/17/15 12:48	1.0	1	?t
003	edh03	IB				04/17/15 13:22	1.0	1	?t
004	edh04	X	LOW POINT			04/17/15 13:57	1.0	1	
005	edh05	IB				04/17/15 15:06	1.0	1	?t
006	edh06	IB				04/17/15 15:41	1.0	1	?t
007	edh07	IB				04/17/15 16:16	1.0	1	?t
008	edh08	X	LOW POINT			04/17/15 16:51	1.0	1	
009	edh09	TUN	BFB			04/17/15 17:25	1.0	2	t
010	edh10	TUN	BFB			04/17/15 17:42	1.0	2	
011	edh11	TUN	BFB			04/17/15 17:51	1.0	2	
012	edh12	TUN	BFB			04/17/15 18:00	1.0	2	
013	edh13	X	IB			04/17/15 18:27	1.0	1	
014	edh14	X	IB			04/17/15 19:02	1.0	1	
015	edh15	IB	CALIB IB			04/17/15 19:37	1.0	1	
016	edh16	ICAL	2.5PPB			04/17/15 20:12	1.0	3 4 5 1	
017	edh17	ICAL	5PPB			04/17/15 20:47	1.0	3 4 5 1	
018	edh18	ICAL	10PPB			04/17/15 21:22	1.0	3 4 5 1	
019	edh19	ICAL	20PPB			04/17/15 21:56	1.0	3 4 5 1	
020	edh20	ICAL	50PPB			04/17/15 22:31	1.0	3 4 5 1	
021	edh21	ICAL	60PPB			04/17/15 23:06	1.0	3 4 5 1	
022	edh22	ICAL	75PPB			04/17/15 23:41	1.0	3 4 5 1	
023	edh23	ICAL	100PPB			04/18/15 00:15	1.0	3 4 5 1	
024	edh24	ICAL	200PPB			04/18/15 00:50	1.0	3 4 5 1	
025	edh25	ICV	GASES			04/18/15 01:25	1.0	6 1	
026	edh26	ICV				04/18/15 02:00	1.0	7 8 9 1	

NJT 04/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S26838 5=S26957 6=S26358 7=S26876 8=S27022 9=S26759

Flags used: ?t=missing tune t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445160525

Instrument : MSVOA05 Begun : 04/21/15 11:25
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	edl01	IB				04/21/15 11:25	1.0	1	?t
002	edl02	TUN	BFB			04/21/15 14:18	1.0	2	
003	edl03	ICV	GASES			04/21/15 14:46	1.0	3 1	

NJT 04/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

Standards used: 1=S26911 2=S26000 3=S26358

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445170617

Instrument : MSVOA05 Begun : 04/28/15 11:37
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	eds01	IB				04/28/15 11:37	1.0	1	?t
002	eds02	TUN	BFB			04/28/15 12:13	1.0	2	
003	eds03	CCV	35PPB			04/28/15 12:39	1.0	3 4 5 1	
004	eds04	BS	QC785786	Soil	222648	04/28/15 13:23	1.0	6 7 8 9 1	
005	eds05	BSD	QC785787	Soil	222648	04/28/15 13:58	1.0	6 7 8 9 1	
006	eds06	BLANK	QC785788	Soil	222648	04/28/15 14:33	1.0	1	
007	eds07	SAMPLE	266368-015	Soil	222648	04/28/15 15:08	0.8711	1	
008	eds08	SAMPLE	266368-016	Soil	222648	04/28/15 15:43	0.8787	1	
009	eds09	SAMPLE	266364-001	Soil	222648	04/28/15 16:18	0.7692	1	high HC, 2:C6N=440
010	eds10	SAMPLE	266364-003	Soil	222648	04/28/15 16:53	0.7788	1	
011	eds11	SAMPLE	266364-004	Soil	222648	04/28/15 17:28	0.761	1	high HC
012	eds12	SAMPLE	266364-005	Soil	222648	04/28/15 18:03	0.8052	1	high HC, 5:C6N=1200
013	eds13	SAMPLE	266374-003	Soil	222648	04/28/15 18:39	0.7657	1	
014	eds14	SAMPLE	266374-004	Soil	222648	04/28/15 19:14	0.8224	1	
015	eds15	SAMPLE	266374-005	Soil	222648	04/28/15 19:49	0.7924	1	
016	eds16	SAMPLE	266374-006	Soil	222648	04/28/15 20:24	0.7062	1	
017	eds17	SAMPLE	266374-007	Soil	222648	04/28/15 20:59	0.9901	1	
018	eds18	SAMPLE	266374-009	Soil	222648	04/28/15 21:33	0.9398	1	
019	eds19	SAMPLE	266374-010	Soil	222648	04/28/15 22:08	0.8237	1	
020	eds20	SAMPLE	266374-013	Soil	222648	04/28/15 22:43	0.8475	1	
021	eds21	SAMPLE	266374-014	Soil	222648	04/28/15 23:18	0.6925	1	
022	eds22	SAMPLE	266364-002	Soil	222648	04/28/15 23:53	0.8000	1	high HC, 3:THF=2400
023	eds23	IB				04/29/15 00:28	1.0	1	<<t
024	eds24	IB				04/29/15 01:03	1.0	1	<<t

NJT 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 24.

NJT 04/29/15 : Matrix spikes were not performed for this analysis in batch 222648 due to insufficient sample amount.

Analyst: NJT Date: 04/29/15 Reviewer: LW Date: 04/29/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S27151 5=S26957 6=S26358 7=S26876 8=S27022 9=S26759

Flags used: <<t=out of clock ?t=missing tune

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445172046

Instrument : MSVOA05 Begun : 04/29/15 11:26
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	edt01	IB					04/29/15 11:26	1.0	1	?t
002	edt02	TUN	BFB				04/29/15 12:07	1.0	2	t
003	edt03	TUN	BFB				04/29/15 12:19	1.0	2	
004	edt04	CCV	30PPB				04/29/15 12:44	1.0	3 4 5 1	
005	edt05	BS	QC785946		Soil	222688	04/29/15 13:29	1.0	6 7 8 9 1	
006	edt06	BSD	QC785947		Soil	222688	04/29/15 14:04	1.0	6 7 8 9 1	
007	edt07	BLANK	QC785948		Soil	222688	04/29/15 14:39	1.0	1	
008	edt08	PREPBLK	QC785975	M	Soil	222688	04/29/15 15:28	50.0	10 1	
009	edt09	SAMPLE	266374-016		Soil	222688	04/29/15 16:03	0.7246	1	
010	edt10	SAMPLE	266396-002		Soil	222688	04/29/15 16:38	0.8726	1	high HC, 9:C6N=2700
011	edt11	SAMPLE	266396-003		Soil	222688	04/29/15 17:14	0.8347	1	high HC, 9:C6N=4600
012	edt12	SAMPLE	266396-004		Soil	222688	04/29/15 17:49	0.8547	1	3:C6N=520
013	edt13	SAMPLE	266396-005		Soil	222688	04/29/15 18:32	0.7924	1	high HC, 19:THF=9000
014	edt14	IB					04/29/15 19:07	1.0	1	
015	edt15	SAMPLE	266396-008		Soil	222688	04/29/15 19:43	0.7813	1	
016	edt16	IB					04/29/15 20:18	1.0	1	
017	edt17	MSS	266420-002		Soil	222688	04/29/15 20:53	0.8562	1	
018	edt18	MS	QC786011		Soil	222688	04/29/15 21:28	0.9542	6 7 8 9 1	
019	edt19	MSD	QC786012		Soil	222688	04/29/15 22:03	0.9488	6 7 8 9 1	
020	edt20	SAMPLE	266364-005	M	Soil	222688	04/29/15 22:37	50.0	1 10	high HC, 1:ACE=540
021	edt21	SAMPLE	266374-011	M	Soil	222688	04/29/15 23:12	38.64	1	high HC
022	edt22	SAMPLE	266374-015	M	Soil	222688	04/29/15 23:47	33.29	1	high HC
023	edt23	SAMPLE	266396-001	M	Soil	222688	04/30/15 00:22	50.0	1 10	<<t , high HC
024	edt24	IB					04/30/15 00:57	1.0	1	<<t
025	edt25	IB					04/30/15 01:32	1.0	1	<<t

NJT 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: NJT Date: 04/30/15 Reviewer: LW Date: 04/30/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S27151 5=S26957 6=S26358 7=S26876 8=S27022 9=S26759 10=S23626

Flags used: <<t=out of clock ?t=missing tune t=tune failure

MSVOA SOIL PREPSHEET

Batch #: 222639 Batch #: _____

Instrument: MS 4 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266374-16	7.05	A	X				1X							DJH 4/28
2	-17	5.96													
3	-18	6.47													
4	-19	5.50													
5	-20	6.16													
6	-21	6.48													
7	-22	6.01	B												
8	266387-1	5.18	A		X						X		4/30	X	
9	266388-1	5.76			X						X			X	
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

MSVOA SOIL PREPSHEET

Batch #: 222648 Batch #: _____

Instrument: MS05 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266368-15	5.74	A	X								5/4	5/1		ZR 4/28
2	-16	5.69													
3	266364-1	6.50													
4	-2	~~6.42~~ 6.25			7.8 4/18				Load Last						
5	-3	6.42													
6	-4	6.57													
7	-5	6.21													
8	266374-3	6.53										5/11			
9	-4	6.08													
10	-5	6.31													
11	-6	7.08													
12	-7	5.05													
13	-9	5.32													
14	-10	6.07													
15	~~266374-3~~			X			1	1X	Pwr don't work			4/16/15			
16	-5			X			1	1							
17	266374-13	5.90													Not 4/28
18	-14	7.22													
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

MSVOA SOIL PREPSHEET

Batch #: 222688 Batch #: _____

Instrument: MS05 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	P.Blank MeOH	0.100	—			X		50x	4/29/15						Zia 4/29
2	266364-5		C	X		x	1								
3	266374-11		E	X		x									
4	-15		C	X		x									
5	266396-1		A	x		x									
6	266374-16	6.90	B	x			1	1x	ISTD						
7	266396-2	5.73	A	x											
8	-3	5.99													
9	-4	5.85													
10	-5	6.31													
11	-6	6.00							Put off						
12	-7	5.99													
13	-8	6.40													
14	-9	6.45							Put off						
15	-10	6.23													
16	-11	6.79													
17	266420-2	5.84	A		x										NT 4/29
18	-2MS	5.24													
19	-2MSD	5.27													
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

56
PROJECT 5035 MeOH Prep Log

Notebook No. ~~BK 3088~~ 3087 pg 919

Continued From Page

Date & initial	Sample ID		Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate std. #	Surrogate std. Vol. (mL)	Comments
3/18/15 Zia	265250-	11 D	6.91	5.0	DJ239	—	—	Client Prepped
3/20/15 Zia	265404-	13 A	8.34	10.0				
		- 14	7.20					
		- 15	8.54					
		- 16	5.87					
		- 17	6.28					
		- 18	6.57					
~~3/26/15 Zia~~	~~Blank~~		—	10.0	DL			
	~~265577-1 A~~		~~10.00~~	10.0		(Zia 3/26)		
4/6/15 Zia	265775-	6 C	7.09	5.0	DJ239			Client Prepped
		- 9	6.95					
		- 14	6.38					
		- 18	6.81		DH247			
4/7/15 Zia	265775-	10 C	7.13	5.0	DJ239			
		- 15	7.22		DE695			
		- 19	6.42		DJ239			
4/29/15 Zia	266374-	11 F	6.47	5.0				
		- 15 C	7.51					
	266364-	5 C	5.70	5.7	DL535	523626	0.00057	
	Blank		—	5.0			0.005	
	266396-	1 A	5.60	5.6			0.00056	H.C.
4/30/15 Zia	Blank		—	5.0			0.005	
	266396-	2 B	6.30	6.3			0.0063	H.C.
		- 3	6.30	6.3			0.0063	
		- 4	6.10	6.10			0.0061	
		- 5	6.30	6.3			0.0063	
		- 6	6.30	6.3			0.0063	
		- 7	6.10	6.1			0.0061	
		- 11	6.50	6.5			0.0065	

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

Laboratory Job Number 266374

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(GW)	Batch#:	222617
Lab ID:	266374-001	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	2.000	Analyzed:	04/30/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	19
Phenol	ND	19
bis(2-Chloroethyl)ether	ND	19
2-Chlorophenol	ND	19
1,3-Dichlorobenzene	ND	19
1,4-Dichlorobenzene	ND	19
Benzyl alcohol	ND	19
1,2-Dichlorobenzene	ND	19
2-Methylphenol	ND	19
bis(2-Chloroisopropyl) ether	ND	19
4-Methylphenol	ND	19
N-Nitroso-di-n-propylamine	ND	19
Hexachloroethane	ND	19
Nitrobenzene	ND	19
Isophorone	ND	19
2-Nitrophenol	ND	38
2,4-Dimethylphenol	ND	19
Benzoic acid	ND	96
bis(2-Chloroethoxy)methane	ND	19
2,4-Dichlorophenol	ND	19
1,2,4-Trichlorobenzene	ND	19
Naphthalene	ND	19
4-Chloroaniline	ND	19
Hexachlorobutadiene	ND	19
4-Chloro-3-methylphenol	ND	19
2-Methylnaphthalene	ND	19
Hexachlorocyclopentadiene	ND	38
2,4,6-Trichlorophenol	ND	19
2,4,5-Trichlorophenol	ND	19
2-Chloronaphthalene	ND	19
2-Nitroaniline	ND	38
Dimethylphthalate	ND	19
Acenaphthylene	ND	19
2,6-Dinitrotoluene	ND	19
3-Nitroaniline	ND	38
Acenaphthene	ND	19
2,4-Dinitrophenol	ND	38
4-Nitrophenol	ND	38
Dibenzofuran	ND	19
2,4-Dinitrotoluene	ND	19
Diethylphthalate	ND	19
Fluorene	ND	19
4-Chlorophenyl-phenylether	ND	19
4-Nitroaniline	ND	38
4,6-Dinitro-2-methylphenol	ND	38
N-Nitrosodiphenylamine	ND	19
Azobenzene	ND	19
4-Bromophenyl-phenylether	ND	19
Hexachlorobenzene	ND	19
Pentachlorophenol	ND	38
Phenanthrene	ND	19
Anthracene	ND	19
Di-n-butylphthalate	ND	19
Fluoranthene	ND	19

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(GW)	Batch#:	222617
Lab ID:	266374-001	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	2.000	Analyzed:	04/30/15

Analyte	Result	RL
Pyrene	ND	19
Butylbenzylphthalate	ND	19
3,3'-Dichlorobenzidine	ND	38
Benzo(a)anthracene	ND	19
Chrysene	ND	19
bis(2-Ethylhexyl)phthalate	ND	19
Di-n-octylphthalate	ND	19
Benzo(b)fluoranthene	ND	19
Benzo(k)fluoranthene	ND	19
Benzo(a)pyrene	ND	19
Indeno(1,2,3-cd)pyrene	ND	19
Dibenz(a,h)anthracene	ND	19
Benzo(g,h,i)perylene	ND	19

Surrogate	%REC	Limits
2-Fluorophenol	66	38-120
Phenol-d5	61	38-120
2,4,6-Tribromophenol	80	46-120
Nitrobenzene-d5	72	51-120
2-Fluorobiphenyl	72	54-120
Terphenyl-d14	25	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(GW)	Batch#:	222617
Lab ID:	266374-002	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(GW)	Batch#:	222617
Lab ID:	266374-002	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	66	38-120
Phenol-d5	60	38-120
2,4,6-Tribromophenol	82	46-120
Nitrobenzene-d5	67	51-120
2-Fluorobiphenyl	73	54-120
Terphenyl-d14	37	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(GW)	Batch#:	222617
Lab ID:	266374-008	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.4
Phenol	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
2-Chlorophenol	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
Benzyl alcohol	ND	9.4
1,2-Dichlorobenzene	ND	9.4
2-Methylphenol	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
4-Methylphenol	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
2-Nitrophenol	ND	19
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
bis(2-Chloroethoxy)methane	ND	9.4
2,4-Dichlorophenol	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	19
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	19
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	19
Acenaphthene	ND	9.4
2,4-Dinitrophenol	ND	19
4-Nitrophenol	ND	19
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
Fluorene	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
4-Nitroaniline	ND	19
4,6-Dinitro-2-methylphenol	ND	19
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Pentachlorophenol	ND	19
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(GW)	Batch#:	222617
Lab ID:	266374-008	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/30/15

Analyte	Result	RL
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	19
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%REC	Limits
2-Fluorophenol	67	38-120
Phenol-d5	62	38-120
2,4,6-Tribromophenol	84	46-120
Nitrobenzene-d5	65	51-120
2-Fluorobiphenyl	73	54-120
Terphenyl-d14	60	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(GW)	Batch#:	222617
Lab ID:	266374-012	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	10.00	Analyzed:	04/29/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	100
Phenol	ND	100
bis(2-Chloroethyl)ether	ND	100
2-Chlorophenol	ND	100
1,3-Dichlorobenzene	ND	100
1,4-Dichlorobenzene	ND	100
Benzyl alcohol	ND	100
1,2-Dichlorobenzene	ND	100
2-Methylphenol	ND	100
bis(2-Chloroisopropyl) ether	ND	100
4-Methylphenol	ND	100
N-Nitroso-di-n-propylamine	ND	100
Hexachloroethane	ND	100
Nitrobenzene	ND	100
Isophorone	ND	100
2-Nitrophenol	ND	200
2,4-Dimethylphenol	ND	100
Benzoic acid	ND	500
bis(2-Chloroethoxy)methane	ND	100
2,4-Dichlorophenol	ND	100
1,2,4-Trichlorobenzene	ND	100
Naphthalene	ND	100
4-Chloroaniline	ND	100
Hexachlorobutadiene	ND	100
4-Chloro-3-methylphenol	ND	100
2-Methylnaphthalene	ND	100
Hexachlorocyclopentadiene	ND	200
2,4,6-Trichlorophenol	ND	100
2,4,5-Trichlorophenol	ND	100
2-Chloronaphthalene	ND	100
2-Nitroaniline	ND	200
Dimethylphthalate	ND	100
Acenaphthylene	ND	100
2,6-Dinitrotoluene	ND	100
3-Nitroaniline	ND	200
Acenaphthene	ND	100
2,4-Dinitrophenol	ND	200
4-Nitrophenol	ND	200
Dibenzofuran	ND	100
2,4-Dinitrotoluene	ND	100
Diethylphthalate	ND	100
Fluorene	ND	100
4-Chlorophenyl-phenylether	ND	100
4-Nitroaniline	ND	200
4,6-Dinitro-2-methylphenol	ND	200
N-Nitrosodiphenylamine	ND	100
Azobenzene	ND	100
4-Bromophenyl-phenylether	ND	100
Hexachlorobenzene	ND	100
Pentachlorophenol	ND	200
Phenanthrene	ND	100
Anthracene	ND	100
Di-n-butylphthalate	ND	100

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

63.0

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(GW)	Batch#:	222617
Lab ID:	266374-012	Sampled:	04/27/15
Matrix:	Water	Received:	04/27/15
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	10.00	Analyzed:	04/29/15

Analyte	Result	RL
Fluoranthene	ND	100
Pyrene	ND	100
Butylbenzylphthalate	ND	100
3,3'-Dichlorobenzidine	ND	200
Benzo(a)anthracene	ND	100
Chrysene	ND	100
bis(2-Ethylhexyl)phthalate	ND	100
Di-n-octylphthalate	ND	100
Benzo(b)fluoranthene	ND	100
Benzo(k)fluoranthene	ND	100
Benzo(a)pyrene	ND	100
Indeno(1,2,3-cd)pyrene	ND	100
Dibenz(a,h)anthracene	ND	100
Benzo(g,h,i)perylene	ND	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	38-120
Phenol-d5	DO	38-120
2,4,6-Tribromophenol	DO	46-120
Nitrobenzene-d5	DO	51-120
2-Fluorobiphenyl	DO	54-120
Terphenyl-d14	DO	21-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785661	Batch#:	222617
Matrix:	Water	Prepared:	04/27/15
Units:	ug/L	Analyzed:	04/29/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785661	Batch#:	222617
Matrix:	Water	Prepared:	04/27/15
Units:	ug/L	Analyzed:	04/29/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	90	38-120
Phenol-d5	93	38-120
2,4,6-Tribromophenol	74	46-120
Nitrobenzene-d5	82	51-120
2-Fluorobiphenyl	80	54-120
Terphenyl-d14	80	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	222617
Units:	ug/L	Prepared:	04/27/15
Diln Fac:	1.000	Analyzed:	04/29/15

Type: BS Lab ID: QC785662

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	69.91	87	46-120
2-Chlorophenol	80.00	65.46	82	48-120
1,4-Dichlorobenzene	80.00	63.03	79	52-120
N-Nitroso-di-n-propylamine	80.00	71.64	90	46-120
1,2,4-Trichlorobenzene	80.00	60.83	76	53-120
4-Chloro-3-methylphenol	80.00	63.11	79	40-120
Acenaphthene	30.00	20.85	70	61-120
4-Nitrophenol	80.00	62.32	78	40-120
2,4-Dinitrotoluene	80.00	64.10	80	64-120
Pentachlorophenol	80.00	63.99	80	47-120
Pyrene	30.00	22.50	75	62-120

Surrogate	%REC	Limits
2-Fluorophenol	77	38-120
Phenol-d5	81	38-120
2,4,6-Tribromophenol	73	46-120
Nitrobenzene-d5	69	51-120
2-Fluorobiphenyl	68	54-120
Terphenyl-d14	65	21-120

Type: BSD Lab ID: QC785663

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	63.26	79	46-120	10	55
2-Chlorophenol	80.00	60.57	76	48-120	8	54
1,4-Dichlorobenzene	80.00	53.25	67	52-120	17	30
N-Nitroso-di-n-propylamine	80.00	66.70	83	46-120	7	25
1,2,4-Trichlorobenzene	80.00	51.53	64	53-120	17	26
4-Chloro-3-methylphenol	80.00	58.80	74	40-120	7	54
Acenaphthene	30.00	19.69	66	61-120	6	25
4-Nitrophenol	80.00	58.13	73	40-120	7	45
2,4-Dinitrotoluene	80.00	60.64	76	64-120	6	32
Pentachlorophenol	80.00	61.56	77	47-120	4	48
Pyrene	30.00	21.55	72	62-120	4	26

Surrogate	%REC	Limits
2-Fluorophenol	73	38-120
Phenol-d5	75	38-120
2,4,6-Tribromophenol	69	46-120
Nitrobenzene-d5	65	51-120
2-Fluorobiphenyl	63	54-120
Terphenyl-d14	48	21-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP IDF : 1.0
Seqnum : 545102874005 File : xcc05 Time : 12-MAR-2015 13:14

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	111312	46.52	
68	< 2% of mass 69	0	0.00	
69		130754	100.00	
70	< 2% of mass 69	766	0.59	
127	40% - 60% of mass 198	137936	57.64	
197	< 1% of mass 198	0	0.00	
198		239296	100.00	
199	5% - 9% of mass 198	16222	6.78	
275	10% - 30% of mass 198	62797	26.24	
365	> 1% of mass 198	6532	2.73	
441	Present, < mass 443	38400	87.37	
442	> 40% and < 100% of mass 198	229845	96.05	
443	17% - 23% of mass 442	43952	19.12	

Analyst: KMH Date: 03/12/15 Reviewer: LW Date: 03/18/15

PEM Report

File Name : G:\msbna05\031215\XCC05.D
Date Acquired : 12 Mar 2015 1:14 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA05 BNA DFTPP/PEM
Inst. Name : MSBNA05
AcquisitionMeth: DFTPP05.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.942	5.52	343578
Benzidine	0.628	7.40	1923849
4,4'-DDT		8.43	1021612
4,4'-DDE		7.63	2913
4,4'-DDD		8.05	24437

% Breakdown: 4,4'-DDT	LIMIT <=20%	3%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Thu Mar 12 13:27:16 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP IDF : 1.0
Seqnum : 545171960002 File : xdt02 Time : 29-APR-2015 10:36

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	75727	47.51	
68	< 2% of mass 69	0	0.00	
69		87021	100.00	
70	< 2% of mass 69	166	0.19	
127	40% - 60% of mass 198	89373	56.08	
197	< 1% of mass 198	0	0.00	
198		159381	100.00	
199	5% - 9% of mass 198	11019	6.91	
275	10% - 30% of mass 198	36410	22.84	
365	> 1% of mass 198	3661	2.30	
441	Present, < mass 443	16865	81.77	
442	> 40% and < 100% of mass 198	108512	68.08	
443	17% - 23% of mass 442	20624	19.01	

Analyst: KMH Date: 04/29/15 Reviewer: LW Date: 04/29/15

PEM Report

File Name : G:\msbna05\042915\XDT02.D
Date Acquired : 29 Apr 2015 10:36 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA05 BNA DFTPP/PEM
Inst. Name : MSBNA05
AcquisitionMeth: DFTPP05.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.053	5.02	182408
Benzidine	0.607	6.88	1434599
4,4'-DDT		7.91	708151
4,4'-DDE		7.12	1230
4,4'-DDD		7.53	11920

% Breakdown: 4,4'-DDT	LIMIT <=20%	2%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.1	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555120229009 File : yco09 Time : 24-MAR-2015 15:50

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	173190	44.21	
68	< 2% of mass 69	0	0.00	
69		171552	100.00	
70	< 2% of mass 69	137	0.08	
127	40% - 60% of mass 198	173290	44.24	
197	< 1% of mass 198	0	0.00	
198		391701	100.00	
199	5% - 9% of mass 198	27384	6.99	
275	10% - 30% of mass 198	97650	24.93	
365	> 1% of mass 198	11479	2.93	
441	Present, < mass 443	43290	74.41	
442	> 40% and < 100% of mass 198	295808	75.52	
443	17% - 23% of mass 442	58178	19.67	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

PEM Report

File Name : G:\msbna06\032415\YCO09.D
Date Acquired : 24 Mar 2015 3:50 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.881	5.49	736084
Benzidine	0.569	7.35	2546584
4,4'-DDT		8.37	1789243
4,4'-DDE		7.58	19791
4,4'-DDD		8.00	86883

% Breakdown: 4,4'-DDT	LIMIT <=20%	6%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Tue Mar 24 16:07:08 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555173392002 File : ydu02 Time : 30-APR-2015 10:21

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	143188	43.12	
68	< 2% of mass 69	0	0.00	
69		138840	100.00	
70	< 2% of mass 69	705	0.51	
127	40% - 60% of mass 198	145608	43.85	
197	< 1% of mass 198	0	0.00	
198		332032	100.00	
199	5% - 9% of mass 198	22514	6.78	
275	10% - 30% of mass 198	88970	26.80	
365	> 1% of mass 198	11670	3.51	
441	Present, < mass 443	42864	76.82	
442	> 40% and < 100% of mass 198	291946	87.93	
443	17% - 23% of mass 442	55800	19.11	

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 04/30/15

PEM Report

File Name : G:\msbna06\043015\YDU02.D
Date Acquired : 30 Apr 2015 10:21 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.751	5.49	128702
Benzidine	0.779	7.34	2498144
4,4'-DDT		8.35	1373853
4,4'-DDE		7.56	6377
4,4'-DDD		7.98	61720

% Breakdown: 4,4'-DDT	LIMIT <=20%	5%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.8	PASS
	8270D <=2	2	PASS
Tailing: Benzidine	8270C <3.0	0.8	PASS
	8270D <=2	1	PASS

Thu Apr 30 10:32:10 2015

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSBNA Water: EPA 8270C

Inst : MSBNA05
Calnum : 545102874001
Units : ug/mL

Name : 6PTBNA5
Date : 12-MAR-2015 13:52

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	xcc06	545102874006	ICAL	12-MAR-2015 13:52	S26474
L2	xcc07	545102874007	ICAL	12-MAR-2015 14:27	S26475
L3	xcc08	545102874008	ICAL	12-MAR-2015 15:05	S26476
L4	xcc09	545102874009	ICAL	12-MAR-2015 15:41	S26477
L5	xcc10	545102874010	ICAL	12-MAR-2015 16:17	S26478
L6	xcc11	545102874011	ICAL	12-MAR-2015 16:53	S26479
L7	xcc12	545102874012	ICAL	12-MAR-2015 17:29	S26480
L8	xcc13	545102874013	ICAL	12-MAR-2015 18:06	S26481
L9	xcc14	545102874014	ICAL	12-MAR-2015 18:41	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.5188	0.5325	0.5499	0.5481	0.5577	0.5686	0.5692	0.5840	AVRG	R		1.80633		0.5536	4	15	0.05	0.99	
Phenol		1.5280	1.5895	1.6677	1.6577	1.6910	1.7176	1.7250	1.7320	AVRG	R		0.60112		1.6636	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.1723	1.1420	1.1911	1.2163	1.1838	1.1937	1.2129m	1.2217m	AVRG	R		0.83912		1.1917	2	15	0.05	0.99	
2-Chlorophenol		1.4262	1.4403	1.4618	1.4631	1.4429	1.4441	1.4265	1.4124	AVRG	R		0.69461		1.4397	1	15	0.05	0.99	
1,3-Dichlorobenzene		1.5804	1.5762	1.6123	1.5936	1.5678	1.4993	1.4465	1.3983	AVRG	R		0.65176		1.5343	5	15	0.05	0.99	
1,4-Dichlorobenzene		1.6265	1.6315	1.6347	1.6167	1.5588	1.4861	1.4107	1.3327	AVRG	R		0.65054		1.5372	8	15	0.05	0.99	
Benzyl alcohol		0.8339	0.8725	0.9217	0.9212	0.9323	0.9427	0.9513	0.9652	AVRG	R		1.08978		0.9176	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.5312	1.5224	1.5413	1.5157	1.5070	1.4218	1.3734	1.2904	AVRG	R		0.68358		1.4629	6	15	0.05	0.99	
2-Methylphenol		1.0799	1.1000	1.1443	1.1441	1.1411	1.1452	1.1368	1.1113	AVRG	R		0.88862		1.1253	2	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		1.2776	1.3129	1.3863	1.4144	1.4363	1.5072	1.5372	1.5871	AVRG	R		0.69815		1.4324	8	15	0.05	0.99	
4-Methylphenol		1.5522	1.5950	1.6660	1.6653	1.6752				AVRG	R		0.61321		1.6307	3	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.6000	0.6399	0.6687	0.6668	0.6914	0.7075	0.7226	0.7480	AVRG	R		1.46925		0.6806	7	15	0.050	0.99	
Hexachloroethane		0.6213	0.6289	0.6487	0.6420	0.6297	0.6197	0.6007	0.5759	AVRG	R		1.61066		0.6209	4	15	0.05	0.99	
Nitrobenzene		0.3511	0.3552	0.3718	0.3760	0.3770	0.3880	0.3738	0.3747	AVRG	R		2.69568		0.3710	3	15	0.05	0.99	
Isophorone		0.6163	0.6285	0.6545	0.6632	0.6703	0.6846			AVRG	R		1.53163		0.6529	4	15	0.05	0.99	
2-Nitrophenol			0.1983	0.2083	0.2102	0.2126	0.2140	0.2035	0.2027m	AVRG	R		4.82895		0.2071	3	15	0.05	0.99	
2,4-Dimethylphenol		0.3573	0.3476	0.3645	0.3596	0.3621	0.3526	0.3408	0.3420	AVRG	R		2.83034		0.3533	3	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.3705	0.3844	0.3862	0.3941	0.4044	0.3916	0.3946	AVRG	R		2.56792		0.3894	3	15	0.05	0.99	
Benzoic acid		0.2207m	0.2287m	0.2559m	0.2666	0.2729	0.2826	0.2759	0.2831	AVRG	R		3.83453		0.2608	9	15	0.05	0.99	
2,4-Dichlorophenol		0.3117	0.3110	0.3188	0.3158	0.3101	0.2941	0.2778	0.2596	AVRG	R		3.33499		0.2999	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3462	0.3453	0.3487	0.3398	0.3264	0.3081	0.2829	0.2699	AVRG	R		3.11608		0.3209	10	15	0.05	0.99	
Naphthalene	1.1037	1.1210	1.1359	1.1392	1.1187	1.1159	1.0705	1.0258	0.9947	AVRG	R		0.91600		1.0917	5	15	0.05	0.99	
4-Chloroaniline		0.2192	0.4088	0.4635	0.4533m	0.4519m	0.4418m	0.4203	0.4089	QUAD	A	-3.0015	0.57598	-0.00121	0.4085	0.999	15	0.05	0.99	
Hexachlorobutadiene		0.1884	0.1888	0.1881	0.1824	0.1744	0.1609	0.1492	0.1361	AVRG	R		5.84684		0.1710	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3079	0.3109	0.3175	0.3243	0.3228	0.3200	0.3082	0.3062	AVRG	R		3.17731		0.3147	2	15	0.05	0.99	
2-Methylnaphthalene	0.7295	0.7349	0.7473	0.7554	0.7465	0.7483	0.7180	0.6741	0.6562	AVRG	R		1.38243		0.7234	5	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3922	0.4027	0.3969	0.3755	0.3621	0.3394	0.3159	AVRG	R		2.70815		0.3693	9	15	0.050	0.99	
2,4,6-Trichlorophenol		0.4192	0.4193	0.4321	0.4315	0.4200	0.3948	0.3803	0.3632	AVRG	R		2.45363		0.4076	6	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4496	0.4590	0.4597	0.4605	0.4502	0.4100	0.3953m	0.3684m	AVRG	R		2.31706		0.4316	8	15	0.05	0.99	
2-Chloronaphthalene			1.3262	1.3368	1.3371	1.3013	1.2448	1.1972	1.1516	AVRG	R		0.78695		1.2707	6	15	0.05	0.99	
2-Nitroaniline			0.3548	0.3815	0.3979	0.3992	0.3977	0.4015	0.4012	AVRG	R		2.56040		0.3906	4	15	0.05	0.99	
Dimethylphthalate		1.4739	1.5012	1.5205	1.5184	1.4953	1.4037	1.3460	1.3054	AVRG	R		0.69178		1.4455	6	15	0.05	0.99	
2,6-Dinitrotoluene		0.3243	0.3429	0.3598	0.3656	0.3656	0.3572	0.3486	0.3463	AVRG	R		2.84656		0.3513	4	15	0.05	0.99	
Acenaphthylene	2.0560	2.0775	2.1199	2.1875	2.1965	2.1754	2.0748	2.0178	1.9436	AVRG	R		0.47748		2.0943	4	15	0.05	0.99	
3-Nitroaniline			0.2201	0.3460m	0.3791	0.4019	0.4224	0.4183	0.4105	LINR	R	7.03015	2.23657		0.3712	0.996	15	0.05	0.99	
Acenaphthene	1.3349	1.3682	1.4079	1.4706	1.4974	1.3713m	1.2574	1.2314	1.1493	AVRG	R		0.74452		1.3432	8	15	0.05	0.99	
2,4-Dinitrophenol			0.1474	0.1879	0.2044	0.2114	0.2280	0.2306	0.2318	AVRG	R		4.85666		0.2059	15	15	0.050	0.99	
4-Nitrophenol			0.1862	0.2033	0.2094	0.2132	0.2142	0.2088	0.2170m	AVRG	R		4.82049		0.2074	5	15	0.050	0.99	
Dibenzofuran			1.8714	1.9320	1.9450	1.9209	1.8056	1.6980	1.5564	AVRG	R		0.54991		1.8185	8	15	0.05	0.99	
2,4-Dinitrotoluene		0.4465	0.4743	0.4890	0.4897	0.4927	0.4744	0.4578	0.4243	AVRG	R		2.13405		0.4686	5	15	0.05	0.99	
Diethylphthalate			1.5505	1.5873	1.6014	1.5952	1.5355	1.4680	1.4186	AVRG	R		0.65078		1.5366	5	15	0.05	0.99	
Fluorene	1.5319	1.5773	1.5918	1.6313	1.6339	1.5910	1.4882	1.4270	1.3709	AVRG	R		0.65013		1.5382	6	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7516	0.7631	0.7506	0.7492	0.6883	0.6462	0.6091	AVRG	R		1.41180		0.7083	9	15	0.05	0.99	
4-Nitroaniline			0.2941m	0.3357	0.3722	0.4112	0.4149	0.4063m	0.4083	AVRG	R		2.64887		0.3775	12	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1272	0.1434	0.1520	0.1516	0.1566	0.1518		AVRG	R		6.79748		0.1471	7	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5940	0.6177	0.6227	0.6219	0.5978	0.5810	0.5608	AVRG	R		1.66827		0.5994	4	15	0.05	0.99	
Azobenzene			0.7555	0.8069	0.8113	0.8200	0.8275	0.8200	0.8169	AVRG	R		1.23717		0.8083	3	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2305	0.2360	0.2378	0.2368	0.2277	0.2159	0.2092	AVRG	R		4.39186		0.2277	5	15	0.05	0.99	
Hexachlorobenzene		0.2507	0.2507	0.2553	0.2510	0.2411	0.2204	0.2057	0.1923	AVRG	R		4.28462		0.2334	10	15	0.05	0.99	
Pentachlorophenol			0.1582	0.1694	0.1732	0.1729	0.1637	0.1551	0.1499	AVRG	R		6.12758		0.1632	6	15	0.05	0.99	
Phenanthrene	1.1900	1.1894	1.1822	1.2191	1.2072	1.1755	1.1230	1.0712	1.0075	AVRG	R		0.86829		1.1517	6	15	0.05	0.99	
Anthracene	1.1721	1.1987	1.2219	1.2194	1.2169	1.2007	1.1350	1.0860	1.0215	AVRG	R		0.85941		1.1636	6	15	0.05	0.99	
Di-n-butylphthalate			1.3725	1.4173	1.4450	1.4338	1.3777	1.3189	1.2681	AVRG	R		0.72665		1.3762	5	15	0.05	0.99	
Fluoranthene	1.3058	1.3368	1.3353	1.3765	1.3853	1.3565	1.2790	1.2197	1.1704	AVRG	R		0.76495		1.3073	6	15	0.05	0.99	
Pyrene	1.2925	1.3387	1.3400	1.3766	1.3887	1.3600	1.3032	1.2810	1.2205	AVRG	R		0.75622		1.3224	4	15	0.05	0.99	
Butylbenzylphthalate			0.5506	0.5891	0.6058	0.6103	0.6173	0.6217	0.6037	AVRG	R		1.66725		0.5998	4	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.2747	0.3882	0.4090	0.4214	0.3945	0.3745	0.3466	AVRG	R		2.68308		0.3727	13	15	0.05	0.99	
Benzo(a)anthracene	1.2059	1.1870	1.1913	1.2370	1.2296	1.2385	1.2134	1.1899	1.1629	AVRG	R		0.82906		1.2062	2	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.7891	0.8494	0.8728	0.8618	0.7656	0.6905	0.5979	AVRG	R		1.28981		0.7753	13	15	0.05	0.99	
Chrysene	1.1006	1.1343	1.1412	1.1643	1.1750	1.1581	1.1100	1.0907	1.0603m	AVRG	R		0.88806		1.1261	3	15	0.05	0.99	
Di-n-octylphthalate			1.2703	1.4098	1.4853	1.5114	1.5573	1.5556	1.5597	AVRG	R		0.67637		1.4785	7	15	0.05	0.99	
Benzo(b)fluoranthene	1.0359	1.1074	1.1528	1.2205	1.2415	1.2498	1.3329	1.3617	1.3868	AVRG	R		0.81161		1.2321	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0174	1.0688	1.0916	1.1768	1.2005	1.1861	1.1332m	1.0854m	1.0466m	AVRG	R		0.89943		1.1118	6	15	0.05	0.99	
Benzo(a)pyrene	0.9547	1.0428	1.0902	1.1700	1.2198	1.2073	1.2395	1.2266	1.2333	AVRG	R		0.86670		1.1538	9	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0618	1.1582	1.2019	1.3180	1.3678	1.3903	1.4290	1.4294	1.4427	AVRG	R		0.76278		1.3110	11	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8870	0.9564	1.0148	1.0978	1.1372	1.1496	1.1920	1.1799	1.1886	AVRG	R		0.91808		1.0892	10	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9830	0.9888	0.9606	1.0935	1.1387	1.1739	1.2016	1.2026	1.2140	AVRG	R		0.90392		1.1063	9	15	0.05	0.99	
2-Fluorophenol	1.2486	1.2295	1.2677	1.3106	1.3222	1.3237	1.3582	1.3547	1.3922	AVRG	R		0.76223		1.3119	4	15	0.05	0.99	
Phenol-d5	1.5321	1.5188	1.5733	1.6353	1.6381	1.6564	1.7063	1.7278	1.7405	AVRG	R		0.61105		1.6365	5	15	0.05	0.99	
Nitrobenzene-d5	0.3702	0.3794	0.3965	0.4116	0.4133	0.4211	0.4334	0.4234	0.4324	AVRG	R		2.44481		0.4090	6	15	0.05	0.99	
2-Fluorobiphenyl	1.7144	1.7324	1.7562	1.7620	1.7458	1.6899	1.5759	1.5264	1.4383	AVRG	R		0.60236		1.6601	7	15	0.05	0.99	
2,4,6-Tribromophenol	0.1868	0.2063	0.2251	0.2440	0.2451	0.2449	0.2353	0.2248	0.2148	AVRG	R		4.44024		0.2252	9	15	0.05	0.99	
Terphenyl-d14	0.9795	1.0252	1.0288	1.0604	1.0512	1.0315	0.9735	0.9344	0.8817	AVRG	R		1.00377		0.9962	6	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-6	20.000	-4	32.000	-1	40.000	-1	50.000	1	80.000	3	100.00	3	120.00	5
Phenol			10.000	-8	20.000	-4	32.000	0	40.000	0	50.000	2	80.000	3	100.00	4	120.00	4
bis(2-Chloroethyl)ether			10.000	-2	20.000	-4	32.000	0	40.000	2	50.000	-1	80.000	0	100.00	2	120.00	3
2-Chlorophenol			10.000	-1	20.000	0	32.000	2	40.000	2	50.000	0	80.000	0	100.00	-1	120.00	-2
1,3-Dichlorobenzene			10.000	3	20.000	3	32.000	5	40.000	4	50.000	2	80.000	-2	100.00	-6	120.00	-9
1,4-Dichlorobenzene			10.000	6	20.000	6	32.000	6	40.000	5	50.000	1	80.000	-3	100.00	-8	120.00	-13
Benzyl alcohol			10.000	-9	20.000	-5	32.000	0	40.000	0	50.000	2	80.000	3	100.00	4	120.00	5
1,2-Dichlorobenzene			10.000	5	20.000	4	32.000	5	40.000	4	50.000	3	80.000	-3	100.00	-6	120.00	-12
2-Methylphenol			10.000	-4	20.000	-2	32.000	2	40.000	2	50.000	1	80.000	2	100.00	1	120.00	-1
bis(2-Chloroisopropyl) ether			10.000	-11	20.000	-8	32.000	-3	40.000	-1	50.000	0	80.000	5	100.00	7	120.00	11
4-Methylphenol			10.000	-5	20.000	-2	32.000	2	40.000	2	50.000	3						
N-Nitroso-di-n-propylamine			10.000	-12	20.000	-6	32.000	-2	40.000	-2	50.000	2	80.000	4	100.00	6	120.00	10
Hexachloroethane			10.000	0	20.000	1	32.000	4	40.000	3	50.000	1	80.000	0	100.00	-3	120.00	-7
Nitrobenzene			10.000	-5	20.000	-4	32.000	0	40.000	1	50.000	2	80.000	5	100.00	1	120.00	1
Isophorone			10.000	-6	20.000	-4	32.000	0	40.000	2	50.000	3	80.000	5				
2-Nitrophenol					20.000	-4	32.000	1	40.000	2	50.000	3	80.000	3	100.00	-2	120.00	-2
2,4-Dimethylphenol			10.000	1	20.000	-2	32.000	3	40.000	2	50.000	2	80.000	0	100.00	-4	120.00	-3
bis(2-Chloroethoxy)methane					10.000	-5	16.000	-1	20.000	-1	25.000	1	40.000	4	50.000	1	60.000	1
Benzoic acid			50.000	-15	60.000	-12	80.000	-2	90.000	2	100.00	5	120.00	8	130.00	6	140.00	9
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	6	40.000	5	50.000	3	80.000	-2	100.00	-7	120.00	-13
1,2,4-Trichlorobenzene			10.000	8	20.000	8	32.000	9	40.000	6	50.000	2	80.000	-4	100.00	-12	120.00	-16
Naphthalene	2.0000	1	5.0000	3	10.000	4	16.000	4	20.000	2	25.000	2	40.000	-2	50.000	-6	60.000	-9
4-Chloroaniline			10.000	-8	20.000	1	32.000	4	40.000	0	50.000	-1	80.000	0	100.00	-1	120.00	1
Hexachlorobutadiene			10.000	10	20.000	10	32.000	10	40.000	7	50.000	2	80.000	-6	100.00	-13	120.00	-20
4-Chloro-3-methylphenol			10.000	-2	20.000	-1	32.000	1	40.000	3	50.000	3	80.000	2	100.00	-2	120.00	-3
2-Methylnaphthalene	2.0000	1	5.0000	2	10.000	3	16.000	4	20.000	3	25.000	3	40.000	-1	50.000	-7	60.000	-9
Hexachlorocyclopentadiene					20.000	6	32.000	9	40.000	7	50.000	2	80.000	-2	100.00	-8	120.00	-14
2,4,6-Trichlorophenol			10.000	3	20.000	3	32.000	6	40.000	6	50.000	3	80.000	-3	100.00	-7	120.00	-11
2,4,5-Trichlorophenol			10.000	4	20.000	6	32.000	7	40.000	7	50.000	4	80.000	-5	100.00	-8	120.00	-15
2-Chloronaphthalene					10.000	4	16.000	5	20.000	5	25.000	2	40.000	-2	50.000	-6	60.000	-9
2-Nitroaniline					20.000	-9	32.000	-2	40.000	2	50.000	2	80.000	2	100.00	3	120.00	3
Dimethylphthalate			10.000	2	20.000	4	32.000	5	40.000	5	50.000	3	80.000	-3	100.00	-7	120.00	-10
2,6-Dinitrotoluene			10.000	-8	20.000	-2	32.000	2	40.000	4	50.000	4	80.000	2	100.00	-1	120.00	-1
Acenaphthylene	2.0000	-2	5.0000	-1	10.000	1	16.000	4	20.000	5	25.000	4	40.000	-1	50.000	-4	60.000	-7
3-Nitroaniline					20.000	-16	32.000	-1	40.000	2	50.000	4	80.000	3	100.00	1	120.00	-2
Acenaphthene	2.0000	-1	5.0000	2	10.000	5	16.000	9	20.000	11	25.000	2	40.000	-6	50.000	-8	60.000	-14
2,4-Dinitrophenol					20.000	**-28**	32.000	-9	40.000	-1	50.000	3	80.000	11	100.00	12	120.00	13
4-Nitrophenol					20.000	-10	32.000	-2	40.000	1	50.000	3	80.000	3	100.00	1	120.00	5
Dibenzofuran					10.000	3	16.000	6	20.000	7	25.000	6	40.000	-1	50.000	-7	60.000	-14
2,4-Dinitrotoluene			10.000	-5	20.000	1	32.000	4	40.000	5	50.000	5	80.000	1	100.00	-2	120.00	-9
Diethylphthalate					10.000	1	16.000	3	20.000	4	25.000	4	40.000	0	50.000	-4	60.000	-8
Fluorene	2.0000	0	5.0000	3	10.000	3	16.000	6	20.000	6	25.000	3	40.000	-3	50.000	-7	60.000	-11

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	6	16.000	8	20.000	6	25.000	6	40.000	-3	50.000	-9	60.000	-14
4-Nitroaniline					20.000	**-22**	32.000	-11	40.000	-1	50.000	9	80.000	10	100.00	8	120.00	8
4,6-Dinitro-2-methylphenol					20.000	-14	32.000	-3	40.000	3	50.000	3	80.000	6	100.00	3		
N-Nitrosodiphenylamine					10.000	-1	16.000	3	20.000	4	25.000	4	40.000	0	50.000	-3	60.000	-6
Azobenzene					10.000	-7	16.000	0	20.000	0	25.000	1	40.000	2	50.000	1	60.000	1
4-Bromophenyl-phenylether					10.000	1	16.000	4	20.000	4	25.000	4	40.000	0	50.000	-5	60.000	-8
Hexachlorobenzene			10.000	7	20.000	7	32.000	9	40.000	8	50.000	3	80.000	-6	100.00	-12	120.00	-18
Pentachlorophenol					20.000	-3	32.000	4	40.000	6	50.000	6	80.000	0	100.00	-5	120.00	-8
Phenanthrene	2.0000	3	5.0000	3	10.000	3	16.000	6	20.000	5	25.000	2	40.000	-2	50.000	-7	60.000	-13
Anthracene	2.0000	1	5.0000	3	10.000	5	16.000	5	20.000	5	25.000	3	40.000	-2	50.000	-7	60.000	-12
Di-n-butylphthalate					10.000	0	16.000	3	20.000	5	25.000	4	40.000	0	50.000	-4	60.000	-8
Fluoranthene	2.0000	0	5.0000	2	10.000	2	16.000	5	20.000	6	25.000	4	40.000	-2	50.000	-7	60.000	-10
Pyrene	2.0000	-2	5.0000	1	10.000	1	16.000	4	20.000	5	25.000	3	40.000	-1	50.000	-3	60.000	-8
Butylbenzylphthalate					10.000	-8	16.000	-2	20.000	1	25.000	2	40.000	3	50.000	4	60.000	1
3,3'-Dichlorobenzidine					20.000	**-26**	32.000	4	40.000	10	50.000	13	80.000	6	100.00	0	120.00	-7
Benzo(a)anthracene	2.0000	0	5.0000	-2	10.000	-1	16.000	3	20.000	2	25.000	3	40.000	1	50.000	-1	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	2	16.000	10	20.000	13	25.000	11	40.000	-1	50.000	-11	60.000	**-23**
Chrysene	2.0000	-2	5.0000	1	10.000	1	16.000	3	20.000	4	25.000	3	40.000	-1	50.000	-3	60.000	-6
Di-n-octylphthalate					10.000	-14	16.000	-5	20.000	0	25.000	2	40.000	5	50.000	5	60.000	5
Benzo(b)fluoranthene	2.0000	-16	5.0000	-10	10.000	-6	16.000	-1	20.000	1	25.000	1	40.000	8	50.000	11	60.000	13
Benzo(k)fluoranthene	2.0000	-8	5.0000	-4	10.000	-2	16.000	6	20.000	8	25.000	7	40.000	2	50.000	-2	60.000	-6
Benzo(a)pyrene	2.0000	-17	5.0000	-10	10.000	-6	16.000	1	20.000	6	25.000	5	40.000	7	50.000	6	60.000	7
Indeno(1,2,3-cd)pyrene	2.0000	-19	5.0000	-12	10.000	-8	16.000	1	20.000	4	25.000	6	40.000	9	50.000	9	60.000	10
Dibenz(a,h)anthracene	2.0000	-19	5.0000	-12	10.000	-7	16.000	1	20.000	4	25.000	6	40.000	9	50.000	8	60.000	9
Benzo(g,h,i)perylene	2.0000	-11	5.0000	-11	10.000	-13	16.000	-1	20.000	3	25.000	6	40.000	9	50.000	9	60.000	10
2-Fluorophenol	2.0000	-5	5.0000	-6	10.000	-3	16.000	0	20.000	1	25.000	1	40.000	4	50.000	3	60.000	6
Phenol-d5	2.0000	-6	5.0000	-7	10.000	-4	16.000	0	20.000	0	25.000	1	40.000	4	50.000	6	60.000	6
Nitrobenzene-d5	2.0000	-9	5.0000	-7	10.000	-3	16.000	1	20.000	1	25.000	3	40.000	6	50.000	4	60.000	6
2-Fluorobiphenyl	2.0000	3	5.0000	4	10.000	6	16.000	6	20.000	5	25.000	2	40.000	-5	50.000	-8	60.000	-13
2,4,6-Tribromophenol	2.0000	-17	5.0000	-8	10.000	0	16.000	8	20.000	9	25.000	9	40.000	4	50.000	0	60.000	-5
Terphenyl-d14	2.0000	-2	5.0000	3	10.000	3	16.000	6	20.000	6	25.000	4	40.000	-2	50.000	-6	60.000	-11

NPM 03/16/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/16/15 [Benzoic acid]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Chloroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Nitroaniline]: Corrected automatically drawn baseline in ICAL (xcc08).

NPM 03/16/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (xcc08).

NPM 03/16/15 [3-Nitroaniline]: Corrected automatically drawn baseline in ICAL (xcc09).

NPM 03/16/15 [Acenaphthene]: Corrected automatically drawn baseline in ICAL (xcc11).

NPM 03/16/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/16/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Nitroaniline]: Picked or reassigned peak in ICAL (xcc13).

NPM 03/16/15 [Aniline]: Corrected automatically drawn baseline in ICAL (xcc14).

NPM 03/16/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (xcc14).

NPM 03/16/15 [Resorcinol]: Picked or reassigned peak in ICAL (xcc14).

NPM 03/16/15 [4-Nitrophenol]: Picked or reassigned peak in ICAL (xcc14).

NPM 03/16/15 [Chrysene]: Corrected automatically drawn baseline in ICAL (xcc14).

KMH 04/01/15 : cut 2 loops to improve benzidine

KMH 04/07/15 : cut 4 loops to improve benzidine

Analyst: NPM Date: 03/16/15 Reviewer: LW Date: 03/18/15

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA05 Name : 6PTBNA5
Calnum : 545102874001 Cal Date : 12-MAR-2015

ICV 545102874015 (xcc15 12-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	38.49	ug/mL	-4	30	
Phenol	40.00	38.65	ug/mL	-3	20	
bis(2-Chloroethyl)ether	40.00	38.90	ug/mL	-3	30	
2-Chlorophenol	40.00	39.02	ug/mL	-2	30	
1,3-Dichlorobenzene	40.00	39.82	ug/mL	0	30	
1,4-Dichlorobenzene	40.00	40.44	ug/mL	1	20	
Benzyl alcohol	40.00	39.18	ug/mL	-2	30	
1,2-Dichlorobenzene	40.00	40.50	ug/mL	1	30	
2-Methylphenol	40.00	39.62	ug/mL	-1	30	
bis(2-Chloroisopropyl) ether	40.00	37.41	ug/mL	-6	30	
4-Methylphenol	40.00	35.78	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.12	ug/mL	-5	30	
Hexachloroethane	40.00	39.69	ug/mL	-1	30	
Nitrobenzene	40.00	37.95	ug/mL	-5	30	
Isophorone	40.00	38.50	ug/mL	-4	30	
2-Nitrophenol	40.00	38.83	ug/mL	-3	20	
2,4-Dimethylphenol	40.00	37.81	ug/mL	-5	30	
bis(2-Chloroethoxy)methane	40.00	38.47	ug/mL	-4	30	
Benzoic acid	100.0	101.4	ug/mL	1	40	
2,4-Dichlorophenol	40.00	39.74	ug/mL	-1	20	
1,2,4-Trichlorobenzene	40.00	40.30	ug/mL	1	30	
Naphthalene	40.00	36.88	ug/mL	-8	30	
4-Chloroaniline	40.00	36.74	ug/mL	-8	30	
Hexachlorobutadiene	40.00	40.15	ug/mL	0	20	
4-Chloro-3-methylphenol	40.00	38.55	ug/mL	-4	20	
2-Methylnaphthalene	40.00	38.36	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	34.92	ug/mL	-13	40	
2,4,6-Trichlorophenol	40.00	39.06	ug/mL	-2	20	
2,4,5-Trichlorophenol	40.00	39.73	ug/mL	-1	30	
2-Chloronaphthalene	40.00	37.54	ug/mL	-6	30	
2-Nitroaniline	40.00	37.52	ug/mL	-6	30	
Dimethylphthalate	40.00	39.80	ug/mL	-1	30	
2,6-Dinitrotoluene	40.00	39.92	ug/mL	0	30	
Acenaphthylene	40.00	38.30	ug/mL	-4	30	
3-Nitroaniline	40.00	39.62	ug/mL	-1	30	
Acenaphthene	40.00	38.08	ug/mL	-5	20	
2,4-Dinitrophenol	40.00	38.34	ug/mL	-4	40	
4-Nitrophenol	40.00	38.79	ug/mL	-3	40	
Dibenzofuran	40.00	38.54	ug/mL	-4	30	
2,4-Dinitrotoluene	40.00	40.31	ug/mL	1	30	
Diethylphthalate	40.00	37.58	ug/mL	-6	30	
Fluorene	40.00	37.23	ug/mL	-7	30	
4-Chlorophenyl-phenylether	40.00	37.17	ug/mL	-7	40	
4-Nitroaniline	40.00	38.39	ug/mL	-4	30	
4,6-Dinitro-2-methylphenol	40.00	38.95	ug/mL	-3	30	
N-Nitrosodiphenylamine	40.00	43.75	ug/mL	9	20	
Azobenzene	40.00	37.96	ug/mL	-5	30	
4-Bromophenyl-phenylether	40.00	37.74	ug/mL	-6	30	
Hexachlorobenzene	40.00	39.02	ug/mL	-2	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.87	ug/mL	-3	20	
Phenanthrene	40.00	36.98	ug/mL	-8	30	
Anthracene	40.00	36.95	ug/mL	-8	30	
Di-n-butylphthalate	40.00	37.13	ug/mL	-7	30	
Fluoranthene	40.00	37.13	ug/mL	-7	20	
Pyrene	40.00	35.91	ug/mL	-10	30	
Butylbenzylphthalate	40.00	39.32	ug/mL	-2	30	
3,3'-Dichlorobenzidine	60.00	61.39	ug/mL	2	40	
Benzo(a)anthracene	40.00	38.52	ug/mL	-4	30	
bis(2-Ethylhexyl)phthalate	40.00	41.01	ug/mL	3	30	
Chrysene	40.00	37.65	ug/mL	-6	30	
Di-n-octylphthalate	40.00	39.43	ug/mL	-1	20	
Benzo(b)fluoranthene	40.00	41.69	ug/mL	4	30	
Benzo(k)fluoranthene	40.00	40.55	ug/mL	1	30	
Benzo(a)pyrene	40.00	40.97	ug/mL	2	20	
Indeno(1,2,3-cd)pyrene	40.00	41.05	ug/mL	3	30	
Dibenz(a,h)anthracene	40.00	40.56	ug/mL	1	30	
Benzo(g,h,i)perylene	40.00	40.53	ug/mL	1	30	

Analyst: NPM Date: 03/16/15 Reviewer: LW Date: 03/18/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSBNA Water: EPA 8270C

Inst : MSBNA06
Calnum : 555120229001
Units : ug/mL

Name : 6PTBNA6
Date : 24-MAR-2015 16:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	yco11	555120229011	ICAL	24-MAR-2015 16:49	S26474
L2	yco12	555120229012	ICAL	24-MAR-2015 17:25	S26475
L3	yco13	555120229013	ICAL	24-MAR-2015 18:01	S26476
L4	yco14	555120229014	ICAL	24-MAR-2015 18:37	S26477
L5	yco15	555120229015	ICAL	24-MAR-2015 19:14	S26478
L6	yco16	555120229016	ICAL	24-MAR-2015 19:50	S26479
L7	yco17	555120229017	ICAL	24-MAR-2015 20:28	S26480
L8	yco18	555120229018	ICAL	24-MAR-2015 21:07	S26481
L9	yco19	555120229019	ICAL	24-MAR-2015 21:45	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		1.3307	1.5049	1.5667	1.5813	1.5648	1.5018	1.4510	1.4252	AVRG		0.67079		1.4908	6	15	0.05	0.99	
Phenol		1.9695	2.0270	2.0160	2.0056	1.9671	1.8901m	1.8366	1.8444	AVRG		0.51426		1.9445	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4461m	1.4290	1.3624	1.3572	1.3154	1.2739m	1.2380m	1.1616m	AVRG		0.75588		1.3230	7	15	0.05	0.99	
2-Chlorophenol		1.4296	1.4027	1.3955	1.3856	1.3703	1.3500	1.3245	1.3346	AVRG		0.72775		1.3741	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.6099	1.5785	1.6009	1.5877	1.5642	1.5471	1.5097	1.5014	AVRG		0.64003		1.5624	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.3648	1.4121	1.4292	1.4382	1.4403	1.4327	1.3968	1.3932	AVRG		0.70751		1.4134	2	15	0.05	0.99	
Benzyl alcohol		0.8185	0.8487	0.8633	0.8820	0.8744	0.8778	0.8696	0.9000	AVRG		1.15369		0.8668	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.3102	1.3492	1.3631	1.3718	1.3595	1.3462	1.3013	1.2875	AVRG		0.74844		1.3361	2	15	0.05	0.99	
2-Methylphenol		0.9195	0.9763	1.0087	1.0056	1.0074	0.9979	0.9952	0.9896	AVRG		1.01263		0.9875	3	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.2241	2.2134	2.1602	2.1669	2.0843	1.9565	1.8476	1.7731	AVRG		0.48703		2.0533	8	15	0.05	0.99	
4-Methylphenol		1.3922	1.4729	1.5322	1.5346	1.5309	1.5442			AVRG		0.66614		1.5012	4	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7996	0.8268	0.8338	0.8228	0.8144	0.8159	0.8207	0.8394	AVRG		1.21704		0.8217	1	15	0.050	0.99	
Hexachloroethane		0.6099	0.6399	0.6636	0.6651	0.6567	0.6506	0.6292	0.6224	AVRG		1.55722		0.6422	3	15	0.05	0.99	
Nitrobenzene		0.4583	0.4571	0.4507	0.4481	0.4352	0.4306	0.4150	0.4084	AVRG		2.28354		0.4379	4	15	0.05	0.99	
Isophorone		0.8707	0.8475	0.8545	0.8571	0.8579	0.8761	0.8670	0.8633	AVRG		1.16040		0.8618	1	15	0.05	0.99	
2-Nitrophenol			0.2131	0.2163	0.2150	0.2127	0.2127	0.1999	0.1979m	AVRG		4.76986		0.2096	4	15	0.05	0.99	
2,4-Dimethylphenol		0.4380	0.4121	0.4151	0.4090	0.3974	0.3924	0.3815	0.3748	AVRG		2.48433		0.4025	5	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4570	0.4568	0.4590	0.4562	0.4473	0.4452	0.4523	AVRG		2.20555		0.4534	1	15	0.05	0.99	
Benzoic acid		0.2757	0.2779	0.2941	0.2980	0.3000	0.3133	0.3098	0.3153	AVRG		3.35561		0.2980	5	15	0.05	0.99	
2,4-Dichlorophenol		0.3561	0.3561	0.3505	0.3486	0.3438	0.3395	0.3273	0.3274	AVRG		2.90992		0.3437	3	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4247	0.4272	0.4262	0.4240	0.4170	0.4107	0.3941	0.3797	AVRG		2.42160		0.4130	4	15	0.05	0.99	
Naphthalene	0.9607	0.9619	0.9757	1.0059	1.0108	1.0216	1.0334	1.0014	0.9916	AVRG		1.00413		0.9959	3	15	0.05	0.99	
4-Chloroaniline		0.2778m	0.4133	0.4290	0.4372	0.4397	0.4464	0.4483	0.4484	LINR	2.53671	2.17378		0.4175	1.000	15	0.05	0.99	
Hexachlorobutadiene		0.2729	0.2791	0.2765	0.2751	0.2735	0.2641	0.2475	0.2390	AVRG		3.75983		0.2660	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3650	0.3791	0.3879	0.3929	0.3867	0.3839	0.3692	0.3635	AVRG		2.64186		0.3785	3	15	0.05	0.99	
2-Methylnaphthalene	0.7688	0.7984	0.7990	0.8056	0.8029	0.7920	0.7868	0.7868	0.7849	AVRG		1.26311		0.7917	1	15	0.05	0.99	
Hexachlorocyclopentadiene			0.4175	0.4629	0.4606	0.4598	0.4657	0.4554	0.4526	AVRG		2.20520		0.4535	4	15	0.050	0.99	
2,4,6-Trichlorophenol		0.5108	0.5151	0.5253	0.5305	0.5212	0.5223	0.5169	0.5141	AVRG		1.92486		0.5195	1	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5272	0.5254	0.5407	0.5269	0.5333	0.5193m	0.5067m	0.5018m	AVRG		1.91329		0.5227	2	15	0.05	0.99	
2-Chloronaphthalene			1.2826	1.2727	1.2799	1.2731	1.3165	1.3135	1.3197	AVRG		0.77280		1.2940	2	15	0.05	0.99	
2-Nitroaniline			0.4727	0.4755	0.4756	0.4714	0.4714	0.4687	0.4649	AVRG		2.12101		0.4715	1	15	0.05	0.99	
Dimethylphthalate		1.6348	1.5826	1.6120	1.5945	1.5671	1.5458	1.5182	1.4903	AVRG		0.63769		1.5682	3	15	0.05	0.99	
2,6-Dinitrotoluene		0.3531	0.3472	0.3519	0.3515	0.3490	0.3529	0.3508	0.3508	AVRG		2.84971		0.3509	1	15	0.05	0.99	
Acenaphthylene	2.1002	2.0135	2.0049	2.0617	2.0463	2.0337	2.0195	1.9932	1.9637	AVRG		0.49351		2.0263	2	15	0.05	0.99	
3-Nitroaniline			0.3257	0.3567	0.3422	0.3477	0.3703	0.3726	0.3817	AVRG		2.80345		0.3567	6	15	0.05	0.99	
Acenaphthene	0.9997	1.0447	1.0995	1.1208	1.1639	1.1368	1.1555	1.1330	1.1485	AVRG		0.89977		1.1114	5	15	0.05	0.99	
2,4-Dinitrophenol			0.1275	0.1699	0.1861	0.2018	0.2276	0.2439	0.2520	LINR	12.6402	3.59390		0.2013	0.999	15	0.050	0.99	
4-Nitrophenol			0.2513	0.2633	0.2634	0.2588	0.2656	0.2618	0.2665	AVRG		3.82385		0.2615	2	15	0.050	0.99	
Dibenzofuran			1.7589	1.8052	1.7751	1.7665	1.7223	1.6703	1.6326	AVRG		0.57705		1.7330	4	15	0.05	0.99	
2,4-Dinitrotoluene		0.4359	0.4485	0.4708	0.4706	0.4627	0.4710	0.4598	0.4515	AVRG		2.17929		0.4589	3	15	0.05	0.99	
Diethylphthalate			1.6170	1.6367	1.6220	1.6175	1.6078	1.5897	1.5792	AVRG		0.62112		1.6100	1	15	0.05	0.99	
Fluorene	1.6226	1.5719	1.5459	1.5586	1.5500	1.5174	1.5094	1.4840	1.4762	AVRG		0.65048		1.5373	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.8797	0.9042	0.9056	0.9012	0.9076	0.9000	0.8836	AVRG		1.11432		0.8974	1	15	0.05	0.99	
4-Nitroaniline			0.2764	0.3172	0.3121	0.3216	0.3229	0.3471m	0.3557m	AVRG		3.10689		0.3219	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1206	0.1336	0.1366	0.1373	0.1398	0.1387		AVRG		7.43742		0.1345	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5197	0.5248	0.5079	0.5025	0.4914	0.4764	0.4736	AVRG		2.00213		0.4995	4	15	0.05	0.99	
Azobenzene			0.7569	0.7592	0.7378	0.7211	0.6852	0.6636	0.6477	AVRG		1.40800		0.7102	6	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2626	0.2680	0.2714	0.2623	0.2604	0.2594	0.2577	AVRG		3.80070		0.2631	2	15	0.05	0.99	
Hexachlorobenzene		0.2648	0.2682	0.2661	0.2635	0.2590	0.2491	0.2397	0.2356	AVRG		3.91004		0.2558	5	15	0.05	0.99	
Pentachlorophenol			0.1812	0.1931	0.1936	0.1948	0.1900	0.1854	0.1865	AVRG		5.28472		0.1892	3	15	0.05	0.99	
Phenanthrene	0.9926	0.9600	0.9733	0.9920	0.9947	0.9906	0.9772	0.9450	0.9264	AVRG		1.02837		0.9724	2	15	0.05	0.99	
Anthracene	1.0259	1.0143	1.0354	1.0485	1.0387	1.0179	0.9925	0.9568	0.9377	AVRG		0.99252		1.0075	4	15	0.05	0.99	
Di-n-butylphthalate			1.4071	1.4334	1.3907	1.3864	1.3197	1.2570	1.2310	AVRG		0.74268		1.3465	6	15	0.05	0.99	
Fluoranthene	1.4760	1.5076	1.5402	1.5657	1.5490	1.5121	1.4585	1.3900	1.3492	AVRG		0.67424		1.4832	5	15	0.05	0.99	
Pyrene	1.4880	1.5248	1.5498	1.5415	1.5294	1.5163	1.4611	1.4263	1.4204	AVRG		0.66877		1.4953	3	15	0.05	0.99	
Butylbenzylphthalate			0.6557	0.6894	0.6917	0.6817	0.6832	0.6651	0.6668	AVRG		1.47877		0.6762	2	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4727	0.5582	0.5682	0.5739	0.5553	0.5292	0.5140	AVRG		1.85603		0.5388	7	15	0.05	0.99	
Benzo(a)anthracene	1.3345	1.2972	1.2579	1.2635	1.2511	1.2234	1.2144	1.1929	1.1952	AVRG		0.80142		1.2478	4	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.8762	0.8850	0.8678	0.8522	0.7779	0.7434	0.7394	AVRG		1.21911		0.8203	8	15	0.05	0.99	
Chrysene	0.9999	1.0134	1.0620	1.1125	1.1374	1.1450	1.1486	1.1555	1.1685	AVRG		0.90519		1.1047	6	15	0.05	0.99	
Di-n-octylphthalate			1.4977	1.5796	1.5701	1.5542	1.5191	1.4824	1.4551	AVRG		0.65678		1.5226	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.2561	1.3048	1.3017	1.3778	1.3660	1.3628	1.3695	1.3850	1.4287	AVRG		0.74058		1.3503	4	15	0.05	0.99	
Benzo(k)fluoranthene	1.2230m	1.2015m	1.1886m	1.1833	1.1623	1.1420	1.0799	1.0125m	0.9631m	AVRG		0.88617		1.1285	8	15	0.05	0.99	
Benzo(a)pyrene	1.2255	1.2461	1.2709	1.3029	1.3162	1.2847	1.2896	1.2611	1.2502	AVRG		0.78622		1.2719	2	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.2470	1.3168	1.3470	1.4514	1.4416	1.4487	1.4266	1.3925	1.3754	AVRG		0.72306		1.3830	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.9899	1.0624	1.0695	1.1269	1.1019	1.0882	1.0711	1.0528	1.0426	AVRG		0.93698		1.0673	4	15	0.05	0.99	
Benzo(g,h,i)perylene	1.0827	1.0273	1.0271	1.1077	1.1328	1.1182	1.1101	1.0822	1.0808	AVRG		0.92128		1.0854	3	15	0.05	0.99	
2-Fluorophenol	1.4394	1.5826	1.6954	1.7335	1.7446	1.6983	1.6762	1.6688	1.6873	AVRG		0.60297		1.6585	6	15	0.05	0.99	
Phenol-d5	1.8330	1.9930	2.1586	2.1984	2.1661	2.1589	2.1145	2.0687	2.0608	AVRG		0.47995		2.0836	5	15	0.05	0.99	
Nitrobenzene-d5	0.5404	0.5262	0.5215	0.5153	0.5180	0.5049	0.5102	0.5004	0.4983	AVRG		1.94163		0.5150	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7758	1.7475	1.6289	1.6053	1.5848	1.5576	1.5885	1.5622	1.5587	AVRG		0.61604		1.6233	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.2560	0.2710	0.2730	0.2806	0.2830	0.2810	0.2965	0.2989	0.3019	AVRG		3.54068		0.2824	5	15	0.05	0.99	
Terphenyl-d14	1.0974	1.1340	1.1399	1.1837	1.1796	1.1680	1.1436	1.1164	1.1239	AVRG		0.87494		1.1429	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-11	20.000	1	32.000	5	40.000	6	50.000	5	80.000	1	100.00	-3	120.00	-4
Phenol			10.000	1	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-5
bis(2-Chloroethyl)ether			10.000	9	20.000	8	32.000	3	40.000	3	50.000	-1	80.000	-4	100.00	-6	120.00	-12
2-Chlorophenol			10.000	4	20.000	2	32.000	2	40.000	1	50.000	0	80.000	-2	100.00	-4	120.00	-3
1,3-Dichlorobenzene			10.000	3	20.000	1	32.000	2	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-4
1,4-Dichlorobenzene			10.000	-3	20.000	0	32.000	1	40.000	2	50.000	2	80.000	1	100.00	-1	120.00	-1
Benzyl alcohol			10.000	-6	20.000	-2	32.000	0	40.000	2	50.000	1	80.000	1	100.00	0	120.00	4
1,2-Dichlorobenzene			10.000	-2	20.000	1	32.000	2	40.000	3	50.000	2	80.000	1	100.00	-3	120.00	-4
2-Methylphenol			10.000	-7	20.000	-1	32.000	2	40.000	2	50.000	2	80.000	1	100.00	1	120.00	0
bis(2-Chloroisopropyl) ether			10.000	8	20.000	8	32.000	5	40.000	6	50.000	2	80.000	-5	100.00	-10	120.00	-14
4-Methylphenol			10.000	-7	20.000	-2	32.000	2	40.000	2	50.000	2	80.000	3				
N-Nitroso-di-n-propylamine			10.000	-3	20.000	1	32.000	1	40.000	0	50.000	-1	80.000	-1	100.00	0	120.00	2
Hexachloroethane			10.000	-5	20.000	0	32.000	3	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	5	20.000	4	32.000	3	40.000	2	50.000	-1	80.000	-2	100.00	-5	120.00	-7
Isophorone			10.000	1	20.000	-2	32.000	-1	40.000	-1	50.000	0	80.000	2	100.00	1	120.00	0
2-Nitrophenol					20.000	2	32.000	3	40.000	3	50.000	1	80.000	1	100.00	-5	120.00	-6
2,4-Dimethylphenol			10.000	9	20.000	2	32.000	3	40.000	2	50.000	-1	80.000	-3	100.00	-5	120.00	-7
bis(2-Chloroethoxy)methane					10.000	1	16.000	1	20.000	1	25.000	1	40.000	-1	50.000	-2	60.000	0
Benzoic acid			50.000	-7	60.000	-7	80.000	-1	90.000	0	100.00	1	120.00	5	130.00	4	140.00	6
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	2	40.000	1	50.000	0	80.000	-1	100.00	-5	120.00	-5
1,2,4-Trichlorobenzene			10.000	3	20.000	3	32.000	3	40.000	3	50.000	1	80.000	-1	100.00	-5	120.00	-8
Naphthalene	2.0000	-4	5.0000	-3	10.000	-2	16.000	1	20.000	1	25.000	3	40.000	4	50.000	1	60.000	0
4-Chloroaniline			10.000	-13	20.000	3	32.000	1	40.000	1	50.000	1	80.000	0	100.00	0	120.00	0
Hexachlorobutadiene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	3	80.000	-1	100.00	-7	120.00	-10
4-Chloro-3-methylphenol			10.000	-4	20.000	0	32.000	2	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-4
2-Methylnaphthalene	2.0000	-3	5.0000	1	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-1	50.000	-1	60.000	-1
Hexachlorocyclopentadiene					20.000	-8	32.000	2	40.000	2	50.000	1	80.000	3	100.00	0	120.00	0
2,4,6-Trichlorophenol			10.000	-2	20.000	-1	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-1	120.00	-1
2,4,5-Trichlorophenol			10.000	1	20.000	1	32.000	3	40.000	1	50.000	2	80.000	-1	100.00	-3	120.00	-4
2-Chloronaphthalene					10.000	-1	16.000	-2	20.000	-1	25.000	-2	40.000	2	50.000	2	60.000	2
2-Nitroaniline					20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-1
Dimethylphthalate			10.000	4	20.000	1	32.000	3	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-5
2,6-Dinitrotoluene			10.000	1	20.000	-1	32.000	0	40.000	0	50.000	-1	80.000	1	100.00	0	120.00	0
Acenaphthylene	2.0000	4	5.0000	-1	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-3
3-Nitroaniline					20.000	-9	32.000	0	40.000	-4	50.000	-3	80.000	4	100.00	4	120.00	7
Acenaphthene	2.0000	-10	5.0000	-6	10.000	-1	16.000	1	20.000	5	25.000	2	40.000	4	50.000	2	60.000	3
2,4-Dinitrophenol					20.000	9	32.000	1	40.000	-2	50.000	-2	80.000	-2	100.00	0	120.00	1
4-Nitrophenol					20.000	-4	32.000	1	40.000	1	50.000	-1	80.000	2	100.00	0	120.00	2
Dibenzofuran					10.000	1	16.000	4	20.000	2	25.000	2	40.000	-1	50.000	-4	60.000	-6
2,4-Dinitrotoluene			10.000	-5	20.000	-2	32.000	3	40.000	3	50.000	1	80.000	3	100.00	0	120.00	-2
Diethylphthalate					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-2
Fluorene	2.0000	6	5.0000	2	10.000	1	16.000	1	20.000	1	25.000	-1	40.000	-2	50.000	-3	60.000	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-2	16.000	1	20.000	1	25.000	0	40.000	1	50.000	0	60.000	-2
4-Nitroaniline					20.000	-14	32.000	-1	40.000	-3	50.000	0	80.000	0	100.00	8	120.00	11
4,6-Dinitro-2-methylphenol					20.000	-10	32.000	-1	40.000	2	50.000	2	80.000	4	100.00	3		
N-Nitrosodiphenylamine					10.000	4	16.000	5	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Azobenzene					10.000	7	16.000	7	20.000	4	25.000	2	40.000	-4	50.000	-7	60.000	-9
4-Bromophenyl-phenylether					10.000	0	16.000	2	20.000	3	25.000	0	40.000	-1	50.000	-1	60.000	-2
Hexachlorobenzene			10.000	4	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-8
Pentachlorophenol					20.000	-4	32.000	2	40.000	2	50.000	3	80.000	0	100.00	-2	120.00	-1
Phenanthrene	2.0000	2	5.0000	-1	10.000	0	16.000	2	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-5
Anthracene	2.0000	2	5.0000	1	10.000	3	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-5	60.000	-7
Di-n-butylphthalate					10.000	5	16.000	6	20.000	3	25.000	3	40.000	-2	50.000	-7	60.000	-9
Fluoranthene	2.0000	0	5.0000	2	10.000	4	16.000	6	20.000	4	25.000	2	40.000	-2	50.000	-6	60.000	-9
Pyrene	2.0000	0	5.0000	2	10.000	4	16.000	3	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Butylbenzylphthalate					10.000	-3	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-2	60.000	-1
3,3'-Dichlorobenzidine					20.000	-12	32.000	4	40.000	5	50.000	7	80.000	3	100.00	-2	120.00	-5
Benzo(a)anthracene	2.0000	7	5.0000	4	10.000	1	16.000	1	20.000	0	25.000	-2	40.000	-3	50.000	-4	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	7	16.000	8	20.000	6	25.000	4	40.000	-5	50.000	-9	60.000	-10
Chrysene	2.0000	-9	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	4	40.000	4	50.000	5	60.000	6
Di-n-octylphthalate					10.000	-2	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-3	60.000	-4
Benzo(b)fluoranthene	2.0000	-7	5.0000	-3	10.000	-4	16.000	2	20.000	1	25.000	1	40.000	1	50.000	3	60.000	6
Benzo(k)fluoranthene	2.0000	8	5.0000	6	10.000	5	16.000	5	20.000	3	25.000	1	40.000	-4	50.000	-10	60.000	-15
Benzo(a)pyrene	2.0000	-4	5.0000	-2	10.000	0	16.000	2	20.000	3	25.000	1	40.000	1	50.000	-1	60.000	-2
Indeno(1,2,3-cd)pyrene	2.0000	-10	5.0000	-5	10.000	-3	16.000	5	20.000	4	25.000	5	40.000	3	50.000	1	60.000	-1
Dibenz(a,h)anthracene	2.0000	-7	5.0000	0	10.000	0	16.000	6	20.000	3	25.000	2	40.000	0	50.000	-1	60.000	-2
Benzo(g,h,i)perylene	2.0000	0	5.0000	-5	10.000	-5	16.000	2	20.000	4	25.000	3	40.000	2	50.000	0	60.000	0
2-Fluorophenol	2.0000	-13	5.0000	-5	10.000	2	16.000	5	20.000	5	25.000	2	40.000	1	50.000	1	60.000	2
Phenol-d5	2.0000	-12	5.0000	-4	10.000	4	16.000	6	20.000	4	25.000	4	40.000	1	50.000	-1	60.000	-1
Nitrobenzene-d5	2.0000	5	5.0000	2	10.000	1	16.000	0	20.000	1	25.000	-2	40.000	-1	50.000	-3	60.000	-3
2-Fluorobiphenyl	2.0000	9	5.0000	8	10.000	0	16.000	-1	20.000	-2	25.000	-4	40.000	-2	50.000	-4	60.000	-4
2,4,6-Tribromophenol	2.0000	-9	5.0000	-4	10.000	-3	16.000	-1	20.000	0	25.000	-1	40.000	5	50.000	6	60.000	7
Terphenyl-d14	2.0000	-4	5.0000	-1	10.000	0	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-2	60.000	-2

NPM 03/25/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Phenol]: Picked or reassigned peak in ICAL (yco17).

NPM 03/25/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Aniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [Pyridine]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [4,6-Dinitro-2-methylphenol]: Corrected automatically drawn baseline in ICAL (yco19).

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA06 Name : 6PTBNA6
Calnum : 555120229001 Cal Date : 24-MAR-2015

ICV 555120229020 (yco20 24-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	40.57	ug/mL	1	30	
Phenol	40.00	37.01	ug/mL	-7	20	
bis(2-Chloroethyl)ether	40.00	37.87	ug/mL	-5	30	
2-Chlorophenol	40.00	37.60	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	38.61	ug/mL	-3	30	
1,4-Dichlorobenzene	40.00	38.94	ug/mL	-3	20	
Benzyl alcohol	40.00	38.78	ug/mL	-3	30	
1,2-Dichlorobenzene	40.00	39.81	ug/mL	0	30	
2-Methylphenol	40.00	39.37	ug/mL	-2	30	
bis(2-Chloroisopropyl) ether	40.00	38.86	ug/mL	-3	30	
4-Methylphenol	40.00	35.55	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.03	ug/mL	-5	30	
Hexachloroethane	40.00	39.27	ug/mL	-2	30	
Nitrobenzene	40.00	37.56	ug/mL	-6	30	
Isophorone	40.00	37.96	ug/mL	-5	30	
2-Nitrophenol	40.00	39.52	ug/mL	-1	20	
2,4-Dimethylphenol	40.00	38.75	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.43	ug/mL	-6	30	
Benzoic acid	100.0	98.65	ug/mL	-1	40	
2,4-Dichlorophenol	40.00	38.04	ug/mL	-5	20	
1,2,4-Trichlorobenzene	40.00	39.93	ug/mL	0	30	
Naphthalene	40.00	37.88	ug/mL	-5	30	
4-Chloroaniline	40.00	38.21	ug/mL	-4	30	
Hexachlorobutadiene	40.00	40.43	ug/mL	1	20	
4-Chloro-3-methylphenol	40.00	38.65	ug/mL	-3	20	
2-Methylnaphthalene	40.00	38.28	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	37.15	ug/mL	-7	40	
2,4,6-Trichlorophenol	40.00	38.55	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.89	ug/mL	-3	30	
2-Chloronaphthalene	40.00	37.40	ug/mL	-7	30	
2-Nitroaniline	40.00	37.59	ug/mL	-6	30	
Dimethylphthalate	40.00	37.77	ug/mL	-6	30	
2,6-Dinitrotoluene	40.00	37.29	ug/mL	-7	30	
Acenaphthylene	40.00	36.06	ug/mL	-10	30	
3-Nitroaniline	40.00	36.42	ug/mL	-9	30	
Acenaphthene	40.00	39.17	ug/mL	-2	20	
2,4-Dinitrophenol	40.00	39.87	ug/mL	0	40	
4-Nitrophenol	40.00	37.10	ug/mL	-7	40	
Dibenzofuran	40.00	39.34	ug/mL	-2	30	
2,4-Dinitrotoluene	40.00	40.78	ug/mL	2	30	
Diethylphthalate	40.00	36.54	ug/mL	-9	30	
Fluorene	40.00	36.00	ug/mL	-10	30	
4-Chlorophenyl-phenylether	40.00	37.82	ug/mL	-5	40	
4-Nitroaniline	40.00	37.61	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.56	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	43.60	ug/mL	9	20	
Azobenzene	40.00	35.74	ug/mL	-11	30	
4-Bromophenyl-phenylether	40.00	36.77	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.86	ug/mL	-5	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.02	ug/mL	-5	20	
Phenanthrene	40.00	37.31	ug/mL	-7	30	
Anthracene	40.00	37.43	ug/mL	-6	30	
Di-n-butylphthalate	40.00	36.66	ug/mL	-8	30	
Fluoranthene	40.00	36.56	ug/mL	-9	20	
Pyrene	40.00	35.15	ug/mL	-12	30	
Butylbenzylphthalate	40.00	37.87	ug/mL	-5	30	
3,3'-Dichlorobenzidine	60.00	58.22	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.04	ug/mL	-5	30	
bis(2-Ethylhexyl)phthalate	40.00	37.26	ug/mL	-7	30	
Chrysene	40.00	39.42	ug/mL	-1	30	
Di-n-octylphthalate	40.00	36.91	ug/mL	-8	20	
Benzo(b)fluoranthene	40.00	39.31	ug/mL	-2	30	
Benzo(k)fluoranthene	40.00	37.69	ug/mL	-6	30	
Benzo(a)pyrene	40.00	38.34	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	40.00	38.60	ug/mL	-3	30	
Dibenz(a,h)anthracene	40.00	37.25	ug/mL	-7	30	
Benzo(g,h,i)perylene	40.00	37.66	ug/mL	-6	30	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA05 IDF : 1.0
Seqnum : 545171960003 File : xdt03 Time : 29-APR-2015 10:58
Cal : 545102874001 Caldate : 12-MAR-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.5536	0.5919	40.00	42.77	ug/mL	7	30	0.0500	
Phenol	1.6636	1.7066	40.00	41.03	ug/mL	3	20	0.0500	
bis(2-Chloroethyl)ether	1.1917	1.1376	40.00	38.18	ug/mL	-5	30	0.0500	
2-Chlorophenol	1.4397	1.4149	40.00	39.31	ug/mL	-2	30	0.0500	
1,3-Dichlorobenzene	1.5343	1.6118	40.00	42.02	ug/mL	5	30	0.0500	
1,4-Dichlorobenzene	1.5372	1.6699	40.00	43.45	ug/mL	9	20	0.0500	
Benzyl alcohol	0.9176	0.9104	40.00	39.68	ug/mL	-1	30	0.0500	
1,2-Dichlorobenzene	1.4629	1.5893	40.00	43.46	ug/mL	9	30	0.0500	
2-Methylphenol	1.1253	1.1318	40.00	40.23	ug/mL	1	30	0.0500	
bis(2-Chloroisopropyl) ether	1.4324	1.6343	40.00	45.64	ug/mL	14	30	0.0500	
4-Methylphenol	1.6307	1.6673	40.00	40.90	ug/mL	2	30	0.0500	
N-Nitroso-di-n-propylamine	0.6806	0.7674	40.00	45.10	ug/mL	13	30	0.0500	
Hexachloroethane	0.6209	0.6334	40.00	40.81	ug/mL	2	30	0.0500	
Nitrobenzene	0.3710	0.3437	40.00	37.06	ug/mL	-7	30	0.0500	
Isophorone	0.6529	0.6290	40.00	38.53	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2071	0.2002	40.00	38.67	ug/mL	-3	20	0.0500	
2,4-Dimethylphenol	0.3533	0.3257	40.00	36.87	ug/mL	-8	30	0.0500	
bis(2-Chloroethoxy)methane	0.3894	0.3582	20.00	18.40	ug/mL	-8	30	0.0500	
Benzoic acid	0.2608	0.2360	90.00	81.44	ug/mL	-10	40	0.0500	
2,4-Dichlorophenol	0.2999	0.3091	40.00	41.23	ug/mL	3	20	0.0500	
1,2,4-Trichlorobenzene	0.3209	0.3359	40.00	41.87	ug/mL	5	30	0.0500	
Naphthalene	1.0917	1.0423	20.00	19.09	ug/mL	-5	30	0.0500	
4-Chloroaniline	0.4085	0.4334	40.00	38.40	ug/mL	-4	30	0.0500	
Hexachlorobutadiene	0.1710	0.1834	40.00	42.89	ug/mL	7	20	0.0500	
4-Chloro-3-methylphenol	0.3147	0.3050	40.00	38.76	ug/mL	-3	20	0.0500	
2-Methylnaphthalene	0.7234	0.6796	20.00	18.79	ug/mL	-6	30	0.0500	
Hexachlorocyclopentadiene	0.3693	0.3782	40.00	40.97	ug/mL	2	40	0.0500	
2,4,6-Trichlorophenol	0.4076	0.4335	40.00	42.55	ug/mL	6	20	0.0500	
2,4,5-Trichlorophenol	0.4316	0.4630	40.00	42.91	ug/mL	7	30	0.0500	
2-Chloronaphthalene	1.2707	1.2890	20.00	20.29	ug/mL	1	30	0.0500	
2-Nitroaniline	0.3906	0.3649	40.00	37.37	ug/mL	-7	30	0.0500	
Dimethylphthalate	1.4455	1.4653	40.00	40.55	ug/mL	1	30	0.0500	
2,6-Dinitrotoluene	0.3513	0.3432	40.00	39.08	ug/mL	-2	30	0.0500	
Acenaphthylene	2.0943	2.0645	20.00	19.72	ug/mL	-1	30	0.0500	
3-Nitroaniline	0.3712	0.3648	40.00	39.67	ug/mL	-1	30	0.0500	
Acenaphthene	1.3432	1.2156	20.00	18.10	ug/mL	-9	20	0.0500	
2,4-Dinitrophenol	0.2059	0.1756	40.00	34.11	ug/mL	-15	40	0.0500	
4-Nitrophenol	0.2074	0.2088	40.00	40.27	ug/mL	1	40	0.0500	
Dibenzofuran	1.8185	1.8489	20.00	20.33	ug/mL	2	30	0.0500	
2,4-Dinitrotoluene	0.4686	0.4622	40.00	39.46	ug/mL	-1	30	0.0500	
Diethylphthalate	1.5366	1.5036	20.00	19.57	ug/mL	-2	30	0.0500	
Fluorene	1.5382	1.5791	20.00	20.53	ug/mL	3	30	0.0500	
4-Chlorophenyl-phenylether	0.7083	0.7202	20.00	20.33	ug/mL	2	40	0.0500	
4-Nitroaniline	0.3775	0.3715	40.00	39.36	ug/mL	-2	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1471	0.1413	40.00	38.41	ug/mL	-4	30	0.0500	
N-Nitrosodiphenylamine	0.5994	0.5663	20.00	18.90	ug/mL	-6	20	0.0500	
Azobenzene	0.8083	0.7352	20.00	18.19	ug/mL	-9	30	0.0500	
4-Bromophenyl-phenylether	0.2277	0.2129	20.00	18.70	ug/mL	-7	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2334	0.2209	40.00	37.85	ug/mL	-5	30	0.0500	
Pentachlorophenol	0.1632	0.1568	40.00	38.43	ug/mL	-4	20	0.0500	
Phenanthrene	1.1517	1.1637	20.00	20.21	ug/mL	1	30	0.0500	
Anthracene	1.1636	1.1788	20.00	20.26	ug/mL	1	30	0.0500	
Di-n-butylphthalate	1.3762	1.3243	20.00	19.25	ug/mL	-4	30	0.0500	
Fluoranthene	1.3073	1.2403	20.00	18.98	ug/mL	-5	20	0.0500	
Pyrene	1.3224	1.2883	20.00	19.48	ug/mL	-3	30	0.0500	
Butylbenzylphthalate	0.5998	0.5572	20.00	18.58	ug/mL	-7	30	0.0500	
3,3'-Dichlorobenzidine	0.3727	0.3828	40.00	41.09	ug/mL	3	40	0.0500	
Benzo(a)anthracene	1.2062	1.1995	20.00	19.89	ug/mL	-1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.7753	0.8457	20.00	21.82	ug/mL	9	30	0.0500	
Chrysene	1.1261	1.1363	20.00	20.18	ug/mL	1	30	0.0500	
Di-n-octylphthalate	1.4785	1.5890	20.00	21.49	ug/mL	7	20	0.0500	
Benzo(b)fluoranthene	1.2321	1.2773	20.00	20.73	ug/mL	4	30	0.0500	
Benzo(k)fluoranthene	1.1118	1.1808	20.00	21.24	ug/mL	6	30	0.0500	
Benzo(a)pyrene	1.1538	1.2167	20.00	21.09	ug/mL	5	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3110	1.2507	20.00	19.08	ug/mL	-5	30	0.0500	
Dibenz(a,h)anthracene	1.0892	1.0580	20.00	19.43	ug/mL	-3	30	0.0500	
Benzo(g,h,i)perylene	1.1063	1.0240	20.00	18.51	ug/mL	-7	30	0.0500	
2-Fluorophenol	1.3119	1.3058	20.00	19.91	ug/mL	0	30	0.0500	
Phenol-d5	1.6365	1.6324	20.00	19.95	ug/mL	0	30	0.0500	
Nitrobenzene-d5	0.4090	0.3928	20.00	19.21	ug/mL	-4	30	0.0500	
2-Fluorobiphenyl	1.6601	1.6316	20.00	19.66	ug/mL	-2	30	0.0500	
2,4,6-Tribromophenol	0.2252	0.1982	20.00	17.60	ug/mL	-12	30	0.0500	
Terphenyl-d14	0.9962	0.9571	20.00	19.21	ug/mL	-4	30	0.0500	

KMH 04/29/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 04/29/15 Reviewer: LW Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSBNA Water
EPA 8270C

Inst : MSBNA06 IDF : 1.0
Seqnum : 555173392003 File : ydu03 Time : 30-APR-2015 10:41
Cal : 555120229001 Caldate : 24-MAR-2015
Standards: S26477

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	1.4908	1.4198	32.00	30.48	ug/mL	-5	30	0.0500	
Phenol	1.9445	1.9414	32.00	31.95	ug/mL	0	20	0.0500	
bis(2-Chloroethyl)ether	1.3230	1.2967	32.00	31.37	ug/mL	-2	30	0.0500	
2-Chlorophenol	1.3741	1.3454	32.00	31.33	ug/mL	-2	30	0.0500	
1,3-Dichlorobenzene	1.5624	1.5503	32.00	31.75	ug/mL	-1	30	0.0500	
1,4-Dichlorobenzene	1.4134	1.4126	32.00	31.98	ug/mL	0	20	0.0500	
Benzyl alcohol	0.8668	0.8242	32.00	30.43	ug/mL	-5	30	0.0500	
1,2-Dichlorobenzene	1.3361	1.3269	32.00	31.78	ug/mL	-1	30	0.0500	
2-Methylphenol	0.9875	0.9507	32.00	30.81	ug/mL	-4	30	0.0500	
bis(2-Chloroisopropyl) ether	2.0533	1.9116	32.00	29.79	ug/mL	-7	30	0.0500	
4-Methylphenol	1.5012	1.4643	32.00	31.21	ug/mL	-2	30	0.0500	
N-Nitroso-di-n-propylamine	0.8217	0.7881	32.00	30.69	ug/mL	-4	30	0.0500	
Hexachloroethane	0.6422	0.6394	32.00	31.86	ug/mL	0	30	0.0500	
Nitrobenzene	0.4379	0.4437	32.00	32.43	ug/mL	1	30	0.0500	
Isophorone	0.8618	0.8279	32.00	30.74	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2096	0.2085	32.00	31.83	ug/mL	-1	20	0.0500	
2,4-Dimethylphenol	0.4025	0.4164	32.00	33.10	ug/mL	3	30	0.0500	
bis(2-Chloroethoxy)methane	0.4534	0.4306	16.00	15.19	ug/mL	-5	30	0.0500	
Benzoic acid	0.2980	0.2080	80.00	55.83	ug/mL	**-30**	40	0.0500	!c-
2,4-Dichlorophenol	0.3437	0.3526	32.00	32.83	ug/mL	3	20	0.0500	
1,2,4-Trichlorobenzene	0.4130	0.4259	32.00	33.00	ug/mL	3	30	0.0500	
Naphthalene	0.9959	0.9604	16.00	15.43	ug/mL	-4	30	0.0500	
4-Chloroaniline	0.4175	0.4251	32.00	32.11	ug/mL	0	30	0.0500	
Hexachlorobutadiene	0.2660	0.2863	32.00	34.44	ug/mL	8	20	0.0500	
4-Chloro-3-methylphenol	0.3785	0.3904	32.00	33.00	ug/mL	3	20	0.0500	
2-Methylnaphthalene	0.7917	0.7895	16.00	15.96	ug/mL	0	30	0.0500	
Hexachlorocyclopentadiene	0.4535	0.3957	32.00	27.92	ug/mL	-13	40	0.0500	
2,4,6-Trichlorophenol	0.5195	0.5050	32.00	31.11	ug/mL	-3	20	0.0500	
2,4,5-Trichlorophenol	0.5227	0.5048	32.00	30.91	ug/mL	-3	30	0.0500	
2-Chloronaphthalene	1.2940	1.2210	16.00	15.10	ug/mL	-6	30	0.0500	
2-Nitroaniline	0.4715	0.4465	32.00	30.31	ug/mL	-5	30	0.0500	
Dimethylphthalate	1.5682	1.5444	32.00	31.52	ug/mL	-2	30	0.0500	
2,6-Dinitrotoluene	0.3509	0.3385	32.00	30.87	ug/mL	-4	30	0.0500	
Acenaphthylene	2.0263	1.9094	16.00	15.08	ug/mL	-6	30	0.0500	
3-Nitroaniline	0.3567	0.3209	32.00	28.79	ug/mL	-10	30	0.0500	
Acenaphthene	1.1114	1.0235	16.00	14.73	ug/mL	-8	20	0.0500	
2,4-Dinitrophenol	0.2013	0.1065	32.00	24.89	ug/mL	**-22**	40	0.0500	!c-
4-Nitrophenol	0.2615	0.2427	32.00	29.70	ug/mL	-7	40	0.0500	
Dibenzofuran	1.7330	1.6819	16.00	15.53	ug/mL	-3	30	0.0500	
2,4-Dinitrotoluene	0.4589	0.4449	32.00	31.03	ug/mL	-3	30	0.0500	
Diethylphthalate	1.6100	1.5565	16.00	15.47	ug/mL	-3	30	0.0500	
Fluorene	1.5373	1.4696	16.00	15.30	ug/mL	-4	30	0.0500	
4-Chlorophenyl-phenylether	0.8974	0.8692	16.00	15.50	ug/mL	-3	40	0.0500	
4-Nitroaniline	0.3219	0.3003	32.00	29.86	ug/mL	-7	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1345	0.1084	32.00	25.80	ug/mL	-19	30	0.0500	
N-Nitrosodiphenylamine	0.4995	0.4786	16.00	15.33	ug/mL	-4	20	0.0500	
Azobenzene	0.7102	0.6686	16.00	15.06	ug/mL	-6	30	0.0500	
4-Bromophenyl-phenylether	0.2631	0.2570	16.00	15.63	ug/mL	-2	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2558	0.2715	32.00	33.97	ug/mL	6	30	0.0500	
Pentachlorophenol	0.1892	0.1529	32.00	25.85	ug/mL	-19	20	0.0500	
Phenanthrene	0.9724	0.9367	16.00	15.41	ug/mL	-4	30	0.0500	
Anthracene	1.0075	0.9610	16.00	15.26	ug/mL	-5	30	0.0500	
Di-n-butylphthalate	1.3465	1.2938	16.00	15.37	ug/mL	-4	30	0.0500	
Fluoranthene	1.4832	1.4747	16.00	15.91	ug/mL	-1	20	0.0500	
Pyrene	1.4953	1.4865	16.00	15.91	ug/mL	-1	30	0.0500	
Butylbenzylphthalate	0.6762	0.6322	16.00	14.96	ug/mL	-7	30	0.0500	
3,3'-Dichlorobenzidine	0.5388	0.5767	32.00	34.25	ug/mL	7	40	0.0500	
Benzo(a)anthracene	1.2478	1.2072	16.00	15.48	ug/mL	-3	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.8203	0.8468	16.00	16.52	ug/mL	3	30	0.0500	
Chrysene	1.1047	1.0431	16.00	15.11	ug/mL	-6	30	0.0500	
Di-n-octylphthalate	1.5226	1.4731	16.00	15.48	ug/mL	-3	20	0.0500	
Benzo(b)fluoranthene	1.3503	1.3351	16.00	15.82	ug/mL	-1	30	0.0500	
Benzo(k)fluoranthene	1.1285	1.1580	16.00	16.42	ug/mL	3	30	0.0500	
Benzo(a)pyrene	1.2719	1.2569	16.00	15.81	ug/mL	-1	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3830	1.3298	16.00	15.39	ug/mL	-4	30	0.0500	
Dibenz(a,h)anthracene	1.0673	1.0471	16.00	15.70	ug/mL	-2	30	0.0500	
Benzo(g,h,i)perylene	1.0854	1.0446	16.00	15.40	ug/mL	-4	30	0.0500	
2-Fluorophenol	1.6585	1.5725	16.00	15.17	ug/mL	-5	30	0.0500	
Phenol-d5	2.0836	2.0273	16.00	15.57	ug/mL	-3	30	0.0500	
Nitrobenzene-d5	0.5150	0.4956	16.00	15.40	ug/mL	-4	30	0.0500	
2-Fluorobiphenyl	1.6233	1.5512	16.00	15.29	ug/mL	-4	30	0.0500	
2,4,6-Tribromophenol	0.2824	0.2662	16.00	15.08	ug/mL	-6	30	0.0500	
Terphenyl-d14	1.1429	1.1394	16.00	15.95	ug/mL	0	30	0.0500	

KMH 04/30/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 04/30/15

!=warning -=low bias c=CCV

555173392003

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 545171960

Date : 04/29/15
Sequence : MSBNA05 xdt

Reference : xdt03
Analyzed : 04/29/15 10:58

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	481008	5.62	1952579	7.11	1041473	9.27	2047104	11.12	2180927	14.44	1839191	16.95
		LOWER LIMIT	240504	5.12	976290	6.61	520737	8.77	1023552	10.62	1090464	13.94	919596	16.45
		UPPER LIMIT	962016	6.12	3905158	7.61	2082946	9.77	4094208	11.62	4361854	14.94	3678382	17.45
003	CCV		481008	5.62	1952579	7.11	1041473	9.27	2047104	11.12	2180927	14.44	1839191	16.95
004	BLANK	QC785661	467942	5.62	1881482	7.11	989581	9.27	1867119	11.12	1981584	14.43	1567245	16.95
005	BS	QC785662	535627	5.62	2224771	7.12	1197532	9.27	2350531	11.12	2565832	14.44	2049772	16.96
006	BSD	QC785663	592887	5.62	2414492	7.12	1282676	9.27	2481159	11.12	2691703	14.44	2189507	16.96
007	SAMPLE	266375-002	592394	5.62	2354565	7.11	1257424	9.27	2369986	11.12	2583132	14.44	2369796	16.95
008	SAMPLE	266375-001	571516	5.62	2281963	7.11	1204181	9.27	2320205	11.12	2480978	14.44	2270283	16.96
009	SAMPLE	266343-001	516535	5.62	2082009	7.11	1109718	9.27	2031344	11.12	2146708	14.43	1802856	16.95
010	SAMPLE	266343-002	530917	5.62	2107011	7.11	1115883	9.27	2109952	11.12	2260845	14.44	1959842	16.96
011	SAMPLE	266343-003	538990	5.62	2125193	7.11	1141012	9.27	2112605	11.12	2217220	14.44	1939327	16.96
012	SAMPLE	266374-001	533633	5.62	2140346	7.11	1136613	9.27	2176466	11.12	2320156	14.44	2176459	16.96
013	SAMPLE	266374-012	548863	5.62	2207155	7.12	1265172	9.28	2452143	11.13	2578178	14.44	2361938	16.96
014	SAMPLE	266374-002	566945	5.62	2259246	7.11	1180973	9.27	2220687	11.12	2350803	14.44	2203169	16.96
015	SAMPLE	266374-008	556087	5.62	2218344	7.11	1172186	9.27	2180777	11.12	2346805	14.44	2163795	16.96
016	SAMPLE	266374-005	549301	5.62	2193689	7.11	1140472	9.27	2129315	11.12	2311102	14.44	2227116	16.97

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 555173392

Date : 04/30/15
Sequence : MSBNA06 ydu

Reference : ydu03
Analyzed : 04/30/15 10:41

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	419826	6.08	1356273	7.57	848536	9.73	1873302	11.58	1838562	14.98	1919197	17.88
		LOWER LIMIT	209913	5.58	678137	7.07	424268	9.23	936651	11.08	919281	14.48	959599	17.38
		UPPER LIMIT	839652	6.58	2712546	8.07	1697072	10.23	3746604	12.08	3677124	15.48	3838394	18.38
003	CCV		419826	6.08	1356273	7.57	848536	9.73	1873302	11.58	1838562	14.98	1919197	17.88
004	BLANK	QC785961	601043	6.08	1941339	7.57	1080962	9.73	2186014	11.58	1863589	14.98	2151473	17.88
005	BS	QC785962	402625	6.08	1291721	7.58	820146	9.73	1883248	11.58	1958955	14.99	2367266	17.89
006	BSD	QC785963	363972	6.08	1224783	7.58	756186	9.73	1773132	11.58	1829419	14.99	2178934	17.89
007	SAMPLE	266398-001	463247	6.08	1435941	7.57	878621	9.73	2103962	11.58	2681842	14.98	2726162	17.88
008	SAMPLE	266343-003	500880	6.08	1706492	7.57	1098169	9.73	2286328	11.58	2604805	14.98	2483674	17.88
009	SAMPLE	266374-010	582570	6.08	1993331	7.57	1109244	9.72	2169093	11.58	2365305	14.98	2310088	17.88
010	SAMPLE	266374-015	536502	6.08	1355109	7.57	772547	9.74	1636021	11.59	2220136	14.98	2387856	17.88
011	MSS	266374-011	473818	6.08	1255698	7.58	715012	9.76	1453874	11.61	2140974	14.98	2399554	17.88
012	SAMPLE	266374-001	594880	6.08	1852397	7.57	953602	9.73	1813316	11.59	2168672	14.99	2414574	17.91
013	SAMPLE	266374-002	577593	6.08	1927839	7.57	1000112	9.73	1882012	11.59	2143499	14.99	2371121	17.91
014	SAMPLE	266374-008	584611	6.08	1966140	7.57	1093821	9.73	2202692	11.58	2529006	14.98	2465855	17.89
015	SAMPLE	266377-001	590248	6.08	2013274	7.57	1132693	9.73	2326552	11.58	2561809	14.98	2558084	17.89
016	SAMPLE	266377-002	558199	6.08	1931579	7.57	1076728	9.73	2230908	11.58	2447748	14.98	2456891	17.89
017	SAMPLE	266377-003	586628	6.08	2031643	7.57	1131568	9.73	2336023	11.58	2584562	14.98	2559650	17.89
018	SAMPLE	266397-001	492854	6.08	1693872	7.58	897921	9.73	1964400	11.59	2096937	14.99	2240167	17.90
019	SAMPLE	266389-001	562173	6.08	1902960	7.57	1095272	9.73	2247510	11.58	2011395	14.99	2024888	17.91
020	SAMPLE	266389-002	595554	6.08	2001685	7.57	1169635	9.73	2393543	11.58	2367860	14.98	2376902	17.89
021	SAMPLE	266389-003	568317	6.08	1902636	7.57	1083940	9.73	2058906	11.58	1955855	15.00	1857190	17.93
022	SAMPLE	266389-004	490713	6.09	1693352	7.57	1037578	9.73	2135592	11.58	1963298	14.99	1600473	17.90
023	MSS	266389-006	492565	6.09	1700441	7.57	1019880	9.73	2032530	11.58	1901574	14.99	1359833	17.90

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 545102874

Instrument : MSBNA05 Begun : 03/12/15 10:34
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xcc01	IB	IB			03/12/15 10:34	1.0		?t
002	xcc02	CCV	RFCHECK			03/12/15 11:12	1.0	1	cc- cc+ ?t
003	xcc03	TUN	DFTPP			03/12/15 11:40	1.0	2	t
004	xcc04	CCV	RFCHECK			03/12/15 12:42	1.0	1	t
005	xcc05	TUN	DFTPP			03/12/15 13:14	1.0	2	
006	xcc06	ICAL	ICAL			03/12/15 13:52	1.0	3	
007	xcc07	ICAL	ICAL			03/12/15 14:27	1.0	4	
008	xcc08	ICAL	ICAL			03/12/15 15:05	1.0	5	
009	xcc09	ICAL	ICAL			03/12/15 15:41	1.0	1	
010	xcc10	ICAL	ICAL			03/12/15 16:17	1.0	6	
011	xcc11	ICAL	ICAL			03/12/15 16:53	1.0	7	
012	xcc12	ICAL	ICAL			03/12/15 17:29	1.0	8	
013	xcc13	ICAL	ICAL			03/12/15 18:06	1.0	9	
014	xcc14	ICAL	ICAL			03/12/15 18:41	1.0	10	
015	xcc15	ICV	ICV			03/12/15 19:17	1.0	11	

NPM 03/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 15.

Standards used: 1=S26477 2=S26170 3=S26474 4=S26475 5=S26476 6=S26478 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias -=low bias ?t=missing tune cc=CCV CCC failure t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 545171960

Instrument : MSBNA05 Begun : 04/29/15 10:00
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xdt01	IB	IB			04/29/15 10:00	1.0		?t
002	xdt02	TUN	DFTPP			04/29/15 10:36	1.0	1	
003	xdt03	CCV				04/29/15 10:58	1.0	2	
004	xdt04	BLANK	QC785661	Water	222617	04/29/15 11:35	1.0	3	
005	xdt05	BS	QC785662	Water	222617	04/29/15 12:13	1.0	3	1:MEPH4=69
006	xdt06	BSD	QC785663	Water	222617	04/29/15 12:49	1.0	3	1:MEPH4=63
007	xdt07	SAMPLE	266375-002	Water	222652	04/29/15 13:27	1.0	3	spk
008	xdt08	SAMPLE	266375-001	Water	222617	04/29/15 14:07	1.0	3	
009	xdt09	SAMPLE	266343-001	Water	222617	04/29/15 14:47	10.0	3	diluted (client history)
010	xdt10	SAMPLE	266343-002	Water	222617	04/29/15 15:24	10.0	3	diluted (client history)
011	xdt11	SAMPLE	266343-003	Water	222617	04/29/15 16:01	50.0	3	high NT
012	xdt12	SAMPLE	266374-001	Water	222617	04/29/15 16:40	10.0	3	high NT
013	xdt13	SAMPLE	266374-012	Water	222617	04/29/15 17:16	10.0	3	high NT
014	xdt14	SAMPLE	266374-002	Water	222617	04/29/15 17:53	10.0	3	high NT
015	xdt15	SAMPLE	266374-008	Water	222617	04/29/15 18:30	10.0	3	high NT
016	xdt16	SAMPLE	266374-005	Soil	222651	04/29/15 19:07	10.0	3	

NPM 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 8.

KMH 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Standards used: 1=S26814 2=S26478 3=S26428
Flags used: ?t=missing tune spk=5% spike rule
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555120229

Instrument : MSBNA06 Begun : 03/24/15 11:49
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yco01	IB	IB			03/24/15 11:49	1.0		?t
002	yco02	TUN	DFTPP			03/24/15 12:18	1.0	1	
003	yco03	CCV				03/24/15 12:38	1.0	2	cc+
004	yco04	TUN	DFTPP			03/24/15 13:15	1.0	1	t
005	yco05	TUN	DFTPP			03/24/15 13:30	1.0	1	
006	yco06	CCV				03/24/15 13:51	1.0	2	cc+
007	yco07	TUN	DFTPP			03/24/15 14:39	1.0	1	
008	yco08	CCV				03/24/15 14:57	1.0	2	cc+
009	yco09	TUN	DFTPP			03/24/15 15:50	1.0	1	
010	yco10	CCV				03/24/15 16:12	1.0	2	cc+
011	yco11	ICAL	ICAL			03/24/15 16:49	1.0	3	
012	yco12	ICAL	ICAL			03/24/15 17:25	1.0	4	
013	yco13	ICAL	ICAL			03/24/15 18:01	1.0	5	
014	yco14	ICAL	ICAL			03/24/15 18:37	1.0	6	
015	yco15	ICAL	ICAL			03/24/15 19:14	1.0	2	
016	yco16	ICAL	ICAL			03/24/15 19:50	1.0	7	
017	yco17	ICAL	ICAL			03/24/15 20:28	1.0	8	
018	yco18	ICAL	ICAL			03/24/15 21:07	1.0	9	
019	yco19	ICAL	ICAL			03/24/15 21:45	1.0	10	
020	yco20	ICV	ICV			03/24/15 22:23	1.0	11	

KMH 03/24/15 : tune adjusted after runs 3, 4 & 6. maint done after run 8

NPM 03/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S26170 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias ?t=missing tune cc=CCV CCC failure t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555173392

Instrument : MSBNA06 Begun : 04/30/15 09:52
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ydu01	IB	IB			04/30/15 09:52	1.0		?t
002	ydu02	TUN	DFTPP			04/30/15 10:21	1.0	1	
003	ydu03	CCV				04/30/15 10:41	1.0	2	
004	ydu04	BLANK	QC785961	Water	222692	04/30/15 11:21	1.0	3	
005	ydu05	BS	QC785962	Water	222692	04/30/15 11:58	1.0	3	
006	ydu06	BSD	QC785963	Water	222692	04/30/15 12:37	1.0	3	
007	ydu07	SAMPLE	266398-001	Water	222692	04/30/15 13:14	150.0	3	high NT
008	ydu08	SAMPLE	266343-003	Water	222617	04/30/15 13:51	10.0	3	diluted (client history)
009	ydu09	SAMPLE	266374-010	Soil	222651	04/30/15 14:28	100.0	3	
010	ydu10	SAMPLE	266374-015	Soil	222651	04/30/15 15:04	7.143	3	high NT
011	ydu11	MSS	266374-011	Soil	222651	04/30/15 15:39	20.0	3	high NT
012	ydu12	SAMPLE	266374-001	Water	222617	04/30/15 16:16	2.0	3	
013	ydu13	SAMPLE	266374-002	Water	222617	04/30/15 16:52	1.0	3	
014	ydu14	SAMPLE	266374-008	Water	222617	04/30/15 17:28	1.0	3	
015	ydu15	SAMPLE	266377-001	Water	222617	04/30/15 18:04	1.0	3	
016	ydu16	SAMPLE	266377-002	Water	222617	04/30/15 18:40	1.0	3	
017	ydu17	SAMPLE	266377-003	Water	222617	04/30/15 19:16	1.0	3	
018	ydu18	SAMPLE	266397-001	Water	222692	04/30/15 19:53	20.0	3	5:PHAN=250
019	ydu19	SAMPLE	266389-001	Soil	222736	04/30/15 20:30	10.0	3	
020	ydu20	SAMPLE	266389-002	Soil	222736	04/30/15 21:07	10.0	3	
021	ydu21	SAMPLE	266389-003	Soil	222736	04/30/15 21:45	10.0	3	
022	ydu22	SAMPLE	266389-004	Soil	222736	04/30/15 22:22	2.0	3	<<t
023	ydu23	MSS	266389-006	Soil	222736	04/30/15 22:59	2.0	3	<<t

NPM 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 7.

KMH 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

Standards used: 1=S26814 2=S26477 3=S26428
Flags used: <<t=out of clock ?t=missing tune
Page 1 of 1

SAMPLE PREPARATION SUMMARY

Batch # : 222617 Analysis : 8270-1
Started By : KKL Prep Date : 27-APR-2015 16:15 Finished By : JCD
Method : 3520C SOP Version : 8270_3520_rv20 Units : mL
Spike #1 ID : S26606 Spike #2 ID : S26837

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266343-001		Water	940	1	1	0.001064	8	.4				625	
266343-002		Water	900	1	1	0.001111	7	.4				625	
266343-003		Water	960	1	1	0.001042	9	.4				625	
266374-001		Water	1040	1	1	0.0009615	7	.4				8270-1	See comment 1 below
266374-002		Water	1000	1	1	0.001	7	.4				8270-1	Prepped 28-APR-2015 14:15
266374-008		Water	1060	1	1	0.0009434	7	.4				8270-1	Prepped 28-APR-2015 14:15
266374-012		Water	1000	1	1	0.001	7	.4				8270-1	Prepped 28-APR-2015 14:15
266375-001		Water	1000	1	1	0.001	7	.4				8270-1	Prepped 28-APR-2015 14:15
266377-001		Water	1060	1	1	0.0009434	7	.4				8270-1	Prepped 28-APR-2015 14:15
266377-002		Water	1060	1	1	0.0009434	7	.4				8270-1	Prepped 28-APR-2015 14:15
266377-003		Water	1040	1	1	0.0009615	7	.4				8270-1	Prepped 28-APR-2015 14:15
QC785661	BLANK	Water	1000	1	1	0.001		.4				625	
QC785662	BS	Water	1000	1	1	0.001		.4	1			625	
QC785663	BSD	Water	1000	1	1	0.001		.4	1			625	

Comment 1: Prepped 28-APR-2015 14:15; a/o by jm1

NPM 04/29/15 : Matrix spikes were not performed for this analysis in batch 222617 due to insufficient sample amount.

Analyst: NPM Date: 04/29/15 Reviewer: LW Date: 04/29/15

BNA (8270 & 625) Water Prep Log — **Curtis & Tompkins, Ltd.**

Page 21 **BK 3648**

LIMS Batch No: 222617
LIMS Analysis: 625
Date Extracted: 4/27/15

Extraction Method:
☒ EPA 3520c cont. L/L
☐ _____

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Confirmed pH ≤2	Comments
266343-001	F	940	☐7 ☒ 8	☒ 1.0 ☐	☒ ≤2	
2	↓	900	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
↓ 3	↓	960	☐7 ☒ 9	☒ 1.0 ☐	☒ ≤2	
MB QC785661	N/A	1000	☐7 ☒ NA	☒ 1.0 ☐	☒ ≤2	
BS ↓ 2	↓	1000	☐7 ☒ NA	☒ 1.0 ☐	☒ ≤2	
BSD ↓ 3	↓	1000	☐7 ☒ NA	☒ 1.0 ☐	☒ ≤2	
266374-001	D	1040	☒7 ☐	☒ 1.0 ☐	☒ ≤2	A/D by SM, 4-28-15 @ 1415
2	E	1000	☒7 ☐	☒ 1.0 ☐	☒ ≤2	↓
8	G	1060	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
10	H	1000	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
266375-001	A	1000	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
266377-001	N	1060	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
2	N	1060	☒7 ☐	☒ 1.0 ☐	☒ ≤2	
3	N	1040	☒7 ☐	☒ 1.0 ☐	☒ ≤2	↓
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	NPM 4/29/15

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Lot# / LIMS # / Time	Date/ Initials
0.4 mL of surrogate solution was added to all samples	326606 B	KKL 4/27/15
1.0 mL of matrix spiking solution was added to all spikes	326837A	↓
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS140656	↓
Cont. L/L extracted with 450mL of CH_2Cl_2	EM54351	↓
Extraction Start Time:	16:15 / 1415	↓
Extraction End Time:	~~10:25~~ 11:00 / 1615	CRJ 4/28/15
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH	NA	SCO 4/28/15
Extraction Start Time:	↓	↓
Extraction End Time:	↓	↓
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	↓
Concentrated to final volume at temperature (degrees C)	70	↓
Relinquished to BNA department	✓	↓

Kristin Lee 4/27/15
Extraction Chemist **Date**

Contined from Page ___
Continued on Page ___

Reviewed by 4/29/15 **Date**

Laboratory Job Number 266374

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Soil

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(4.5)	Batch#:	222651
Lab ID:	266374-003	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	20.00		

Moisture: 9%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	7,400
Phenol	ND	7,400
bis(2-Chloroethyl)ether	ND	7,400
2-Chlorophenol	ND	7,400
1,3-Dichlorobenzene	ND	7,400
1,4-Dichlorobenzene	ND	7,400
Benzyl alcohol	ND	7,400
1,2-Dichlorobenzene	ND	7,400
2-Methylphenol	ND	7,400
bis(2-Chloroisopropyl) ether	ND	7,400
4-Methylphenol	ND	7,400
N-Nitroso-di-n-propylamine	ND	7,400
Hexachloroethane	ND	7,400
Nitrobenzene	ND	7,400
Isophorone	ND	7,400
2-Nitrophenol	ND	15,000
2,4-Dimethylphenol	ND	7,400
Benzoic acid	ND	37,000
bis(2-Chloroethoxy)methane	ND	7,400
2,4-Dichlorophenol	ND	7,400
1,2,4-Trichlorobenzene	ND	7,400
Naphthalene	ND	1,500
4-Chloroaniline	ND	7,400
Hexachlorobutadiene	ND	7,400
4-Chloro-3-methylphenol	ND	7,400
2-Methylnaphthalene	ND	1,500
Hexachlorocyclopentadiene	ND	15,000
2,4,6-Trichlorophenol	ND	7,400
2,4,5-Trichlorophenol	ND	7,400
2-Chloronaphthalene	ND	7,400
2-Nitroaniline	ND	15,000
Dimethylphthalate	ND	7,400
Acenaphthylene	ND	1,500
2,6-Dinitrotoluene	ND	7,400
3-Nitroaniline	ND	15,000
Acenaphthene	ND	1,500
2,4-Dinitrophenol	ND	15,000
4-Nitrophenol	ND	15,000
Dibenzofuran	ND	7,400
2,4-Dinitrotoluene	ND	7,400
Diethylphthalate	ND	7,400
Fluorene	ND	1,500
4-Chlorophenyl-phenylether	ND	7,400
4-Nitroaniline	ND	15,000
4,6-Dinitro-2-methylphenol	ND	15,000
N-Nitrosodiphenylamine	ND	7,400
Azobenzene	ND	7,400
4-Bromophenyl-phenylether	ND	7,400
Hexachlorobenzene	ND	7,400
Pentachlorophenol	ND	15,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(4.5)	Batch#:	222651
Lab ID:	266374-003	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	20.00		

Analyte	Result	RL
Phenanthrene	ND	1,500
Anthracene	ND	1,500
Di-n-butylphthalate	ND	7,400
Fluoranthene	ND	1,500
Pyrene	ND	1,500
Butylbenzylphthalate	ND	7,400
3,3'-Dichlorobenzidine	ND	15,000
Benzo(a)anthracene	ND	1,500
Chrysene	ND	1,500
bis(2-Ethylhexyl)phthalate	ND	7,400
Di-n-octylphthalate	ND	7,400
Benzo(b)fluoranthene	ND	1,500
Benzo(k)fluoranthene	ND	1,500
Benzo(a)pyrene	ND	1,500
Indeno(1,2,3-cd)pyrene	ND	1,500
Dibenz(a,h)anthracene	ND	1,500
Benzo(g,h,i)perylene	ND	1,500

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(8)	Batch#:	222651
Lab ID:	266374-004	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	400
Phenol	ND	400
bis(2-Chloroethyl)ether	ND	400
2-Chlorophenol	ND	400
1,3-Dichlorobenzene	ND	400
1,4-Dichlorobenzene	ND	400
Benzyl alcohol	ND	400
1,2-Dichlorobenzene	ND	400
2-Methylphenol	ND	400
bis(2-Chloroisopropyl) ether	ND	400
4-Methylphenol	ND	400
N-Nitroso-di-n-propylamine	ND	400
Hexachloroethane	ND	400
Nitrobenzene	ND	400
Isophorone	ND	400
2-Nitrophenol	ND	800
2,4-Dimethylphenol	ND	400
Benzoic acid	ND	2,000
bis(2-Chloroethoxy)methane	ND	400
2,4-Dichlorophenol	ND	400
1,2,4-Trichlorobenzene	ND	400
Naphthalene	ND	80
4-Chloroaniline	ND	400
Hexachlorobutadiene	ND	400
4-Chloro-3-methylphenol	ND	400
2-Methylnaphthalene	ND	80
Hexachlorocyclopentadiene	ND	800
2,4,6-Trichlorophenol	ND	400
2,4,5-Trichlorophenol	ND	400
2-Chloronaphthalene	ND	400
2-Nitroaniline	ND	800
Dimethylphthalate	ND	400
Acenaphthylene	ND	80
2,6-Dinitrotoluene	ND	400
3-Nitroaniline	ND	800
Acenaphthene	ND	80
2,4-Dinitrophenol	ND	800
4-Nitrophenol	ND	800
Dibenzofuran	ND	400
2,4-Dinitrotoluene	ND	400
Diethylphthalate	ND	400
Fluorene	ND	80
4-Chlorophenyl-phenylether	ND	400
4-Nitroaniline	ND	800
4,6-Dinitro-2-methylphenol	ND	800
N-Nitrosodiphenylamine	ND	400
Azobenzene	ND	400
4-Bromophenyl-phenylether	ND	400
Hexachlorobenzene	ND	400
Pentachlorophenol	ND	800
Phenanthrene	ND	80

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(8)	Batch#:	222651
Lab ID:	266374-004	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	80
Di-n-butylphthalate	ND	400
Fluoranthene	ND	80
Pyrene	ND	80
Butylbenzylphthalate	ND	400
3,3'-Dichlorobenzidine	ND	800
Benzo(a)anthracene	ND	80
Chrysene	ND	80
bis(2-Ethylhexyl)phthalate	ND	400
Di-n-octylphthalate	ND	400
Benzo(b)fluoranthene	ND	80
Benzo(k)fluoranthene	ND	80
Benzo(a)pyrene	ND	80
Indeno(1,2,3-cd)pyrene	ND	80
Dibenz(a,h)anthracene	ND	80
Benzo(g,h,i)perylene	ND	80

Surrogate	%REC	Limits
2-Fluorophenol	43	25-120
Phenol-d5	49	36-120
2,4,6-Tribromophenol	62	27-120
Nitrobenzene-d5	53	44-120
2-Fluorobiphenyl	57	47-120
Terphenyl-d14	55	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(2)	Batch#:	222651
Lab ID:	266374-005	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Moisture: 6%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,600
Phenol	ND	3,600
bis(2-Chloroethyl)ether	ND	3,600
2-Chlorophenol	ND	3,600
1,3-Dichlorobenzene	ND	3,600
1,4-Dichlorobenzene	ND	3,600
Benzyl alcohol	ND	3,600
1,2-Dichlorobenzene	ND	3,600
2-Methylphenol	ND	3,600
bis(2-Chloroisopropyl) ether	ND	3,600
4-Methylphenol	ND	3,600
N-Nitroso-di-n-propylamine	ND	3,600
Hexachloroethane	ND	3,600
Nitrobenzene	ND	3,600
Isophorone	ND	3,600
2-Nitrophenol	ND	7,200
2,4-Dimethylphenol	ND	3,600
Benzoic acid	ND	18,000
bis(2-Chloroethoxy)methane	ND	3,600
2,4-Dichlorophenol	ND	3,600
1,2,4-Trichlorobenzene	ND	3,600
Naphthalene	ND	720
4-Chloroaniline	ND	3,600
Hexachlorobutadiene	ND	3,600
4-Chloro-3-methylphenol	ND	3,600
2-Methylnaphthalene	ND	720
Hexachlorocyclopentadiene	ND	7,200
2,4,6-Trichlorophenol	ND	3,600
2,4,5-Trichlorophenol	ND	3,600
2-Chloronaphthalene	ND	3,600
2-Nitroaniline	ND	7,200
Dimethylphthalate	ND	3,600
Acenaphthylene	ND	720
2,6-Dinitrotoluene	ND	3,600
3-Nitroaniline	ND	7,200
Acenaphthene	ND	720
2,4-Dinitrophenol	ND	7,200
4-Nitrophenol	ND	7,200
Dibenzofuran	ND	3,600
2,4-Dinitrotoluene	ND	3,600
Diethylphthalate	ND	3,600
Fluorene	ND	720
4-Chlorophenyl-phenylether	ND	3,600
4-Nitroaniline	ND	7,200
4,6-Dinitro-2-methylphenol	ND	7,200
N-Nitrosodiphenylamine	ND	3,600
Azobenzene	ND	3,600
4-Bromophenyl-phenylether	ND	3,600
Hexachlorobenzene	ND	3,600
Pentachlorophenol	ND	7,200

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(2)	Batch#:	222651
Lab ID:	266374-005	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Analyte	Result	RL
Phenanthrene	ND	720
Anthracene	ND	720
Di-n-butylphthalate	ND	3,600
Fluoranthene	ND	720
Pyrene	ND	720
Butylbenzylphthalate	ND	3,600
3,3'-Dichlorobenzidine	ND	7,200
Benzo(a)anthracene	ND	720
Chrysene	ND	720
bis(2-Ethylhexyl)phthalate	ND	3,600
Di-n-octylphthalate	ND	3,600
Benzo(b)fluoranthene	ND	720
Benzo(k)fluoranthene	ND	720
Benzo(a)pyrene	ND	720
Indeno(1,2,3-cd)pyrene	ND	720
Dibenz(a,h)anthracene	ND	720
Benzo(g,h,i)perylene	ND	720

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(4.5)	Batch#:	222651
Lab ID:	266374-006	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Moisture: 10%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,700
Phenol	ND	3,700
bis(2-Chloroethyl)ether	ND	3,700
2-Chlorophenol	ND	3,700
1,3-Dichlorobenzene	ND	3,700
1,4-Dichlorobenzene	ND	3,700
Benzyl alcohol	ND	3,700
1,2-Dichlorobenzene	ND	3,700
2-Methylphenol	ND	3,700
bis(2-Chloroisopropyl) ether	ND	3,700
4-Methylphenol	ND	3,700
N-Nitroso-di-n-propylamine	ND	3,700
Hexachloroethane	ND	3,700
Nitrobenzene	ND	3,700
Isophorone	ND	3,700
2-Nitrophenol	ND	7,500
2,4-Dimethylphenol	ND	3,700
Benzoic acid	ND	19,000
bis(2-Chloroethoxy)methane	ND	3,700
2,4-Dichlorophenol	ND	3,700
1,2,4-Trichlorobenzene	ND	3,700
Naphthalene	ND	750
4-Chloroaniline	ND	3,700
Hexachlorobutadiene	ND	3,700
4-Chloro-3-methylphenol	ND	3,700
2-Methylnaphthalene	ND	750
Hexachlorocyclopentadiene	ND	7,500
2,4,6-Trichlorophenol	ND	3,700
2,4,5-Trichlorophenol	ND	3,700
2-Chloronaphthalene	ND	3,700
2-Nitroaniline	ND	7,500
Dimethylphthalate	ND	3,700
Acenaphthylene	ND	750
2,6-Dinitrotoluene	ND	3,700
3-Nitroaniline	ND	7,500
Acenaphthene	ND	750
2,4-Dinitrophenol	ND	7,500
4-Nitrophenol	ND	7,500
Dibenzofuran	ND	3,700
2,4-Dinitrotoluene	ND	3,700
Diethylphthalate	ND	3,700
Fluorene	ND	750
4-Chlorophenyl-phenylether	ND	3,700
4-Nitroaniline	ND	7,500
4,6-Dinitro-2-methylphenol	ND	7,500
N-Nitrosodiphenylamine	ND	3,700
Azobenzene	ND	3,700
4-Bromophenyl-phenylether	ND	3,700
Hexachlorobenzene	ND	3,700
Pentachlorophenol	ND	7,500

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(4.5)	Batch#:	222651
Lab ID:	266374-006	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Analyte	Result	RL
Phenanthrene	ND	750
Anthracene	ND	750
Di-n-butylphthalate	ND	3,700
Fluoranthene	ND	750
Pyrene	ND	750
Butylbenzylphthalate	ND	3,700
3,3'-Dichlorobenzidine	ND	7,500
Benzo(a)anthracene	ND	750
Chrysene	ND	750
bis(2-Ethylhexyl)phthalate	ND	3,700
Di-n-octylphthalate	ND	3,700
Benzo(b)fluoranthene	ND	750
Benzo(k)fluoranthene	ND	750
Benzo(a)pyrene	ND	750
Indeno(1,2,3-cd)pyrene	ND	750
Dibenz(a,h)anthracene	ND	750
Benzo(g,h,i)perylene	ND	750

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(8.5)	Batch#:	222651
Lab ID:	266374-007	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Moisture: 15%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	390
Phenol	ND	390
bis(2-Chloroethyl)ether	ND	390
2-Chlorophenol	ND	390
1,3-Dichlorobenzene	ND	390
1,4-Dichlorobenzene	ND	390
Benzyl alcohol	ND	390
1,2-Dichlorobenzene	ND	390
2-Methylphenol	ND	390
bis(2-Chloroisopropyl) ether	ND	390
4-Methylphenol	ND	390
N-Nitroso-di-n-propylamine	ND	390
Hexachloroethane	ND	390
Nitrobenzene	ND	390
Isophorone	ND	390
2-Nitrophenol	ND	780
2,4-Dimethylphenol	ND	390
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	390
2,4-Dichlorophenol	ND	390
1,2,4-Trichlorobenzene	ND	390
Naphthalene	ND	78
4-Chloroaniline	ND	390
Hexachlorobutadiene	ND	390
4-Chloro-3-methylphenol	ND	390
2-Methylnaphthalene	ND	78
Hexachlorocyclopentadiene	ND	780
2,4,6-Trichlorophenol	ND	390
2,4,5-Trichlorophenol	ND	390
2-Chloronaphthalene	ND	390
2-Nitroaniline	ND	780
Dimethylphthalate	ND	390
Acenaphthylene	ND	78
2,6-Dinitrotoluene	ND	390
3-Nitroaniline	ND	780
Acenaphthene	ND	78
2,4-Dinitrophenol	ND	780
4-Nitrophenol	ND	780
Dibenzofuran	ND	390
2,4-Dinitrotoluene	ND	390
Diethylphthalate	ND	390
Fluorene	ND	78
4-Chlorophenyl-phenylether	ND	390
4-Nitroaniline	ND	780
4,6-Dinitro-2-methylphenol	ND	780
N-Nitrosodiphenylamine	ND	390
Azobenzene	ND	390
4-Bromophenyl-phenylether	ND	390
Hexachlorobenzene	ND	390
Pentachlorophenol	ND	780
Phenanthrene	ND	78

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-10(8.5)	Batch#:	222651
Lab ID:	266374-007	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	78
Di-n-butylphthalate	ND	390
Fluoranthene	ND	78
Pyrene	ND	78
Butylbenzylphthalate	ND	390
3,3'-Dichlorobenzidine	ND	780
Benzo(a)anthracene	ND	78
Chrysene	ND	78
bis(2-Ethylhexyl)phthalate	ND	390
Di-n-octylphthalate	ND	390
Benzo(b)fluoranthene	ND	78
Benzo(k)fluoranthene	ND	78
Benzo(a)pyrene	ND	78
Indeno(1,2,3-cd)pyrene	ND	78
Dibenz(a,h)anthracene	ND	78
Benzo(g,h,i)perylene	ND	78

Surrogate	%REC	Limits
2-Fluorophenol	40	25-120
Phenol-d5	47	36-120
2,4,6-Tribromophenol	49	27-120
Nitrobenzene-d5	50	44-120
2-Fluorobiphenyl	53	47-120
Terphenyl-d14	60	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(2)	Batch#:	222651
Lab ID:	266374-009	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Moisture: 8%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,600
Phenol	ND	3,600
bis(2-Chloroethyl)ether	ND	3,600
2-Chlorophenol	ND	3,600
1,3-Dichlorobenzene	ND	3,600
1,4-Dichlorobenzene	ND	3,600
Benzyl alcohol	ND	3,600
1,2-Dichlorobenzene	ND	3,600
2-Methylphenol	ND	3,600
bis(2-Chloroisopropyl) ether	ND	3,600
4-Methylphenol	ND	3,600
N-Nitroso-di-n-propylamine	ND	3,600
Hexachloroethane	ND	3,600
Nitrobenzene	ND	3,600
Isophorone	ND	3,600
2-Nitrophenol	ND	7,300
2,4-Dimethylphenol	ND	3,600
Benzoic acid	ND	18,000
bis(2-Chloroethoxy)methane	ND	3,600
2,4-Dichlorophenol	ND	3,600
1,2,4-Trichlorobenzene	ND	3,600
Naphthalene	ND	730
4-Chloroaniline	ND	3,600
Hexachlorobutadiene	ND	3,600
4-Chloro-3-methylphenol	ND	3,600
2-Methylnaphthalene	ND	730
Hexachlorocyclopentadiene	ND	7,300
2,4,6-Trichlorophenol	ND	3,600
2,4,5-Trichlorophenol	ND	3,600
2-Chloronaphthalene	ND	3,600
2-Nitroaniline	ND	7,300
Dimethylphthalate	ND	3,600
Acenaphthylene	ND	730
2,6-Dinitrotoluene	ND	3,600
3-Nitroaniline	ND	7,300
Acenaphthene	ND	730
2,4-Dinitrophenol	ND	7,300
4-Nitrophenol	ND	7,300
Dibenzofuran	ND	3,600
2,4-Dinitrotoluene	ND	3,600
Diethylphthalate	ND	3,600
Fluorene	ND	730
4-Chlorophenyl-phenylether	ND	3,600
4-Nitroaniline	ND	7,300
4,6-Dinitro-2-methylphenol	ND	7,300
N-Nitrosodiphenylamine	ND	3,600
Azobenzene	ND	3,600
4-Bromophenyl-phenylether	ND	3,600
Hexachlorobenzene	ND	3,600
Pentachlorophenol	ND	7,300

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(2)	Batch#:	222651
Lab ID:	266374-009	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	10.00		

Analyte	Result	RL
Phenanthrene	ND	730
Anthracene	ND	730
Di-n-butylphthalate	ND	3,600
Fluoranthene	ND	730
Pyrene	ND	730
Butylbenzylphthalate	ND	3,600
3,3'-Dichlorobenzidine	ND	7,300
Benzo(a)anthracene	ND	730
Chrysene	ND	730
bis(2-Ethylhexyl)phthalate	ND	3,600
Di-n-octylphthalate	ND	3,600
Benzo(b)fluoranthene	ND	730
Benzo(k)fluoranthene	ND	730
Benzo(a)pyrene	ND	730
Indeno(1,2,3-cd)pyrene	ND	730
Dibenz(a,h)anthracene	ND	730
Benzo(g,h,i)perylene	ND	730

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(4.5)	Batch#:	222651
Lab ID:	266374-010	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	100.0		

Moisture: 4%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	35,000
Phenol	ND	35,000
bis(2-Chloroethyl)ether	ND	35,000
2-Chlorophenol	ND	35,000
1,3-Dichlorobenzene	ND	35,000
1,4-Dichlorobenzene	ND	35,000
Benzyl alcohol	ND	35,000
1,2-Dichlorobenzene	ND	35,000
2-Methylphenol	ND	35,000
bis(2-Chloroisopropyl) ether	ND	35,000
4-Methylphenol	ND	35,000
N-Nitroso-di-n-propylamine	ND	35,000
Hexachloroethane	ND	35,000
Nitrobenzene	ND	35,000
Isophorone	ND	35,000
2-Nitrophenol	ND	69,000
2,4-Dimethylphenol	ND	35,000
Benzoic acid	ND	170,000
bis(2-Chloroethoxy)methane	ND	35,000
2,4-Dichlorophenol	ND	35,000
1,2,4-Trichlorobenzene	ND	35,000
Naphthalene	ND	6,900
4-Chloroaniline	ND	35,000
Hexachlorobutadiene	ND	35,000
4-Chloro-3-methylphenol	ND	35,000
2-Methylnaphthalene	ND	6,900
Hexachlorocyclopentadiene	ND	69,000
2,4,6-Trichlorophenol	ND	35,000
2,4,5-Trichlorophenol	ND	35,000
2-Chloronaphthalene	ND	35,000
2-Nitroaniline	ND	69,000
Dimethylphthalate	ND	35,000
Acenaphthylene	ND	6,900
2,6-Dinitrotoluene	ND	35,000
3-Nitroaniline	ND	69,000
Acenaphthene	ND	6,900
2,4-Dinitrophenol	ND	69,000
4-Nitrophenol	ND	69,000
Dibenzofuran	ND	35,000
2,4-Dinitrotoluene	ND	35,000
Diethylphthalate	ND	35,000
Fluorene	ND	6,900
4-Chlorophenyl-phenylether	ND	35,000
4-Nitroaniline	ND	69,000
4,6-Dinitro-2-methylphenol	ND	69,000
N-Nitrosodiphenylamine	ND	35,000
Azobenzene	ND	35,000
4-Bromophenyl-phenylether	ND	35,000
Hexachlorobenzene	ND	35,000
Pentachlorophenol	ND	69,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(4.5)	Batch#:	222651
Lab ID:	266374-010	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	100.0		

Analyte	Result	RL
Phenanthrene	ND	6,900
Anthracene	ND	6,900
Di-n-butylphthalate	ND	35,000
Fluoranthene	ND	6,900
Pyrene	ND	6,900
Butylbenzylphthalate	ND	35,000
3,3'-Dichlorobenzidine	ND	69,000
Benzo(a)anthracene	ND	6,900
Chrysene	ND	6,900
bis(2-Ethylhexyl)phthalate	ND	35,000
Di-n-octylphthalate	ND	35,000
Benzo(b)fluoranthene	ND	6,900
Benzo(k)fluoranthene	ND	6,900
Benzo(a)pyrene	ND	6,900
Indeno(1,2,3-cd)pyrene	ND	6,900
Dibenz(a,h)anthracene	ND	6,900
Benzo(g,h,i)perylene	ND	6,900

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(5.5)	Batch#:	222651
Lab ID:	266374-011	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	20.00		

Moisture: 16%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	7,900
Phenol	ND	7,900
bis(2-Chloroethyl)ether	ND	7,900
2-Chlorophenol	ND	7,900
1,3-Dichlorobenzene	ND	7,900
1,4-Dichlorobenzene	ND	7,900
Benzyl alcohol	ND	7,900
1,2-Dichlorobenzene	ND	7,900
2-Methylphenol	ND	7,900
bis(2-Chloroisopropyl) ether	ND	7,900
4-Methylphenol	ND	7,900
N-Nitroso-di-n-propylamine	ND	7,900
Hexachloroethane	ND	7,900
Nitrobenzene	ND	7,900
Isophorone	ND	7,900
2-Nitrophenol	ND	16,000
2,4-Dimethylphenol	ND	7,900
Benzoic acid	ND	40,000
bis(2-Chloroethoxy)methane	ND	7,900
2,4-Dichlorophenol	ND	7,900
1,2,4-Trichlorobenzene	ND	7,900
Naphthalene	ND	1,600
4-Chloroaniline	ND	7,900
Hexachlorobutadiene	ND	7,900
4-Chloro-3-methylphenol	ND	7,900
2-Methylnaphthalene	ND	1,600
Hexachlorocyclopentadiene	ND	16,000
2,4,6-Trichlorophenol	ND	7,900
2,4,5-Trichlorophenol	ND	7,900
2-Chloronaphthalene	ND	7,900
2-Nitroaniline	ND	16,000
Dimethylphthalate	ND	7,900
Acenaphthylene	ND	1,600
2,6-Dinitrotoluene	ND	7,900
3-Nitroaniline	ND	16,000
Acenaphthene	4,600	1,600
2,4-Dinitrophenol	ND	16,000
4-Nitrophenol	ND	16,000
Dibenzofuran	ND	7,900
2,4-Dinitrotoluene	ND	7,900
Diethylphthalate	ND	7,900
Fluorene	9,500	1,600
4-Chlorophenyl-phenylether	ND	7,900
4-Nitroaniline	ND	16,000
4,6-Dinitro-2-methylphenol	ND	16,000
N-Nitrosodiphenylamine	ND	7,900
Azobenzene	ND	7,900
4-Bromophenyl-phenylether	ND	7,900
Hexachlorobenzene	ND	7,900
Pentachlorophenol	ND	16,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-8(5.5)	Batch#:	222651
Lab ID:	266374-011	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	20.00		

Analyte	Result	RL
Phenanthrene	22,000	1,600
Anthracene	ND	1,600
Di-n-butylphthalate	ND	7,900
Fluoranthene	ND	1,600
Pyrene	ND	1,600
Butylbenzylphthalate	ND	7,900
3,3'-Dichlorobenzidine	ND	16,000
Benzo(a)anthracene	ND	1,600
Chrysene	ND	1,600
bis(2-Ethylhexyl)phthalate	ND	7,900
Di-n-octylphthalate	ND	7,900
Benzo(b)fluoranthene	ND	1,600
Benzo(k)fluoranthene	ND	1,600
Benzo(a)pyrene	ND	1,600
Indeno(1,2,3-cd)pyrene	ND	1,600
Dibenz(a,h)anthracene	ND	1,600
Benzo(g,h,i)perylene	ND	1,600

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(2.5)	Batch#:	222651
Lab ID:	266374-013	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	50.00		

Moisture: 5%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	18,000
Phenol	ND	18,000
bis(2-Chloroethyl)ether	ND	18,000
2-Chlorophenol	ND	18,000
1,3-Dichlorobenzene	ND	18,000
1,4-Dichlorobenzene	ND	18,000
Benzyl alcohol	ND	18,000
1,2-Dichlorobenzene	ND	18,000
2-Methylphenol	ND	18,000
bis(2-Chloroisopropyl) ether	ND	18,000
4-Methylphenol	ND	18,000
N-Nitroso-di-n-propylamine	ND	18,000
Hexachloroethane	ND	18,000
Nitrobenzene	ND	18,000
Isophorone	ND	18,000
2-Nitrophenol	ND	35,000
2,4-Dimethylphenol	ND	18,000
Benzoic acid	ND	88,000
bis(2-Chloroethoxy)methane	ND	18,000
2,4-Dichlorophenol	ND	18,000
1,2,4-Trichlorobenzene	ND	18,000
Naphthalene	ND	3,500
4-Chloroaniline	ND	18,000
Hexachlorobutadiene	ND	18,000
4-Chloro-3-methylphenol	ND	18,000
2-Methylnaphthalene	ND	3,500
Hexachlorocyclopentadiene	ND	35,000
2,4,6-Trichlorophenol	ND	18,000
2,4,5-Trichlorophenol	ND	18,000
2-Chloronaphthalene	ND	18,000
2-Nitroaniline	ND	35,000
Dimethylphthalate	ND	18,000
Acenaphthylene	ND	3,500
2,6-Dinitrotoluene	ND	18,000
3-Nitroaniline	ND	35,000
Acenaphthene	ND	3,500
2,4-Dinitrophenol	ND	35,000
4-Nitrophenol	ND	35,000
Dibenzofuran	ND	18,000
2,4-Dinitrotoluene	ND	18,000
Diethylphthalate	ND	18,000
Fluorene	ND	3,500
4-Chlorophenyl-phenylether	ND	18,000
4-Nitroaniline	ND	35,000
4,6-Dinitro-2-methylphenol	ND	35,000
N-Nitrosodiphenylamine	ND	18,000
Azobenzene	ND	18,000
4-Bromophenyl-phenylether	ND	18,000
Hexachlorobenzene	ND	18,000
Pentachlorophenol	ND	35,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(2.5)	Batch#:	222651
Lab ID:	266374-013	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	50.00		

Analyte	Result	RL
Phenanthrene	ND	3,500
Anthracene	ND	3,500
Di-n-butylphthalate	ND	18,000
Fluoranthene	ND	3,500
Pyrene	ND	3,500
Butylbenzylphthalate	ND	18,000
3,3'-Dichlorobenzidine	ND	35,000
Benzo(a)anthracene	ND	3,500
Chrysene	ND	3,500
bis(2-Ethylhexyl)phthalate	ND	18,000
Di-n-octylphthalate	ND	18,000
Benzo(b)fluoranthene	ND	3,500
Benzo(k)fluoranthene	ND	3,500
Benzo(a)pyrene	ND	3,500
Indeno(1,2,3-cd)pyrene	ND	3,500
Dibenz(a,h)anthracene	ND	3,500
Benzo(g,h,i)perylene	ND	3,500

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(4.5)	Batch#:	222651
Lab ID:	266374-014	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	2.000		

Moisture: 10%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	730
Phenol	ND	730
bis(2-Chloroethyl)ether	ND	730
2-Chlorophenol	ND	730
1,3-Dichlorobenzene	ND	730
1,4-Dichlorobenzene	ND	730
Benzyl alcohol	ND	730
1,2-Dichlorobenzene	ND	730
2-Methylphenol	ND	730
bis(2-Chloroisopropyl) ether	ND	730
4-Methylphenol	ND	730
N-Nitroso-di-n-propylamine	ND	730
Hexachloroethane	ND	730
Nitrobenzene	ND	730
Isophorone	ND	730
2-Nitrophenol	ND	1,500
2,4-Dimethylphenol	ND	730
Benzoic acid	ND	3,700
bis(2-Chloroethoxy)methane	ND	730
2,4-Dichlorophenol	ND	730
1,2,4-Trichlorobenzene	ND	730
Naphthalene	ND	150
4-Chloroaniline	ND	730
Hexachlorobutadiene	ND	730
4-Chloro-3-methylphenol	ND	730
2-Methylnaphthalene	ND	150
Hexachlorocyclopentadiene	ND	1,500
2,4,6-Trichlorophenol	ND	730
2,4,5-Trichlorophenol	ND	730
2-Chloronaphthalene	ND	730
2-Nitroaniline	ND	1,500
Dimethylphthalate	ND	730
Acenaphthylene	ND	150
2,6-Dinitrotoluene	ND	730
3-Nitroaniline	ND	1,500
Acenaphthene	ND	150
2,4-Dinitrophenol	ND	1,500
4-Nitrophenol	ND	1,500
Dibenzofuran	ND	730
2,4-Dinitrotoluene	ND	730
Diethylphthalate	ND	730
Fluorene	ND	150
4-Chlorophenyl-phenylether	ND	730
4-Nitroaniline	ND	1,500
4,6-Dinitro-2-methylphenol	ND	1,500
N-Nitrosodiphenylamine	ND	730
Azobenzene	ND	730
4-Bromophenyl-phenylether	ND	730
Hexachlorobenzene	ND	730
Pentachlorophenol	ND	1,500
Phenanthrene	ND	150

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(4.5)	Batch#:	222651
Lab ID:	266374-014	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	2.000		

Analyte	Result	RL
Anthracene	ND	150
Di-n-butylphthalate	ND	730
Fluoranthene	ND	150
Pyrene	ND	150
Butylbenzylphthalate	ND	730
3,3'-Dichlorobenzidine	ND	1,500
Benzo(a)anthracene	ND	150
Chrysene	ND	150
bis(2-Ethylhexyl)phthalate	ND	730
Di-n-octylphthalate	ND	730
Benzo(b)fluoranthene	ND	150
Benzo(k)fluoranthene	ND	150
Benzo(a)pyrene	ND	150
Indeno(1,2,3-cd)pyrene	ND	150
Dibenz(a,h)anthracene	ND	150
Benzo(g,h,i)perylene	ND	150

Surrogate	%REC	Limits
2-Fluorophenol	48	25-120
Phenol-d5	56	36-120
2,4,6-Tribromophenol	64	27-120
Nitrobenzene-d5	52	44-120
2-Fluorobiphenyl	75	47-120
Terphenyl-d14	68	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(6)	Batch#:	222651
Lab ID:	266374-015	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	7.143		

Moisture: 13%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	2,700
Phenol	ND	2,700
bis(2-Chloroethyl)ether	ND	2,700
2-Chlorophenol	ND	2,700
1,3-Dichlorobenzene	ND	2,700
1,4-Dichlorobenzene	ND	2,700
Benzyl alcohol	ND	2,700
1,2-Dichlorobenzene	ND	2,700
2-Methylphenol	ND	2,700
bis(2-Chloroisopropyl) ether	ND	2,700
4-Methylphenol	ND	2,700
N-Nitroso-di-n-propylamine	ND	2,700
Hexachloroethane	ND	2,700
Nitrobenzene	ND	2,700
Isophorone	ND	2,700
2-Nitrophenol	ND	5,400
2,4-Dimethylphenol	ND	2,700
Benzoic acid	ND	13,000
bis(2-Chloroethoxy)methane	ND	2,700
2,4-Dichlorophenol	ND	2,700
1,2,4-Trichlorobenzene	ND	2,700
Naphthalene	ND	540
4-Chloroaniline	ND	2,700
Hexachlorobutadiene	ND	2,700
4-Chloro-3-methylphenol	ND	2,700
2-Methylnaphthalene	ND	540
Hexachlorocyclopentadiene	ND	5,400
2,4,6-Trichlorophenol	ND	2,700
2,4,5-Trichlorophenol	ND	2,700
2-Chloronaphthalene	ND	2,700
2-Nitroaniline	ND	5,400
Dimethylphthalate	ND	2,700
Acenaphthylene	ND	540
2,6-Dinitrotoluene	ND	2,700
3-Nitroaniline	ND	5,400
Acenaphthene	ND	540
2,4-Dinitrophenol	ND	5,400
4-Nitrophenol	ND	5,400
Dibenzofuran	ND	2,700
2,4-Dinitrotoluene	ND	2,700
Diethylphthalate	ND	2,700
Fluorene	ND	540
4-Chlorophenyl-phenylether	ND	2,700
4-Nitroaniline	ND	5,400
4,6-Dinitro-2-methylphenol	ND	5,400
N-Nitrosodiphenylamine	ND	2,700
Azobenzene	ND	2,700
4-Bromophenyl-phenylether	ND	2,700
Hexachlorobenzene	ND	2,700
Pentachlorophenol	ND	5,400
Phenanthrene	ND	540

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-5(6)	Batch#:	222651
Lab ID:	266374-015	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	7.143		

Analyte	Result	RL
Anthracene	ND	540
Di-n-butylphthalate	ND	2,700
Fluoranthene	ND	540
Pyrene	ND	540
Butylbenzylphthalate	ND	2,700
3,3'-Dichlorobenzidine	ND	5,400
Benzo(a)anthracene	ND	540
Chrysene	ND	540
bis(2-Ethylhexyl)phthalate	ND	2,700
Di-n-octylphthalate	ND	2,700
Benzo(b)fluoranthene	ND	540
Benzo(k)fluoranthene	ND	540
Benzo(a)pyrene	ND	540
Indeno(1,2,3-cd)pyrene	ND	540
Dibenz(a,h)anthracene	ND	540
Benzo(g,h,i)perylene	ND	540

Surrogate	%REC	Limits
2-Fluorophenol	57	25-120
Phenol-d5	66	36-120
2,4,6-Tribromophenol	41	27-120
Nitrobenzene-d5	90	44-120
2-Fluorobiphenyl	88	47-120
Terphenyl-d14	73	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(2.5)	Batch#:	222651
Lab ID:	266374-016	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	16.67		

Moisture: 7%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	5,900
Phenol	ND	5,900
bis(2-Chloroethyl)ether	ND	5,900
2-Chlorophenol	ND	5,900
1,3-Dichlorobenzene	ND	5,900
1,4-Dichlorobenzene	ND	5,900
Benzyl alcohol	ND	5,900
1,2-Dichlorobenzene	ND	5,900
2-Methylphenol	ND	5,900
bis(2-Chloroisopropyl) ether	ND	5,900
4-Methylphenol	ND	5,900
N-Nitroso-di-n-propylamine	ND	5,900
Hexachloroethane	ND	5,900
Nitrobenzene	ND	5,900
Isophorone	ND	5,900
2-Nitrophenol	ND	12,000
2,4-Dimethylphenol	ND	5,900
Benzoic acid	ND	30,000
bis(2-Chloroethoxy)methane	ND	5,900
2,4-Dichlorophenol	ND	5,900
1,2,4-Trichlorobenzene	ND	5,900
Naphthalene	ND	1,200
4-Chloroaniline	ND	5,900
Hexachlorobutadiene	ND	5,900
4-Chloro-3-methylphenol	ND	5,900
2-Methylnaphthalene	ND	1,200
Hexachlorocyclopentadiene	ND	12,000
2,4,6-Trichlorophenol	ND	5,900
2,4,5-Trichlorophenol	ND	5,900
2-Chloronaphthalene	ND	5,900
2-Nitroaniline	ND	12,000
Dimethylphthalate	ND	5,900
Acenaphthylene	ND	1,200
2,6-Dinitrotoluene	ND	5,900
3-Nitroaniline	ND	12,000
Acenaphthene	ND	1,200
2,4-Dinitrophenol	ND	12,000
4-Nitrophenol	ND	12,000
Dibenzofuran	ND	5,900
2,4-Dinitrotoluene	ND	5,900
Diethylphthalate	ND	5,900
Fluorene	ND	1,200
4-Chlorophenyl-phenylether	ND	5,900
4-Nitroaniline	ND	12,000
4,6-Dinitro-2-methylphenol	ND	12,000
N-Nitrosodiphenylamine	ND	5,900
Azobenzene	ND	5,900
4-Bromophenyl-phenylether	ND	5,900
Hexachlorobenzene	ND	5,900
Pentachlorophenol	ND	12,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(2.5)	Batch#:	222651
Lab ID:	266374-016	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	16.67		

Analyte	Result	RL
Phenanthrene	ND	1,200
Anthracene	ND	1,200
Di-n-butylphthalate	ND	5,900
Fluoranthene	ND	1,200
Pyrene	ND	1,200
Butylbenzylphthalate	ND	5,900
3,3'-Dichlorobenzidine	ND	12,000
Benzo(a)anthracene	ND	1,200
Chrysene	ND	1,200
bis(2-Ethylhexyl)phthalate	ND	5,900
Di-n-octylphthalate	ND	5,900
Benzo(b)fluoranthene	ND	1,200
Benzo(k)fluoranthene	ND	1,200
Benzo(a)pyrene	ND	1,200
Indeno(1,2,3-cd)pyrene	ND	1,200
Dibenz(a,h)anthracene	ND	1,200
Benzo(g,h,i)perylene	ND	1,200

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(4.5)	Batch#:	222651
Lab ID:	266374-017	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	2.000		

Moisture: 12%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	770
Phenol	ND	770
bis(2-Chloroethyl)ether	ND	770
2-Chlorophenol	ND	770
1,3-Dichlorobenzene	ND	770
1,4-Dichlorobenzene	ND	770
Benzyl alcohol	ND	770
1,2-Dichlorobenzene	ND	770
2-Methylphenol	ND	770
bis(2-Chloroisopropyl) ether	ND	770
4-Methylphenol	ND	770
N-Nitroso-di-n-propylamine	ND	770
Hexachloroethane	ND	770
Nitrobenzene	ND	770
Isophorone	ND	770
2-Nitrophenol	ND	1,500
2,4-Dimethylphenol	ND	770
Benzoic acid	ND	3,800
bis(2-Chloroethoxy)methane	ND	770
2,4-Dichlorophenol	ND	770
1,2,4-Trichlorobenzene	ND	770
Naphthalene	ND	150
4-Chloroaniline	ND	770
Hexachlorobutadiene	ND	770
4-Chloro-3-methylphenol	ND	770
2-Methylnaphthalene	ND	150
Hexachlorocyclopentadiene	ND	1,500
2,4,6-Trichlorophenol	ND	770
2,4,5-Trichlorophenol	ND	770
2-Chloronaphthalene	ND	770
2-Nitroaniline	ND	1,500
Dimethylphthalate	ND	770
Acenaphthylene	ND	150
2,6-Dinitrotoluene	ND	770
3-Nitroaniline	ND	1,500
Acenaphthene	ND	150
2,4-Dinitrophenol	ND	1,500
4-Nitrophenol	ND	1,500
Dibenzofuran	ND	770
2,4-Dinitrotoluene	ND	770
Diethylphthalate	ND	770
Fluorene	ND	150
4-Chlorophenyl-phenylether	ND	770
4-Nitroaniline	ND	1,500
4,6-Dinitro-2-methylphenol	ND	1,500
N-Nitrosodiphenylamine	ND	770
Azobenzene	ND	770
4-Bromophenyl-phenylether	ND	770
Hexachlorobenzene	ND	770
Pentachlorophenol	ND	1,500
Phenanthrene	ND	150

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(4.5)	Batch#:	222651
Lab ID:	266374-017	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	2.000		

Analyte	Result	RL
Anthracene	ND	150
Di-n-butylphthalate	ND	770
Fluoranthene	ND	150
Pyrene	ND	150
Butylbenzylphthalate	ND	770
3,3'-Dichlorobenzidine	ND	1,500
Benzo(a)anthracene	ND	150
Chrysene	ND	150
bis(2-Ethylhexyl)phthalate	ND	770
Di-n-octylphthalate	ND	770
Benzo(b)fluoranthene	ND	150
Benzo(k)fluoranthene	ND	150
Benzo(a)pyrene	ND	150
Indeno(1,2,3-cd)pyrene	ND	150
Dibenz(a,h)anthracene	ND	150
Benzo(g,h,i)perylene	ND	150

Surrogate	%REC	Limits
2-Fluorophenol	59	25-120
Phenol-d5	67	36-120
2,4,6-Tribromophenol	75	27-120
Nitrobenzene-d5	70	44-120
2-Fluorobiphenyl	85	47-120
Terphenyl-d14	70	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(5.5)	Batch#:	222651
Lab ID:	266374-018	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	3.000		

Moisture: 14%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	1,200
Phenol	ND	1,200
bis(2-Chloroethyl)ether	ND	1,200
2-Chlorophenol	ND	1,200
1,3-Dichlorobenzene	ND	1,200
1,4-Dichlorobenzene	ND	1,200
Benzyl alcohol	ND	1,200
1,2-Dichlorobenzene	ND	1,200
2-Methylphenol	ND	1,200
bis(2-Chloroisopropyl) ether	ND	1,200
4-Methylphenol	ND	1,200
N-Nitroso-di-n-propylamine	ND	1,200
Hexachloroethane	ND	1,200
Nitrobenzene	ND	1,200
Isophorone	ND	1,200
2-Nitrophenol	ND	2,300
2,4-Dimethylphenol	ND	1,200
Benzoic acid	ND	5,800
bis(2-Chloroethoxy)methane	ND	1,200
2,4-Dichlorophenol	ND	1,200
1,2,4-Trichlorobenzene	ND	1,200
Naphthalene	ND	230
4-Chloroaniline	ND	1,200
Hexachlorobutadiene	ND	1,200
4-Chloro-3-methylphenol	ND	1,200
2-Methylnaphthalene	ND	230
Hexachlorocyclopentadiene	ND	2,300
2,4,6-Trichlorophenol	ND	1,200
2,4,5-Trichlorophenol	ND	1,200
2-Chloronaphthalene	ND	1,200
2-Nitroaniline	ND	2,300
Dimethylphthalate	ND	1,200
Acenaphthylene	ND	230
2,6-Dinitrotoluene	ND	1,200
3-Nitroaniline	ND	2,300
Acenaphthene	ND	230
2,4-Dinitrophenol	ND	2,300
4-Nitrophenol	ND	2,300
Dibenzofuran	ND	1,200
2,4-Dinitrotoluene	ND	1,200
Diethylphthalate	ND	1,200
Fluorene	ND	230
4-Chlorophenyl-phenylether	ND	1,200
4-Nitroaniline	ND	2,300
4,6-Dinitro-2-methylphenol	ND	2,300
N-Nitrosodiphenylamine	ND	1,200
Azobenzene	ND	1,200
4-Bromophenyl-phenylether	ND	1,200
Hexachlorobenzene	ND	1,200
Pentachlorophenol	ND	2,300
Phenanthrene	ND	230

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-6(5.5)	Batch#:	222651
Lab ID:	266374-018	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	3.000		

Analyte	Result	RL
Anthracene	ND	230
Di-n-butylphthalate	ND	1,200
Fluoranthene	ND	230
Pyrene	ND	230
Butylbenzylphthalate	ND	1,200
3,3'-Dichlorobenzidine	ND	2,300
Benzo(a)anthracene	ND	230
Chrysene	ND	230
bis(2-Ethylhexyl)phthalate	ND	1,200
Di-n-octylphthalate	ND	1,200
Benzo(b)fluoranthene	ND	230
Benzo(k)fluoranthene	ND	230
Benzo(a)pyrene	ND	230
Indeno(1,2,3-cd)pyrene	ND	230
Dibenz(a,h)anthracene	ND	230
Benzo(g,h,i)perylene	230	230

Surrogate	%REC	Limits
2-Fluorophenol	46	25-120
Phenol-d5	55	36-120
2,4,6-Tribromophenol	72	27-120
Nitrobenzene-d5	48	44-120
2-Fluorobiphenyl	77	47-120
Terphenyl-d14	74	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(2)	Batch#:	222651
Lab ID:	266374-019	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	3.000		

Moisture: 4%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	1,000
Phenol	ND	1,000
bis(2-Chloroethyl)ether	ND	1,000
2-Chlorophenol	ND	1,000
1,3-Dichlorobenzene	ND	1,000
1,4-Dichlorobenzene	ND	1,000
Benzyl alcohol	ND	1,000
1,2-Dichlorobenzene	ND	1,000
2-Methylphenol	ND	1,000
bis(2-Chloroisopropyl) ether	ND	1,000
4-Methylphenol	ND	1,000
N-Nitroso-di-n-propylamine	ND	1,000
Hexachloroethane	ND	1,000
Nitrobenzene	ND	1,000
Isophorone	ND	1,000
2-Nitrophenol	ND	2,100
2,4-Dimethylphenol	ND	1,000
Benzoic acid	ND	5,200
bis(2-Chloroethoxy)methane	ND	1,000
2,4-Dichlorophenol	ND	1,000
1,2,4-Trichlorobenzene	ND	1,000
Naphthalene	ND	210
4-Chloroaniline	ND	1,000
Hexachlorobutadiene	ND	1,000
4-Chloro-3-methylphenol	ND	1,000
2-Methylnaphthalene	ND	210
Hexachlorocyclopentadiene	ND	2,100
2,4,6-Trichlorophenol	ND	1,000
2,4,5-Trichlorophenol	ND	1,000
2-Chloronaphthalene	ND	1,000
2-Nitroaniline	ND	2,100
Dimethylphthalate	ND	1,000
Acenaphthylene	ND	210
2,6-Dinitrotoluene	ND	1,000
3-Nitroaniline	ND	2,100
Acenaphthene	ND	210
2,4-Dinitrophenol	ND	2,100
4-Nitrophenol	ND	2,100
Dibenzofuran	ND	1,000
2,4-Dinitrotoluene	ND	1,000
Diethylphthalate	ND	1,000
Fluorene	ND	210
4-Chlorophenyl-phenylether	ND	1,000
4-Nitroaniline	ND	2,100
4,6-Dinitro-2-methylphenol	ND	2,100
N-Nitrosodiphenylamine	ND	1,000
Azobenzene	ND	1,000
4-Bromophenyl-phenylether	ND	1,000
Hexachlorobenzene	ND	1,000
Pentachlorophenol	ND	2,100
Phenanthrene	ND	210

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(2)	Batch#:	222651
Lab ID:	266374-019	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	3.000		

Analyte	Result	RL
Anthracene	ND	210
Di-n-butylphthalate	ND	1,000
Fluoranthene	ND	210
Pyrene	ND	210
Butylbenzylphthalate	ND	1,000
3,3'-Dichlorobenzidine	ND	2,100
Benzo(a)anthracene	ND	210
Chrysene	ND	210
bis(2-Ethylhexyl)phthalate	ND	1,000
Di-n-octylphthalate	ND	1,000
Benzo(b)fluoranthene	ND	210
Benzo(k)fluoranthene	ND	210
Benzo(a)pyrene	ND	210
Indeno(1,2,3-cd)pyrene	ND	210
Dibenz(a,h)anthracene	ND	210
Benzo(g,h,i)perylene	ND	210

Surrogate	%REC	Limits
2-Fluorophenol	61	25-120
Phenol-d5	69	36-120
2,4,6-Tribromophenol	67	27-120
Nitrobenzene-d5	59	44-120
2-Fluorobiphenyl	89	47-120
Terphenyl-d14	89	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(4.5)	Batch#:	222651
Lab ID:	266374-020	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	2.000		

Moisture: 14%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	760
Phenol	ND	760
bis(2-Chloroethyl)ether	ND	760
2-Chlorophenol	ND	760
1,3-Dichlorobenzene	ND	760
1,4-Dichlorobenzene	ND	760
Benzyl alcohol	ND	760
1,2-Dichlorobenzene	ND	760
2-Methylphenol	ND	760
bis(2-Chloroisopropyl) ether	ND	760
4-Methylphenol	ND	760
N-Nitroso-di-n-propylamine	ND	760
Hexachloroethane	ND	760
Nitrobenzene	ND	760
Isophorone	ND	760
2-Nitrophenol	ND	1,500
2,4-Dimethylphenol	ND	760
Benzoic acid	ND	3,800
bis(2-Chloroethoxy)methane	ND	760
2,4-Dichlorophenol	ND	760
1,2,4-Trichlorobenzene	ND	760
Naphthalene	ND	150
4-Chloroaniline	ND	760
Hexachlorobutadiene	ND	760
4-Chloro-3-methylphenol	ND	760
2-Methylnaphthalene	ND	150
Hexachlorocyclopentadiene	ND	1,500
2,4,6-Trichlorophenol	ND	760
2,4,5-Trichlorophenol	ND	760
2-Chloronaphthalene	ND	760
2-Nitroaniline	ND	1,500
Dimethylphthalate	ND	760
Acenaphthylene	ND	150
2,6-Dinitrotoluene	ND	760
3-Nitroaniline	ND	1,500
Acenaphthene	ND	150
2,4-Dinitrophenol	ND	1,500
4-Nitrophenol	ND	1,500
Dibenzofuran	ND	760
2,4-Dinitrotoluene	ND	760
Diethylphthalate	ND	760
Fluorene	ND	150
4-Chlorophenyl-phenylether	ND	760
4-Nitroaniline	ND	1,500
4,6-Dinitro-2-methylphenol	ND	1,500
N-Nitrosodiphenylamine	ND	760
Azobenzene	ND	760
4-Bromophenyl-phenylether	ND	760
Hexachlorobenzene	ND	760
Pentachlorophenol	ND	1,500
Phenanthrene	ND	150

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(4.5)	Batch#:	222651
Lab ID:	266374-020	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	2.000		

Analyte	Result	RL
Anthracene	ND	150
Di-n-butylphthalate	ND	760
Fluoranthene	ND	150
Pyrene	ND	150
Butylbenzylphthalate	ND	760
3,3'-Dichlorobenzidine	ND	1,500
Benzo(a)anthracene	ND	150
Chrysene	ND	150
bis(2-Ethylhexyl)phthalate	ND	760
Di-n-octylphthalate	ND	760
Benzo(b)fluoranthene	ND	150
Benzo(k)fluoranthene	ND	150
Benzo(a)pyrene	ND	150
Indeno(1,2,3-cd)pyrene	ND	150
Dibenz(a,h)anthracene	ND	150
Benzo(g,h,i)perylene	ND	150

Surrogate	%REC	Limits
2-Fluorophenol	50	25-120
Phenol-d5	59	36-120
2,4,6-Tribromophenol	71	27-120
Nitrobenzene-d5	63	44-120
2-Fluorobiphenyl	73	47-120
Terphenyl-d14	68	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(6.5)	Batch#:	222651
Lab ID:	266374-021	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Moisture: 15%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	390
Phenol	ND	390
bis(2-Chloroethyl)ether	ND	390
2-Chlorophenol	ND	390
1,3-Dichlorobenzene	ND	390
1,4-Dichlorobenzene	ND	390
Benzyl alcohol	ND	390
1,2-Dichlorobenzene	ND	390
2-Methylphenol	ND	390
bis(2-Chloroisopropyl) ether	ND	390
4-Methylphenol	ND	390
N-Nitroso-di-n-propylamine	ND	390
Hexachloroethane	ND	390
Nitrobenzene	ND	390
Isophorone	ND	390
2-Nitrophenol	ND	780
2,4-Dimethylphenol	ND	390
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	390
2,4-Dichlorophenol	ND	390
1,2,4-Trichlorobenzene	ND	390
Naphthalene	ND	78
4-Chloroaniline	ND	390
Hexachlorobutadiene	ND	390
4-Chloro-3-methylphenol	ND	390
2-Methylnaphthalene	ND	78
Hexachlorocyclopentadiene	ND	780
2,4,6-Trichlorophenol	ND	390
2,4,5-Trichlorophenol	ND	390
2-Chloronaphthalene	ND	390
2-Nitroaniline	ND	780
Dimethylphthalate	ND	390
Acenaphthylene	ND	78
2,6-Dinitrotoluene	ND	390
3-Nitroaniline	ND	780
Acenaphthene	ND	78
2,4-Dinitrophenol	ND	780
4-Nitrophenol	ND	780
Dibenzofuran	ND	390
2,4-Dinitrotoluene	ND	390
Diethylphthalate	ND	390
Fluorene	ND	78
4-Chlorophenyl-phenylether	ND	390
4-Nitroaniline	ND	780
4,6-Dinitro-2-methylphenol	ND	780
N-Nitrosodiphenylamine	ND	390
Azobenzene	ND	390
4-Bromophenyl-phenylether	ND	390
Hexachlorobenzene	ND	390
Pentachlorophenol	ND	780
Phenanthrene	ND	78

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-7(6.5)	Batch#:	222651
Lab ID:	266374-021	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/28/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	78
Di-n-butylphthalate	ND	390
Fluoranthene	ND	78
Pyrene	ND	78
Butylbenzylphthalate	ND	390
3,3'-Dichlorobenzidine	ND	780
Benzo(a)anthracene	ND	78
Chrysene	ND	78
bis(2-Ethylhexyl)phthalate	ND	390
Di-n-octylphthalate	ND	390
Benzo(b)fluoranthene	ND	78
Benzo(k)fluoranthene	ND	78
Benzo(a)pyrene	ND	78
Indeno(1,2,3-cd)pyrene	ND	78
Dibenz(a,h)anthracene	ND	78
Benzo(g,h,i)perylene	ND	78

Surrogate	%REC	Limits
2-Fluorophenol	48	25-120
Phenol-d5	55	36-120
2,4,6-Tribromophenol	69	27-120
Nitrobenzene-d5	60	44-120
2-Fluorobiphenyl	64	47-120
Terphenyl-d14	65	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(2)	Batch#:	222651
Lab ID:	266374-022	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	2.000		

Moisture: 4%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	700
Phenol	ND	700
bis(2-Chloroethyl)ether	ND	700
2-Chlorophenol	ND	700
1,3-Dichlorobenzene	ND	700
1,4-Dichlorobenzene	ND	700
Benzyl alcohol	ND	700
1,2-Dichlorobenzene	ND	700
2-Methylphenol	ND	700
bis(2-Chloroisopropyl) ether	ND	700
4-Methylphenol	ND	700
N-Nitroso-di-n-propylamine	ND	700
Hexachloroethane	ND	700
Nitrobenzene	ND	700
Isophorone	ND	700
2-Nitrophenol	ND	1,400
2,4-Dimethylphenol	ND	700
Benzoic acid	ND	3,500
bis(2-Chloroethoxy)methane	ND	700
2,4-Dichlorophenol	ND	700
1,2,4-Trichlorobenzene	ND	700
Naphthalene	ND	140
4-Chloroaniline	ND	700
Hexachlorobutadiene	ND	700
4-Chloro-3-methylphenol	ND	700
2-Methylnaphthalene	ND	140
Hexachlorocyclopentadiene	ND	1,400
2,4,6-Trichlorophenol	ND	700
2,4,5-Trichlorophenol	ND	700
2-Chloronaphthalene	ND	700
2-Nitroaniline	ND	1,400
Dimethylphthalate	ND	700
Acenaphthylene	ND	140
2,6-Dinitrotoluene	ND	700
3-Nitroaniline	ND	1,400
Acenaphthene	ND	140
2,4-Dinitrophenol	ND	1,400
4-Nitrophenol	ND	1,400
Dibenzofuran	ND	700
2,4-Dinitrotoluene	ND	700
Diethylphthalate	ND	700
Fluorene	ND	140
4-Chlorophenyl-phenylether	ND	700
4-Nitroaniline	ND	1,400
4,6-Dinitro-2-methylphenol	ND	1,400
N-Nitrosodiphenylamine	ND	700
Azobenzene	ND	700
4-Bromophenyl-phenylether	ND	700
Hexachlorobenzene	ND	700
Pentachlorophenol	ND	1,400
Phenanthrene	ND	140

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-9(2)	Batch#:	222651
Lab ID:	266374-022	Sampled:	04/27/15
Matrix:	Soil	Received:	04/27/15
Units:	ug/Kg	Prepared:	04/28/15
Basis:	dry	Analyzed:	04/29/15
Diln Fac:	2.000		

Analyte	Result	RL
Anthracene	ND	140
Di-n-butylphthalate	ND	700
Fluoranthene	ND	140
Pyrene	ND	140
Butylbenzylphthalate	ND	700
3,3'-Dichlorobenzidine	ND	1,400
Benzo(a)anthracene	ND	140
Chrysene	ND	140
bis(2-Ethylhexyl)phthalate	ND	700
Di-n-octylphthalate	ND	700
Benzo(b)fluoranthene	ND	140
Benzo(k)fluoranthene	ND	140
Benzo(a)pyrene	ND	140
Indeno(1,2,3-cd)pyrene	ND	140
Dibenz(a,h)anthracene	ND	140
Benzo(g,h,i)perylene	ND	140

Surrogate	%REC	Limits
2-Fluorophenol	58	25-120
Phenol-d5	66	36-120
2,4,6-Tribromophenol	60	27-120
Nitrobenzene-d5	60	44-120
2-Fluorobiphenyl	83	47-120
Terphenyl-d14	84	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785799	Batch#:	222651
Matrix:	Soil	Prepared:	04/28/15
Units:	ug/Kg	Analyzed:	04/28/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	340
Phenol	ND	340
bis(2-Chloroethyl)ether	ND	340
2-Chlorophenol	ND	340
1,3-Dichlorobenzene	ND	340
1,4-Dichlorobenzene	ND	340
Benzyl alcohol	ND	340
1,2-Dichlorobenzene	ND	340
2-Methylphenol	ND	340
bis(2-Chloroisopropyl) ether	ND	340
4-Methylphenol	ND	340
N-Nitroso-di-n-propylamine	ND	340
Hexachloroethane	ND	340
Nitrobenzene	ND	340
Isophorone	ND	340
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	340
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	340
2,4-Dichlorophenol	ND	340
1,2,4-Trichlorobenzene	ND	340
Naphthalene	ND	67
4-Chloroaniline	ND	340
Hexachlorobutadiene	ND	340
4-Chloro-3-methylphenol	ND	340
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	340
2,4,5-Trichlorophenol	ND	340
2-Chloronaphthalene	ND	340
2-Nitroaniline	ND	670
Dimethylphthalate	ND	340
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	340
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	340
2,4-Dinitrotoluene	ND	340
Diethylphthalate	ND	340
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	340
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	340
Azobenzene	ND	340
4-Bromophenyl-phenylether	ND	340
Hexachlorobenzene	ND	340
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	340
Fluoranthene	ND	67

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785799	Batch#:	222651
Matrix:	Soil	Prepared:	04/28/15
Units:	ug/Kg	Analyzed:	04/28/15

Analyte	Result	RL
Pyrene	ND	67
Butylbenzylphthalate	ND	340
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	340
Di-n-octylphthalate	ND	340
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	47	25-120
Phenol-d5	53	36-120
2,4,6-Tribromophenol	51	27-120
Nitrobenzene-d5	57	44-120
2-Fluorobiphenyl	60	47-120
Terphenyl-d14	67	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266374	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC785800	Batch#:	222651
Matrix:	Soil	Prepared:	04/28/15
Units:	ug/Kg	Analyzed:	04/28/15

Analyte	Spiked	Result	%REC	Limits
Phenol	2,697	1,758	65	42-120
2-Chlorophenol	2,697	2,107	78	45-120
1,4-Dichlorobenzene	2,697	2,038	76	48-120
N-Nitroso-di-n-propylamine	2,697	2,061	76	27-123
1,2,4-Trichlorobenzene	2,697	2,157	80	50-120
4-Chloro-3-methylphenol	2,697	2,391	89	59-120
Acenaphthene	1,011	833.6	82	53-120
4-Nitrophenol	2,697	2,169	80	47-120
2,4-Dinitrotoluene	2,697	2,218	82	55-120
Pentachlorophenol	2,697	2,048	76	32-120
Pyrene	1,011	850.7	84	52-120

Surrogate	%REC	Limits
2-Fluorophenol	64	25-120
Phenol-d5	64	36-120
2,4,6-Tribromophenol	84	27-120
Nitrobenzene-d5	68	44-120
2-Fluorobiphenyl	69	47-120
Terphenyl-d14	75	49-120

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP IDF : 1.0
Seqnum : 545102874005 File : xcc05 Time : 12-MAR-2015 13:14

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	111312	46.52	
68	< 2% of mass 69	0	0.00	
69		130754	100.00	
70	< 2% of mass 69	766	0.59	
127	40% - 60% of mass 198	137936	57.64	
197	< 1% of mass 198	0	0.00	
198		239296	100.00	
199	5% - 9% of mass 198	16222	6.78	
275	10% - 30% of mass 198	62797	26.24	
365	> 1% of mass 198	6532	2.73	
441	Present, < mass 443	38400	87.37	
442	> 40% and < 100% of mass 198	229845	96.05	
443	17% - 23% of mass 442	43952	19.12	

Analyst: KMH Date: 03/12/15 Reviewer: LW Date: 03/18/15

PEM Report

File Name : G:\msbna05\031215\XCC05.D
Date Acquired : 12 Mar 2015 1:14 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA05 BNA DFTPP/PEM
Inst. Name : MSBNA05
AcquisitionMeth: DFTPP05.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.942	5.52	343578
Benzidine	0.628	7.40	1923849
4,4'-DDT		8.43	1021612
4,4'-DDE		7.63	2913
4,4'-DDD		8.05	24437

% Breakdown: 4,4'-DDT	LIMIT <=20%	3%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Thu Mar 12 13:27:16 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP IDF : 1.0
Seqnum : 545171960002 File : xdt02 Time : 29-APR-2015 10:36

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	75727	47.51	
68	< 2% of mass 69	0	0.00	
69		87021	100.00	
70	< 2% of mass 69	166	0.19	
127	40% - 60% of mass 198	89373	56.08	
197	< 1% of mass 198	0	0.00	
198		159381	100.00	
199	5% - 9% of mass 198	11019	6.91	
275	10% - 30% of mass 198	36410	22.84	
365	> 1% of mass 198	3661	2.30	
441	Present, < mass 443	16865	81.77	
442	> 40% and < 100% of mass 198	108512	68.08	
443	17% - 23% of mass 442	20624	19.01	

Analyst: KMH Date: 04/29/15 Reviewer: LW Date: 04/29/15

PEM Report

File Name : G:\msbna05\042915\XDT02.D
Date Acquired : 29 Apr 2015 10:36 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA05 BNA DFTPP/PEM
Inst. Name : MSBNA05
AcquisitionMeth: DFTPP05.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.053	5.02	182408
Benzidine	0.607	6.88	1434599
4,4'-DDT		7.91	708151
4,4'-DDE		7.12	1230
4,4'-DDD		7.53	11920

% Breakdown: 4,4'-DDT	LIMIT <=20%	2%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.1	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Wed Apr 29 10:49:17 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555120229009 File : yco09 Time : 24-MAR-2015 15:50

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	173190	44.21	
68	< 2% of mass 69	0	0.00	
69		171552	100.00	
70	< 2% of mass 69	137	0.08	
127	40% - 60% of mass 198	173290	44.24	
197	< 1% of mass 198	0	0.00	
198		391701	100.00	
199	5% - 9% of mass 198	27384	6.99	
275	10% - 30% of mass 198	97650	24.93	
365	> 1% of mass 198	11479	2.93	
441	Present, < mass 443	43290	74.41	
442	> 40% and < 100% of mass 198	295808	75.52	
443	17% - 23% of mass 442	58178	19.67	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

PEM Report

File Name : G:\msbna06\032415\YCO09.D
Date Acquired : 24 Mar 2015 3:50 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.881	5.49	736084
Benzidine	0.569	7.35	2546584
4,4'-DDT		8.37	1789243
4,4'-DDE		7.58	19791
4,4'-DDD		8.00	86883

% Breakdown: 4,4'-DDT	LIMIT <=20%	6%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Tue Mar 24 16:07:08 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555170972002 File : yds02 Time : 28-APR-2015 18:01

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	101325	42.48	
68	< 2% of mass 69	0	0.00	
69		101560	100.00	
70	< 2% of mass 69	507	0.50	
127	40% - 60% of mass 198	103288	43.30	
197	< 1% of mass 198	769	0.32	
198		238549	100.00	
199	5% - 9% of mass 198	16567	6.94	
275	10% - 30% of mass 198	60210	25.24	
365	> 1% of mass 198	6957	2.92	
441	Present, < mass 443	26522	75.38	
442	> 40% and < 100% of mass 198	180040	75.47	
443	17% - 23% of mass 442	35186	19.54	

Analyst: NPM Date: 04/28/15 Reviewer: LW Date: 04/29/15

PEM Report

File Name : G:\msbna06\042815\YDS02.D
Date Acquired : 28 Apr 2015 6:01 pm
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.891	5.49	365264
Benzidine	1.222	7.33	1454365
4,4'-DDT		8.35	1214423
4,4'-DDE		7.56	3100
4,4'-DDD		7.98	28889

% Breakdown: 4,4'-DDT	LIMIT <=20%	3%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	1.2	PASS
	8270D <=2	1	PASS

Tue Apr 28 18:21:45 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555173392002 File : ydu02 Time : 30-APR-2015 10:21

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	143188	43.12	
68	< 2% of mass 69	0	0.00	
69		138840	100.00	
70	< 2% of mass 69	705	0.51	
127	40% - 60% of mass 198	145608	43.85	
197	< 1% of mass 198	0	0.00	
198		332032	100.00	
199	5% - 9% of mass 198	22514	6.78	
275	10% - 30% of mass 198	88970	26.80	
365	> 1% of mass 198	11670	3.51	
441	Present, < mass 443	42864	76.82	
442	> 40% and < 100% of mass 198	291946	87.93	
443	17% - 23% of mass 442	55800	19.11	

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 04/30/15

PEM Report

File Name : G:\msbna06\043015\YDU02.D
Date Acquired : 30 Apr 2015 10:21 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.751	5.49	128702
Benzidine	0.779	7.34	2498144
4,4'-DDT		8.35	1373853
4,4'-DDE		7.56	6377
4,4'-DDD		7.98	61720

% Breakdown: 4,4'-DDT	LIMIT <=20%	5%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.8	PASS
	8270D <=2	2	PASS
Tailing: Benzidine	8270C <3.0	0.8	PASS
	8270D <=2	1	PASS

Thu Apr 30 10:32:10 2015

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSBNA Soil: EPA 8270C

Inst : MSBNA05
Calnum : 545102874001
Units : ug/mL

Name : 6PTBNA5
Date : 12-MAR-2015 13:52

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	xcc06	545102874006	ICAL	12-MAR-2015 13:52	S26474
L2	xcc07	545102874007	ICAL	12-MAR-2015 14:27	S26475
L3	xcc08	545102874008	ICAL	12-MAR-2015 15:05	S26476
L4	xcc09	545102874009	ICAL	12-MAR-2015 15:41	S26477
L5	xcc10	545102874010	ICAL	12-MAR-2015 16:17	S26478
L6	xcc11	545102874011	ICAL	12-MAR-2015 16:53	S26479
L7	xcc12	545102874012	ICAL	12-MAR-2015 17:29	S26480
L8	xcc13	545102874013	ICAL	12-MAR-2015 18:06	S26481
L9	xcc14	545102874014	ICAL	12-MAR-2015 18:41	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.5188	0.5325	0.5499	0.5481	0.5577	0.5686	0.5692	0.5840	AVRG	R		1.80633		0.5536	4	15	0.05	0.99	
Phenol		1.5280	1.5895	1.6677	1.6577	1.6910	1.7176	1.7250	1.7320	AVRG	R		0.60112		1.6636	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.1723	1.1420	1.1911	1.2163	1.1838	1.1937	1.2129m	1.2217m	AVRG	R		0.83912		1.1917	2	15	0.05	0.99	
2-Chlorophenol		1.4262	1.4403	1.4618	1.4631	1.4429	1.4441	1.4265	1.4124	AVRG	R		0.69461		1.4397	1	15	0.05	0.99	
1,3-Dichlorobenzene		1.5804	1.5762	1.6123	1.5936	1.5678	1.4993	1.4465	1.3983	AVRG	R		0.65176		1.5343	5	15	0.05	0.99	
1,4-Dichlorobenzene		1.6265	1.6315	1.6347	1.6167	1.5588	1.4861	1.4107	1.3327	AVRG	R		0.65054		1.5372	8	15	0.05	0.99	
Benzyl alcohol		0.8339	0.8725	0.9217	0.9212	0.9323	0.9427	0.9513	0.9652	AVRG	R		1.08978		0.9176	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.5312	1.5224	1.5413	1.5157	1.5070	1.4218	1.3734	1.2904	AVRG	R		0.68358		1.4629	6	15	0.05	0.99	
2-Methylphenol		1.0799	1.1000	1.1443	1.1441	1.1411	1.1452	1.1368	1.1113	AVRG	R		0.88862		1.1253	2	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		1.2776	1.3129	1.3863	1.4144	1.4363	1.5072	1.5372	1.5871	AVRG	R		0.69815		1.4324	8	15	0.05	0.99	
4-Methylphenol		1.5522	1.5950	1.6660	1.6653	1.6752				AVRG	R		0.61321		1.6307	3	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.6000	0.6399	0.6687	0.6668	0.6914	0.7075	0.7226	0.7480	AVRG	R		1.46925		0.6806	7	15	0.050	0.99	
Hexachloroethane		0.6213	0.6289	0.6487	0.6420	0.6297	0.6197	0.6007	0.5759	AVRG	R		1.61066		0.6209	4	15	0.05	0.99	
Nitrobenzene		0.3511	0.3552	0.3718	0.3760	0.3770	0.3880	0.3738	0.3747	AVRG	R		2.69568		0.3710	3	15	0.05	0.99	
Isophorone		0.6163	0.6285	0.6545	0.6632	0.6703	0.6846			AVRG	R		1.53163		0.6529	4	15	0.05	0.99	
2-Nitrophenol			0.1983	0.2083	0.2102	0.2126	0.2140	0.2035	0.2027m	AVRG	R		4.82895		0.2071	3	15	0.05	0.99	
2,4-Dimethylphenol		0.3573	0.3476	0.3645	0.3596	0.3621	0.3526	0.3408	0.3420	AVRG	R		2.83034		0.3533	3	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.3705	0.3844	0.3862	0.3941	0.4044	0.3916	0.3946	AVRG	R		2.56792		0.3894	3	15	0.05	0.99	
Benzoic acid		0.2207m	0.2287m	0.2559m	0.2666	0.2729	0.2826	0.2759	0.2831	AVRG	R		3.83453		0.2608	9	15	0.05	0.99	
2,4-Dichlorophenol		0.3117	0.3110	0.3188	0.3158	0.3101	0.2941	0.2778	0.2596	AVRG	R		3.33499		0.2999	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3462	0.3453	0.3487	0.3398	0.3264	0.3081	0.2829	0.2699	AVRG	R		3.11608		0.3209	10	15	0.05	0.99	
Naphthalene	1.1037	1.1210	1.1359	1.1392	1.1187	1.1159	1.0705	1.0258	0.9947	AVRG	R		0.91600		1.0917	5	15	0.05	0.99	
4-Chloroaniline		0.2192	0.4088	0.4635	0.4533m	0.4519m	0.4418m	0.4203	0.4089	QUAD	A	-3.0015	0.57598	-0.00121	0.4085	0.999	15	0.05	0.99	
Hexachlorobutadiene		0.1884	0.1888	0.1881	0.1824	0.1744	0.1609	0.1492	0.1361	AVRG	R		5.84684		0.1710	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3079	0.3109	0.3175	0.3243	0.3228	0.3200	0.3082	0.3062	AVRG	R		3.17731		0.3147	2	15	0.05	0.99	
2-Methylnaphthalene	0.7295	0.7349	0.7473	0.7554	0.7465	0.7483	0.7180	0.6741	0.6562	AVRG	R		1.38243		0.7234	5	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3922	0.4027	0.3969	0.3755	0.3621	0.3394	0.3159	AVRG	R		2.70815		0.3693	9	15	0.050	0.99	
2,4,6-Trichlorophenol		0.4192	0.4193	0.4321	0.4315	0.4200	0.3948	0.3803	0.3632	AVRG	R		2.45363		0.4076	6	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4496	0.4590	0.4597	0.4605	0.4502	0.4100	0.3953m	0.3684m	AVRG	R		2.31706		0.4316	8	15	0.05	0.99	
2-Chloronaphthalene			1.3262	1.3368	1.3371	1.3013	1.2448	1.1972	1.1516	AVRG	R		0.78695		1.2707	6	15	0.05	0.99	
2-Nitroaniline			0.3548	0.3815	0.3979	0.3992	0.3977	0.4015	0.4012	AVRG	R		2.56040		0.3906	4	15	0.05	0.99	
Dimethylphthalate		1.4739	1.5012	1.5205	1.5184	1.4953	1.4037	1.3460	1.3054	AVRG	R		0.69178		1.4455	6	15	0.05	0.99	
2,6-Dinitrotoluene		0.3243	0.3429	0.3598	0.3656	0.3656	0.3572	0.3486	0.3463	AVRG	R		2.84656		0.3513	4	15	0.05	0.99	
Acenaphthylene	2.0560	2.0775	2.1199	2.1875	2.1965	2.1754	2.0748	2.0178	1.9436	AVRG	R		0.47748		2.0943	4	15	0.05	0.99	
3-Nitroaniline			0.2201	0.3460m	0.3791	0.4019	0.4224	0.4183	0.4105	LINR	R	7.03015	2.23657		0.3712	0.996	15	0.05	0.99	
Acenaphthene	1.3349	1.3682	1.4079	1.4706	1.4974	1.3713m	1.2574	1.2314	1.1493	AVRG	R		0.74452		1.3432	8	15	0.05	0.99	
2,4-Dinitrophenol			0.1474	0.1879	0.2044	0.2114	0.2280	0.2306	0.2318	AVRG	R		4.85666		0.2059	15	15	0.050	0.99	
4-Nitrophenol			0.1862	0.2033	0.2094	0.2132	0.2142	0.2088	0.2170m	AVRG	R		4.82049		0.2074	5	15	0.050	0.99	
Dibenzofuran			1.8714	1.9320	1.9450	1.9209	1.8056	1.6980	1.5564	AVRG	R		0.54991		1.8185	8	15	0.05	0.99	
2,4-Dinitrotoluene		0.4465	0.4743	0.4890	0.4897	0.4927	0.4744	0.4578	0.4243	AVRG	R		2.13405		0.4686	5	15	0.05	0.99	
Diethylphthalate			1.5505	1.5873	1.6014	1.5952	1.5355	1.4680	1.4186	AVRG	R		0.65078		1.5366	5	15	0.05	0.99	
Fluorene	1.5319	1.5773	1.5918	1.6313	1.6339	1.5910	1.4882	1.4270	1.3709	AVRG	R		0.65013		1.5382	6	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7516	0.7631	0.7506	0.7492	0.6883	0.6462	0.6091	AVRG	R		1.41180		0.7083	9	15	0.05	0.99	
4-Nitroaniline			0.2941m	0.3357	0.3722	0.4112	0.4149	0.4063m	0.4083	AVRG	R		2.64887		0.3775	12	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1272	0.1434	0.1520	0.1516	0.1566	0.1518		AVRG	R		6.79748		0.1471	7	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5940	0.6177	0.6227	0.6219	0.5978	0.5810	0.5608	AVRG	R		1.66827		0.5994	4	15	0.05	0.99	
Azobenzene			0.7555	0.8069	0.8113	0.8200	0.8275	0.8200	0.8169	AVRG	R		1.23717		0.8083	3	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2305	0.2360	0.2378	0.2368	0.2277	0.2159	0.2092	AVRG	R		4.39186		0.2277	5	15	0.05	0.99	
Hexachlorobenzene		0.2507	0.2507	0.2553	0.2510	0.2411	0.2204	0.2057	0.1923	AVRG	R		4.28462		0.2334	10	15	0.05	0.99	
Pentachlorophenol			0.1582	0.1694	0.1732	0.1729	0.1637	0.1551	0.1499	AVRG	R		6.12758		0.1632	6	15	0.05	0.99	
Phenanthrene	1.1900	1.1894	1.1822	1.2191	1.2072	1.1755	1.1230	1.0712	1.0075	AVRG	R		0.86829		1.1517	6	15	0.05	0.99	
Anthracene	1.1721	1.1987	1.2219	1.2194	1.2169	1.2007	1.1350	1.0860	1.0215	AVRG	R		0.85941		1.1636	6	15	0.05	0.99	
Di-n-butylphthalate			1.3725	1.4173	1.4450	1.4338	1.3777	1.3189	1.2681	AVRG	R		0.72665		1.3762	5	15	0.05	0.99	
Fluoranthene	1.3058	1.3368	1.3353	1.3765	1.3853	1.3565	1.2790	1.2197	1.1704	AVRG	R		0.76495		1.3073	6	15	0.05	0.99	
Pyrene	1.2925	1.3387	1.3400	1.3766	1.3887	1.3600	1.3032	1.2810	1.2205	AVRG	R		0.75622		1.3224	4	15	0.05	0.99	
Butylbenzylphthalate			0.5506	0.5891	0.6058	0.6103	0.6173	0.6217	0.6037	AVRG	R		1.66725		0.5998	4	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.2747	0.3882	0.4090	0.4214	0.3945	0.3745	0.3466	AVRG	R		2.68308		0.3727	13	15	0.05	0.99	
Benzo(a)anthracene	1.2059	1.1870	1.1913	1.2370	1.2296	1.2385	1.2134	1.1899	1.1629	AVRG	R		0.82906		1.2062	2	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.7891	0.8494	0.8728	0.8618	0.7656	0.6905	0.5979	AVRG	R		1.28981		0.7753	13	15	0.05	0.99	
Chrysene	1.1006	1.1343	1.1412	1.1643	1.1750	1.1581	1.1100	1.0907	1.0603m	AVRG	R		0.88806		1.1261	3	15	0.05	0.99	
Di-n-octylphthalate			1.2703	1.4098	1.4853	1.5114	1.5573	1.5556	1.5597	AVRG	R		0.67637		1.4785	7	15	0.05	0.99	
Benzo(b)fluoranthene	1.0359	1.1074	1.1528	1.2205	1.2415	1.2498	1.3329	1.3617	1.3868	AVRG	R		0.81161		1.2321	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0174	1.0688	1.0916	1.1768	1.2005	1.1861	1.1332m	1.0854m	1.0466m	AVRG	R		0.89943		1.1118	6	15	0.05	0.99	
Benzo(a)pyrene	0.9547	1.0428	1.0902	1.1700	1.2198	1.2073	1.2395	1.2266	1.2333	AVRG	R		0.86670		1.1538	9	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0618	1.1582	1.2019	1.3180	1.3678	1.3903	1.4290	1.4294	1.4427	AVRG	R		0.76278		1.3110	11	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8870	0.9564	1.0148	1.0978	1.1372	1.1496	1.1920	1.1799	1.1886	AVRG	R		0.91808		1.0892	10	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9830	0.9888	0.9606	1.0935	1.1387	1.1739	1.2016	1.2026	1.2140	AVRG	R		0.90392		1.1063	9	15	0.05	0.99	
2-Fluorophenol	1.2486	1.2295	1.2677	1.3106	1.3222	1.3237	1.3582	1.3547	1.3922	AVRG	R		0.76223		1.3119	4	15	0.05	0.99	
Phenol-d5	1.5321	1.5188	1.5733	1.6353	1.6381	1.6564	1.7063	1.7278	1.7405	AVRG	R		0.61105		1.6365	5	15	0.05	0.99	
Nitrobenzene-d5	0.3702	0.3794	0.3965	0.4116	0.4133	0.4211	0.4334	0.4234	0.4324	AVRG	R		2.44481		0.4090	6	15	0.05	0.99	
2-Fluorobiphenyl	1.7144	1.7324	1.7562	1.7620	1.7458	1.6899	1.5759	1.5264	1.4383	AVRG	R		0.60236		1.6601	7	15	0.05	0.99	
2,4,6-Tribromophenol	0.1868	0.2063	0.2251	0.2440	0.2451	0.2449	0.2353	0.2248	0.2148	AVRG	R		4.44024		0.2252	9	15	0.05	0.99	
Terphenyl-d14	0.9795	1.0252	1.0288	1.0604	1.0512	1.0315	0.9735	0.9344	0.8817	AVRG	R		1.00377		0.9962	6	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-6	20.000	-4	32.000	-1	40.000	-1	50.000	1	80.000	3	100.00	3	120.00	5
Phenol			10.000	-8	20.000	-4	32.000	0	40.000	0	50.000	2	80.000	3	100.00	4	120.00	4
bis(2-Chloroethyl)ether			10.000	-2	20.000	-4	32.000	0	40.000	2	50.000	-1	80.000	0	100.00	2	120.00	3
2-Chlorophenol			10.000	-1	20.000	0	32.000	2	40.000	2	50.000	0	80.000	0	100.00	-1	120.00	-2
1,3-Dichlorobenzene			10.000	3	20.000	3	32.000	5	40.000	4	50.000	2	80.000	-2	100.00	-6	120.00	-9
1,4-Dichlorobenzene			10.000	6	20.000	6	32.000	6	40.000	5	50.000	1	80.000	-3	100.00	-8	120.00	-13
Benzyl alcohol			10.000	-9	20.000	-5	32.000	0	40.000	0	50.000	2	80.000	3	100.00	4	120.00	5
1,2-Dichlorobenzene			10.000	5	20.000	4	32.000	5	40.000	4	50.000	3	80.000	-3	100.00	-6	120.00	-12
2-Methylphenol			10.000	-4	20.000	-2	32.000	2	40.000	2	50.000	1	80.000	2	100.00	1	120.00	-1
bis(2-Chloroisopropyl) ether			10.000	-11	20.000	-8	32.000	-3	40.000	-1	50.000	0	80.000	5	100.00	7	120.00	11
4-Methylphenol			10.000	-5	20.000	-2	32.000	2	40.000	2	50.000	3						
N-Nitroso-di-n-propylamine			10.000	-12	20.000	-6	32.000	-2	40.000	-2	50.000	2	80.000	4	100.00	6	120.00	10
Hexachloroethane			10.000	0	20.000	1	32.000	4	40.000	3	50.000	1	80.000	0	100.00	-3	120.00	-7
Nitrobenzene			10.000	-5	20.000	-4	32.000	0	40.000	1	50.000	2	80.000	5	100.00	1	120.00	1
Isophorone			10.000	-6	20.000	-4	32.000	0	40.000	2	50.000	3	80.000	5				
2-Nitrophenol					20.000	-4	32.000	1	40.000	2	50.000	3	80.000	3	100.00	-2	120.00	-2
2,4-Dimethylphenol			10.000	1	20.000	-2	32.000	3	40.000	2	50.000	2	80.000	0	100.00	-4	120.00	-3
bis(2-Chloroethoxy)methane					10.000	-5	16.000	-1	20.000	-1	25.000	1	40.000	4	50.000	1	60.000	1
Benzoic acid			50.000	-15	60.000	-12	80.000	-2	90.000	2	100.00	5	120.00	8	130.00	6	140.00	9
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	6	40.000	5	50.000	3	80.000	-2	100.00	-7	120.00	-13
1,2,4-Trichlorobenzene			10.000	8	20.000	8	32.000	9	40.000	6	50.000	2	80.000	-4	100.00	-12	120.00	-16
Naphthalene	2.0000	1	5.0000	3	10.000	4	16.000	4	20.000	2	25.000	2	40.000	-2	50.000	-6	60.000	-9
4-Chloroaniline			10.000	-8	20.000	1	32.000	4	40.000	0	50.000	-1	80.000	0	100.00	-1	120.00	1
Hexachlorobutadiene			10.000	10	20.000	10	32.000	10	40.000	7	50.000	2	80.000	-6	100.00	-13	120.00	-20
4-Chloro-3-methylphenol			10.000	-2	20.000	-1	32.000	1	40.000	3	50.000	3	80.000	2	100.00	-2	120.00	-3
2-Methylnaphthalene	2.0000	1	5.0000	2	10.000	3	16.000	4	20.000	3	25.000	3	40.000	-1	50.000	-7	60.000	-9
Hexachlorocyclopentadiene					20.000	6	32.000	9	40.000	7	50.000	2	80.000	-2	100.00	-8	120.00	-14
2,4,6-Trichlorophenol			10.000	3	20.000	3	32.000	6	40.000	6	50.000	3	80.000	-3	100.00	-7	120.00	-11
2,4,5-Trichlorophenol			10.000	4	20.000	6	32.000	7	40.000	7	50.000	4	80.000	-5	100.00	-8	120.00	-15
2-Chloronaphthalene					10.000	4	16.000	5	20.000	5	25.000	2	40.000	-2	50.000	-6	60.000	-9
2-Nitroaniline					20.000	-9	32.000	-2	40.000	2	50.000	2	80.000	2	100.00	3	120.00	3
Dimethylphthalate			10.000	2	20.000	4	32.000	5	40.000	5	50.000	3	80.000	-3	100.00	-7	120.00	-10
2,6-Dinitrotoluene			10.000	-8	20.000	-2	32.000	2	40.000	4	50.000	4	80.000	2	100.00	-1	120.00	-1
Acenaphthylene	2.0000	-2	5.0000	-1	10.000	1	16.000	4	20.000	5	25.000	4	40.000	-1	50.000	-4	60.000	-7
3-Nitroaniline					20.000	-16	32.000	-1	40.000	2	50.000	4	80.000	3	100.00	1	120.00	-2
Acenaphthene	2.0000	-1	5.0000	2	10.000	5	16.000	9	20.000	11	25.000	2	40.000	-6	50.000	-8	60.000	-14
2,4-Dinitrophenol					20.000	**-28**	32.000	-9	40.000	-1	50.000	3	80.000	11	100.00	12	120.00	13
4-Nitrophenol					20.000	-10	32.000	-2	40.000	1	50.000	3	80.000	3	100.00	1	120.00	5
Dibenzofuran					10.000	3	16.000	6	20.000	7	25.000	6	40.000	-1	50.000	-7	60.000	-14
2,4-Dinitrotoluene			10.000	-5	20.000	1	32.000	4	40.000	5	50.000	5	80.000	1	100.00	-2	120.00	-9
Diethylphthalate					10.000	1	16.000	3	20.000	4	25.000	4	40.000	0	50.000	-4	60.000	-8
Fluorene	2.0000	0	5.0000	3	10.000	3	16.000	6	20.000	6	25.000	3	40.000	-3	50.000	-7	60.000	-11

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	6	16.000	8	20.000	6	25.000	6	40.000	-3	50.000	-9	60.000	-14
4-Nitroaniline					20.000	**-22**	32.000	-11	40.000	-1	50.000	9	80.000	10	100.00	8	120.00	8
4,6-Dinitro-2-methylphenol					20.000	-14	32.000	-3	40.000	3	50.000	3	80.000	6	100.00	3		
N-Nitrosodiphenylamine					10.000	-1	16.000	3	20.000	4	25.000	4	40.000	0	50.000	-3	60.000	-6
Azobenzene					10.000	-7	16.000	0	20.000	0	25.000	1	40.000	2	50.000	1	60.000	1
4-Bromophenyl-phenylether					10.000	1	16.000	4	20.000	4	25.000	4	40.000	0	50.000	-5	60.000	-8
Hexachlorobenzene			10.000	7	20.000	7	32.000	9	40.000	8	50.000	3	80.000	-6	100.00	-12	120.00	-18
Pentachlorophenol					20.000	-3	32.000	4	40.000	6	50.000	6	80.000	0	100.00	-5	120.00	-8
Phenanthrene	2.0000	3	5.0000	3	10.000	3	16.000	6	20.000	5	25.000	2	40.000	-2	50.000	-7	60.000	-13
Anthracene	2.0000	1	5.0000	3	10.000	5	16.000	5	20.000	5	25.000	3	40.000	-2	50.000	-7	60.000	-12
Di-n-butylphthalate					10.000	0	16.000	3	20.000	5	25.000	4	40.000	0	50.000	-4	60.000	-8
Fluoranthene	2.0000	0	5.0000	2	10.000	2	16.000	5	20.000	6	25.000	4	40.000	-2	50.000	-7	60.000	-10
Pyrene	2.0000	-2	5.0000	1	10.000	1	16.000	4	20.000	5	25.000	3	40.000	-1	50.000	-3	60.000	-8
Butylbenzylphthalate					10.000	-8	16.000	-2	20.000	1	25.000	2	40.000	3	50.000	4	60.000	1
3,3'-Dichlorobenzidine					20.000	**-26**	32.000	4	40.000	10	50.000	13	80.000	6	100.00	0	120.00	-7
Benzo(a)anthracene	2.0000	0	5.0000	-2	10.000	-1	16.000	3	20.000	2	25.000	3	40.000	1	50.000	-1	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	2	16.000	10	20.000	13	25.000	11	40.000	-1	50.000	-11	60.000	**-23**
Chrysene	2.0000	-2	5.0000	1	10.000	1	16.000	3	20.000	4	25.000	3	40.000	-1	50.000	-3	60.000	-6
Di-n-octylphthalate					10.000	-14	16.000	-5	20.000	0	25.000	2	40.000	5	50.000	5	60.000	5
Benzo(b)fluoranthene	2.0000	-16	5.0000	-10	10.000	-6	16.000	-1	20.000	1	25.000	1	40.000	8	50.000	11	60.000	13
Benzo(k)fluoranthene	2.0000	-8	5.0000	-4	10.000	-2	16.000	6	20.000	8	25.000	7	40.000	2	50.000	-2	60.000	-6
Benzo(a)pyrene	2.0000	-17	5.0000	-10	10.000	-6	16.000	1	20.000	6	25.000	5	40.000	7	50.000	6	60.000	7
Indeno(1,2,3-cd)pyrene	2.0000	-19	5.0000	-12	10.000	-8	16.000	1	20.000	4	25.000	6	40.000	9	50.000	9	60.000	10
Dibenz(a,h)anthracene	2.0000	-19	5.0000	-12	10.000	-7	16.000	1	20.000	4	25.000	6	40.000	9	50.000	8	60.000	9
Benzo(g,h,i)perylene	2.0000	-11	5.0000	-11	10.000	-13	16.000	-1	20.000	3	25.000	6	40.000	9	50.000	9	60.000	10
2-Fluorophenol	2.0000	-5	5.0000	-6	10.000	-3	16.000	0	20.000	1	25.000	1	40.000	4	50.000	3	60.000	6
Phenol-d5	2.0000	-6	5.0000	-7	10.000	-4	16.000	0	20.000	0	25.000	1	40.000	4	50.000	6	60.000	6
Nitrobenzene-d5	2.0000	-9	5.0000	-7	10.000	-3	16.000	1	20.000	1	25.000	3	40.000	6	50.000	4	60.000	6
2-Fluorobiphenyl	2.0000	3	5.0000	4	10.000	6	16.000	6	20.000	5	25.000	2	40.000	-5	50.000	-8	60.000	-13
2,4,6-Tribromophenol	2.0000	-17	5.0000	-8	10.000	0	16.000	8	20.000	9	25.000	9	40.000	4	50.000	0	60.000	-5
Terphenyl-d14	2.0000	-2	5.0000	3	10.000	3	16.000	6	20.000	6	25.000	4	40.000	-2	50.000	-6	60.000	-11

NPM 03/16/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/16/15 [Benzoic acid]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Chloroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Nitroaniline]: Corrected automatically drawn baseline in ICAL (xcc08).

NPM 03/16/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (xcc08).

NPM 03/16/15 [3-Nitroaniline]: Corrected automatically drawn baseline in ICAL (xcc09).

NPM 03/16/15 [Acenaphthene]: Corrected automatically drawn baseline in ICAL (xcc11).

NPM 03/16/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/16/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/16/15 [4-Nitroaniline]: Picked or reassigned peak in ICAL (xcc13).

NPM 03/16/15 [Aniline]: Corrected automatically drawn baseline in ICAL (xcc14).

NPM 03/16/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (xcc14).

NPM 03/16/15 [Resorcinol]: Picked or reassigned peak in ICAL (xcc14).

NPM 03/16/15 [4-Nitrophenol]: Picked or reassigned peak in ICAL (xcc14).

NPM 03/16/15 [Chrysene]: Corrected automatically drawn baseline in ICAL (xcc14).

KMH 04/01/15 : cut 2 loops to improve benzidine

KMH 04/07/15 : cut 4 loops to improve benzidine

Analyst: NPM Date: 03/16/15 Reviewer: LW Date: 03/18/15

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA05 Name : 6PTBNA5
Calnum : 545102874001 Cal Date : 12-MAR-2015

ICV 545102874015 (xcc15 12-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	38.49	ug/mL	-4	30	
Phenol	40.00	38.65	ug/mL	-3	20	
bis(2-Chloroethyl)ether	40.00	38.90	ug/mL	-3	30	
2-Chlorophenol	40.00	39.02	ug/mL	-2	30	
1,3-Dichlorobenzene	40.00	39.82	ug/mL	0	30	
1,4-Dichlorobenzene	40.00	40.44	ug/mL	1	20	
Benzyl alcohol	40.00	39.18	ug/mL	-2	30	
1,2-Dichlorobenzene	40.00	40.50	ug/mL	1	30	
2-Methylphenol	40.00	39.62	ug/mL	-1	30	
bis(2-Chloroisopropyl) ether	40.00	37.41	ug/mL	-6	30	
4-Methylphenol	40.00	35.78	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.12	ug/mL	-5	30	
Hexachloroethane	40.00	39.69	ug/mL	-1	30	
Nitrobenzene	40.00	37.95	ug/mL	-5	30	
Isophorone	40.00	38.50	ug/mL	-4	30	
2-Nitrophenol	40.00	38.83	ug/mL	-3	20	
2,4-Dimethylphenol	40.00	37.81	ug/mL	-5	30	
bis(2-Chloroethoxy)methane	40.00	38.47	ug/mL	-4	30	
Benzoic acid	100.0	101.4	ug/mL	1	40	
2,4-Dichlorophenol	40.00	39.74	ug/mL	-1	20	
1,2,4-Trichlorobenzene	40.00	40.30	ug/mL	1	30	
Naphthalene	40.00	36.88	ug/mL	-8	30	
4-Chloroaniline	40.00	36.74	ug/mL	-8	30	
Hexachlorobutadiene	40.00	40.15	ug/mL	0	20	
4-Chloro-3-methylphenol	40.00	38.55	ug/mL	-4	20	
2-Methylnaphthalene	40.00	38.36	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	34.92	ug/mL	-13	40	
2,4,6-Trichlorophenol	40.00	39.06	ug/mL	-2	20	
2,4,5-Trichlorophenol	40.00	39.73	ug/mL	-1	30	
2-Chloronaphthalene	40.00	37.54	ug/mL	-6	30	
2-Nitroaniline	40.00	37.52	ug/mL	-6	30	
Dimethylphthalate	40.00	39.80	ug/mL	-1	30	
2,6-Dinitrotoluene	40.00	39.92	ug/mL	0	30	
Acenaphthylene	40.00	38.30	ug/mL	-4	30	
3-Nitroaniline	40.00	39.62	ug/mL	-1	30	
Acenaphthene	40.00	38.08	ug/mL	-5	20	
2,4-Dinitrophenol	40.00	38.34	ug/mL	-4	40	
4-Nitrophenol	40.00	38.79	ug/mL	-3	40	
Dibenzofuran	40.00	38.54	ug/mL	-4	30	
2,4-Dinitrotoluene	40.00	40.31	ug/mL	1	30	
Diethylphthalate	40.00	37.58	ug/mL	-6	30	
Fluorene	40.00	37.23	ug/mL	-7	30	
4-Chlorophenyl-phenylether	40.00	37.17	ug/mL	-7	40	
4-Nitroaniline	40.00	38.39	ug/mL	-4	30	
4,6-Dinitro-2-methylphenol	40.00	38.95	ug/mL	-3	30	
N-Nitrosodiphenylamine	40.00	43.75	ug/mL	9	20	
Azobenzene	40.00	37.96	ug/mL	-5	30	
4-Bromophenyl-phenylether	40.00	37.74	ug/mL	-6	30	
Hexachlorobenzene	40.00	39.02	ug/mL	-2	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.87	ug/mL	-3	20	
Phenanthrene	40.00	36.98	ug/mL	-8	30	
Anthracene	40.00	36.95	ug/mL	-8	30	
Di-n-butylphthalate	40.00	37.13	ug/mL	-7	30	
Fluoranthene	40.00	37.13	ug/mL	-7	20	
Pyrene	40.00	35.91	ug/mL	-10	30	
Butylbenzylphthalate	40.00	39.32	ug/mL	-2	30	
3,3'-Dichlorobenzidine	60.00	61.39	ug/mL	2	40	
Benzo(a)anthracene	40.00	38.52	ug/mL	-4	30	
bis(2-Ethylhexyl)phthalate	40.00	41.01	ug/mL	3	30	
Chrysene	40.00	37.65	ug/mL	-6	30	
Di-n-octylphthalate	40.00	39.43	ug/mL	-1	20	
Benzo(b)fluoranthene	40.00	41.69	ug/mL	4	30	
Benzo(k)fluoranthene	40.00	40.55	ug/mL	1	30	
Benzo(a)pyrene	40.00	40.97	ug/mL	2	20	
Indeno(1,2,3-cd)pyrene	40.00	41.05	ug/mL	3	30	
Dibenz(a,h)anthracene	40.00	40.56	ug/mL	1	30	
Benzo(g,h,i)perylene	40.00	40.53	ug/mL	1	30	

Analyst: NPM Date: 03/16/15 Reviewer: LW Date: 03/18/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266374 MSBNA Soil: EPA 8270C

Inst : MSBNA06
Calnum : 555120229001
Units : ug/mL

Name : 6PTBNA6
Date : 24-MAR-2015 16:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	yco11	555120229011	ICAL	24-MAR-2015 16:49	S26474
L2	yco12	555120229012	ICAL	24-MAR-2015 17:25	S26475
L3	yco13	555120229013	ICAL	24-MAR-2015 18:01	S26476
L4	yco14	555120229014	ICAL	24-MAR-2015 18:37	S26477
L5	yco15	555120229015	ICAL	24-MAR-2015 19:14	S26478
L6	yco16	555120229016	ICAL	24-MAR-2015 19:50	S26479
L7	yco17	555120229017	ICAL	24-MAR-2015 20:28	S26480
L8	yco18	555120229018	ICAL	24-MAR-2015 21:07	S26481
L9	yco19	555120229019	ICAL	24-MAR-2015 21:45	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		1.3307	1.5049	1.5667	1.5813	1.5648	1.5018	1.4510	1.4252	AVRG		0.67079		1.4908	6	15	0.05	0.99	
Phenol		1.9695	2.0270	2.0160	2.0056	1.9671	1.8901m	1.8366	1.8444	AVRG		0.51426		1.9445	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4461m	1.4290	1.3624	1.3572	1.3154	1.2739m	1.2380m	1.1616m	AVRG		0.75588		1.3230	7	15	0.05	0.99	
2-Chlorophenol		1.4296	1.4027	1.3955	1.3856	1.3703	1.3500	1.3245	1.3346	AVRG		0.72775		1.3741	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.6099	1.5785	1.6009	1.5877	1.5642	1.5471	1.5097	1.5014	AVRG		0.64003		1.5624	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.3648	1.4121	1.4292	1.4382	1.4403	1.4327	1.3968	1.3932	AVRG		0.70751		1.4134	2	15	0.05	0.99	
Benzyl alcohol		0.8185	0.8487	0.8633	0.8820	0.8744	0.8778	0.8696	0.9000	AVRG		1.15369		0.8668	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.3102	1.3492	1.3631	1.3718	1.3595	1.3462	1.3013	1.2875	AVRG		0.74844		1.3361	2	15	0.05	0.99	
2-Methylphenol		0.9195	0.9763	1.0087	1.0056	1.0074	0.9979	0.9952	0.9896	AVRG		1.01263		0.9875	3	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.2241	2.2134	2.1602	2.1669	2.0843	1.9565	1.8476	1.7731	AVRG		0.48703		2.0533	8	15	0.05	0.99	
4-Methylphenol		1.3922	1.4729	1.5322	1.5346	1.5309	1.5442			AVRG		0.66614		1.5012	4	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7996	0.8268	0.8338	0.8228	0.8144	0.8159	0.8207	0.8394	AVRG		1.21704		0.8217	1	15	0.050	0.99	
Hexachloroethane		0.6099	0.6399	0.6636	0.6651	0.6567	0.6506	0.6292	0.6224	AVRG		1.55722		0.6422	3	15	0.05	0.99	
Nitrobenzene		0.4583	0.4571	0.4507	0.4481	0.4352	0.4306	0.4150	0.4084	AVRG		2.28354		0.4379	4	15	0.05	0.99	
Isophorone		0.8707	0.8475	0.8545	0.8571	0.8579	0.8761	0.8670	0.8633	AVRG		1.16040		0.8618	1	15	0.05	0.99	
2-Nitrophenol			0.2131	0.2163	0.2150	0.2127	0.2127	0.1999	0.1979m	AVRG		4.76986		0.2096	4	15	0.05	0.99	
2,4-Dimethylphenol		0.4380	0.4121	0.4151	0.4090	0.3974	0.3924	0.3815	0.3748	AVRG		2.48433		0.4025	5	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4570	0.4568	0.4590	0.4562	0.4473	0.4452	0.4523	AVRG		2.20555		0.4534	1	15	0.05	0.99	
Benzoic acid		0.2757	0.2779	0.2941	0.2980	0.3000	0.3133	0.3098	0.3153	AVRG		3.35561		0.2980	5	15	0.05	0.99	
2,4-Dichlorophenol		0.3561	0.3561	0.3505	0.3486	0.3438	0.3395	0.3273	0.3274	AVRG		2.90992		0.3437	3	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4247	0.4272	0.4262	0.4240	0.4170	0.4107	0.3941	0.3797	AVRG		2.42160		0.4130	4	15	0.05	0.99	
Naphthalene	0.9607	0.9619	0.9757	1.0059	1.0108	1.0216	1.0334	1.0014	0.9916	AVRG		1.00413		0.9959	3	15	0.05	0.99	
4-Chloroaniline		0.2778m	0.4133	0.4290	0.4372	0.4397	0.4464	0.4483	0.4484	LINR	2.53671	2.17378		0.4175	1.000	15	0.05	0.99	
Hexachlorobutadiene		0.2729	0.2791	0.2765	0.2751	0.2735	0.2641	0.2475	0.2390	AVRG		3.75983		0.2660	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3650	0.3791	0.3879	0.3929	0.3867	0.3839	0.3692	0.3635	AVRG		2.64186		0.3785	3	15	0.05	0.99	
2-Methylnaphthalene	0.7688	0.7984	0.7990	0.8056	0.8029	0.7920	0.7868	0.7868	0.7849	AVRG		1.26311		0.7917	1	15	0.05	0.99	
Hexachlorocyclopentadiene			0.4175	0.4629	0.4606	0.4598	0.4657	0.4554	0.4526	AVRG		2.20520		0.4535	4	15	0.050	0.99	
2,4,6-Trichlorophenol		0.5108	0.5151	0.5253	0.5305	0.5212	0.5223	0.5169	0.5141	AVRG		1.92486		0.5195	1	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5272	0.5254	0.5407	0.5269	0.5333	0.5193m	0.5067m	0.5018m	AVRG		1.91329		0.5227	2	15	0.05	0.99	
2-Chloronaphthalene			1.2826	1.2727	1.2799	1.2731	1.3165	1.3135	1.3197	AVRG		0.77280		1.2940	2	15	0.05	0.99	
2-Nitroaniline			0.4727	0.4755	0.4756	0.4714	0.4714	0.4687	0.4649	AVRG		2.12101		0.4715	1	15	0.05	0.99	
Dimethylphthalate		1.6348	1.5826	1.6120	1.5945	1.5671	1.5458	1.5182	1.4903	AVRG		0.63769		1.5682	3	15	0.05	0.99	
2,6-Dinitrotoluene		0.3531	0.3472	0.3519	0.3515	0.3490	0.3529	0.3508	0.3508	AVRG		2.84971		0.3509	1	15	0.05	0.99	
Acenaphthylene	2.1002	2.0135	2.0049	2.0617	2.0463	2.0337	2.0195	1.9932	1.9637	AVRG		0.49351		2.0263	2	15	0.05	0.99	
3-Nitroaniline			0.3257	0.3567	0.3422	0.3477	0.3703	0.3726	0.3817	AVRG		2.80345		0.3567	6	15	0.05	0.99	
Acenaphthene	0.9997	1.0447	1.0995	1.1208	1.1639	1.1368	1.1555	1.1330	1.1485	AVRG		0.89977		1.1114	5	15	0.05	0.99	
2,4-Dinitrophenol			0.1275	0.1699	0.1861	0.2018	0.2276	0.2439	0.2520	LINR	12.6402	3.59390		0.2013	0.999	15	0.050	0.99	
4-Nitrophenol			0.2513	0.2633	0.2634	0.2588	0.2656	0.2618	0.2665	AVRG		3.82385		0.2615	2	15	0.050	0.99	
Dibenzofuran			1.7589	1.8052	1.7751	1.7665	1.7223	1.6703	1.6326	AVRG		0.57705		1.7330	4	15	0.05	0.99	
2,4-Dinitrotoluene		0.4359	0.4485	0.4708	0.4706	0.4627	0.4710	0.4598	0.4515	AVRG		2.17929		0.4589	3	15	0.05	0.99	
Diethylphthalate			1.6170	1.6367	1.6220	1.6175	1.6078	1.5897	1.5792	AVRG		0.62112		1.6100	1	15	0.05	0.99	
Fluorene	1.6226	1.5719	1.5459	1.5586	1.5500	1.5174	1.5094	1.4840	1.4762	AVRG		0.65048		1.5373	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.8797	0.9042	0.9056	0.9012	0.9076	0.9000	0.8836	AVRG		1.11432		0.8974	1	15	0.05	0.99	
4-Nitroaniline			0.2764	0.3172	0.3121	0.3216	0.3229	0.3471m	0.3557m	AVRG		3.10689		0.3219	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1206	0.1336	0.1366	0.1373	0.1398	0.1387		AVRG		7.43742		0.1345	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5197	0.5248	0.5079	0.5025	0.4914	0.4764	0.4736	AVRG		2.00213		0.4995	4	15	0.05	0.99	
Azobenzene			0.7569	0.7592	0.7378	0.7211	0.6852	0.6636	0.6477	AVRG		1.40800		0.7102	6	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2626	0.2680	0.2714	0.2623	0.2604	0.2594	0.2577	AVRG		3.80070		0.2631	2	15	0.05	0.99	
Hexachlorobenzene		0.2648	0.2682	0.2661	0.2635	0.2590	0.2491	0.2397	0.2356	AVRG		3.91004		0.2558	5	15	0.05	0.99	
Pentachlorophenol			0.1812	0.1931	0.1936	0.1948	0.1900	0.1854	0.1865	AVRG		5.28472		0.1892	3	15	0.05	0.99	
Phenanthrene	0.9926	0.9600	0.9733	0.9920	0.9947	0.9906	0.9772	0.9450	0.9264	AVRG		1.02837		0.9724	2	15	0.05	0.99	
Anthracene	1.0259	1.0143	1.0354	1.0485	1.0387	1.0179	0.9925	0.9568	0.9377	AVRG		0.99252		1.0075	4	15	0.05	0.99	
Di-n-butylphthalate			1.4071	1.4334	1.3907	1.3864	1.3197	1.2570	1.2310	AVRG		0.74268		1.3465	6	15	0.05	0.99	
Fluoranthene	1.4760	1.5076	1.5402	1.5657	1.5490	1.5121	1.4585	1.3900	1.3492	AVRG		0.67424		1.4832	5	15	0.05	0.99	
Pyrene	1.4880	1.5248	1.5498	1.5415	1.5294	1.5163	1.4611	1.4263	1.4204	AVRG		0.66877		1.4953	3	15	0.05	0.99	
Butylbenzylphthalate			0.6557	0.6894	0.6917	0.6817	0.6832	0.6651	0.6668	AVRG		1.47877		0.6762	2	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4727	0.5582	0.5682	0.5739	0.5553	0.5292	0.5140	AVRG		1.85603		0.5388	7	15	0.05	0.99	
Benzo(a)anthracene	1.3345	1.2972	1.2579	1.2635	1.2511	1.2234	1.2144	1.1929	1.1952	AVRG		0.80142		1.2478	4	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.8762	0.8850	0.8678	0.8522	0.7779	0.7434	0.7394	AVRG		1.21911		0.8203	8	15	0.05	0.99	
Chrysene	0.9999	1.0134	1.0620	1.1125	1.1374	1.1450	1.1486	1.1555	1.1685	AVRG		0.90519		1.1047	6	15	0.05	0.99	
Di-n-octylphthalate			1.4977	1.5796	1.5701	1.5542	1.5191	1.4824	1.4551	AVRG		0.65678		1.5226	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.2561	1.3048	1.3017	1.3778	1.3660	1.3628	1.3695	1.3850	1.4287	AVRG		0.74058		1.3503	4	15	0.05	0.99	
Benzo(k)fluoranthene	1.2230m	1.2015m	1.1886m	1.1833	1.1623	1.1420	1.0799	1.0125m	0.9631m	AVRG		0.88617		1.1285	8	15	0.05	0.99	
Benzo(a)pyrene	1.2255	1.2461	1.2709	1.3029	1.3162	1.2847	1.2896	1.2611	1.2502	AVRG		0.78622		1.2719	2	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.2470	1.3168	1.3470	1.4514	1.4416	1.4487	1.4266	1.3925	1.3754	AVRG		0.72306		1.3830	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.9899	1.0624	1.0695	1.1269	1.1019	1.0882	1.0711	1.0528	1.0426	AVRG		0.93698		1.0673	4	15	0.05	0.99	
Benzo(g,h,i)perylene	1.0827	1.0273	1.0271	1.1077	1.1328	1.1182	1.1101	1.0822	1.0808	AVRG		0.92128		1.0854	3	15	0.05	0.99	
2-Fluorophenol	1.4394	1.5826	1.6954	1.7335	1.7446	1.6983	1.6762	1.6688	1.6873	AVRG		0.60297		1.6585	6	15	0.05	0.99	
Phenol-d5	1.8330	1.9930	2.1586	2.1984	2.1661	2.1589	2.1145	2.0687	2.0608	AVRG		0.47995		2.0836	5	15	0.05	0.99	
Nitrobenzene-d5	0.5404	0.5262	0.5215	0.5153	0.5180	0.5049	0.5102	0.5004	0.4983	AVRG		1.94163		0.5150	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7758	1.7475	1.6289	1.6053	1.5848	1.5576	1.5885	1.5622	1.5587	AVRG		0.61604		1.6233	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.2560	0.2710	0.2730	0.2806	0.2830	0.2810	0.2965	0.2989	0.3019	AVRG		3.54068		0.2824	5	15	0.05	0.99	
Terphenyl-d14	1.0974	1.1340	1.1399	1.1837	1.1796	1.1680	1.1436	1.1164	1.1239	AVRG		0.87494		1.1429	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-11	20.000	1	32.000	5	40.000	6	50.000	5	80.000	1	100.00	-3	120.00	-4
Phenol			10.000	1	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-5
bis(2-Chloroethyl)ether			10.000	9	20.000	8	32.000	3	40.000	3	50.000	-1	80.000	-4	100.00	-6	120.00	-12
2-Chlorophenol			10.000	4	20.000	2	32.000	2	40.000	1	50.000	0	80.000	-2	100.00	-4	120.00	-3
1,3-Dichlorobenzene			10.000	3	20.000	1	32.000	2	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-4
1,4-Dichlorobenzene			10.000	-3	20.000	0	32.000	1	40.000	2	50.000	2	80.000	1	100.00	-1	120.00	-1
Benzyl alcohol			10.000	-6	20.000	-2	32.000	0	40.000	2	50.000	1	80.000	1	100.00	0	120.00	4
1,2-Dichlorobenzene			10.000	-2	20.000	1	32.000	2	40.000	3	50.000	2	80.000	1	100.00	-3	120.00	-4
2-Methylphenol			10.000	-7	20.000	-1	32.000	2	40.000	2	50.000	2	80.000	1	100.00	1	120.00	0
bis(2-Chloroisopropyl) ether			10.000	8	20.000	8	32.000	5	40.000	6	50.000	2	80.000	-5	100.00	-10	120.00	-14
4-Methylphenol			10.000	-7	20.000	-2	32.000	2	40.000	2	50.000	2	80.000	3				
N-Nitroso-di-n-propylamine			10.000	-3	20.000	1	32.000	1	40.000	0	50.000	-1	80.000	-1	100.00	0	120.00	2
Hexachloroethane			10.000	-5	20.000	0	32.000	3	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	5	20.000	4	32.000	3	40.000	2	50.000	-1	80.000	-2	100.00	-5	120.00	-7
Isophorone			10.000	1	20.000	-2	32.000	-1	40.000	-1	50.000	0	80.000	2	100.00	1	120.00	0
2-Nitrophenol					20.000	2	32.000	3	40.000	3	50.000	1	80.000	1	100.00	-5	120.00	-6
2,4-Dimethylphenol			10.000	9	20.000	2	32.000	3	40.000	2	50.000	-1	80.000	-3	100.00	-5	120.00	-7
bis(2-Chloroethoxy)methane					10.000	1	16.000	1	20.000	1	25.000	1	40.000	-1	50.000	-2	60.000	0
Benzoic acid			50.000	-7	60.000	-7	80.000	-1	90.000	0	100.00	1	120.00	5	130.00	4	140.00	6
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	2	40.000	1	50.000	0	80.000	-1	100.00	-5	120.00	-5
1,2,4-Trichlorobenzene			10.000	3	20.000	3	32.000	3	40.000	3	50.000	1	80.000	-1	100.00	-5	120.00	-8
Naphthalene	2.0000	-4	5.0000	-3	10.000	-2	16.000	1	20.000	1	25.000	3	40.000	4	50.000	1	60.000	0
4-Chloroaniline			10.000	-13	20.000	3	32.000	1	40.000	1	50.000	1	80.000	0	100.00	0	120.00	0
Hexachlorobutadiene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	3	80.000	-1	100.00	-7	120.00	-10
4-Chloro-3-methylphenol			10.000	-4	20.000	0	32.000	2	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-4
2-Methylnaphthalene	2.0000	-3	5.0000	1	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-1	50.000	-1	60.000	-1
Hexachlorocyclopentadiene					20.000	-8	32.000	2	40.000	2	50.000	1	80.000	3	100.00	0	120.00	0
2,4,6-Trichlorophenol			10.000	-2	20.000	-1	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-1	120.00	-1
2,4,5-Trichlorophenol			10.000	1	20.000	1	32.000	3	40.000	1	50.000	2	80.000	-1	100.00	-3	120.00	-4
2-Chloronaphthalene					10.000	-1	16.000	-2	20.000	-1	25.000	-2	40.000	2	50.000	2	60.000	2
2-Nitroaniline					20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-1
Dimethylphthalate			10.000	4	20.000	1	32.000	3	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-5
2,6-Dinitrotoluene			10.000	1	20.000	-1	32.000	0	40.000	0	50.000	-1	80.000	1	100.00	0	120.00	0
Acenaphthylene	2.0000	4	5.0000	-1	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-3
3-Nitroaniline					20.000	-9	32.000	0	40.000	-4	50.000	-3	80.000	4	100.00	4	120.00	7
Acenaphthene	2.0000	-10	5.0000	-6	10.000	-1	16.000	1	20.000	5	25.000	2	40.000	4	50.000	2	60.000	3
2,4-Dinitrophenol					20.000	9	32.000	1	40.000	-2	50.000	-2	80.000	-2	100.00	0	120.00	1
4-Nitrophenol					20.000	-4	32.000	1	40.000	1	50.000	-1	80.000	2	100.00	0	120.00	2
Dibenzofuran					10.000	1	16.000	4	20.000	2	25.000	2	40.000	-1	50.000	-4	60.000	-6
2,4-Dinitrotoluene			10.000	-5	20.000	-2	32.000	3	40.000	3	50.000	1	80.000	3	100.00	0	120.00	-2
Diethylphthalate					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-2
Fluorene	2.0000	6	5.0000	2	10.000	1	16.000	1	20.000	1	25.000	-1	40.000	-2	50.000	-3	60.000	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-2	16.000	1	20.000	1	25.000	0	40.000	1	50.000	0	60.000	-2
4-Nitroaniline					20.000	-14	32.000	-1	40.000	-3	50.000	0	80.000	0	100.00	8	120.00	11
4,6-Dinitro-2-methylphenol					20.000	-10	32.000	-1	40.000	2	50.000	2	80.000	4	100.00	3		
N-Nitrosodiphenylamine					10.000	4	16.000	5	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Azobenzene					10.000	7	16.000	7	20.000	4	25.000	2	40.000	-4	50.000	-7	60.000	-9
4-Bromophenyl-phenylether					10.000	0	16.000	2	20.000	3	25.000	0	40.000	-1	50.000	-1	60.000	-2
Hexachlorobenzene			10.000	4	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-8
Pentachlorophenol					20.000	-4	32.000	2	40.000	2	50.000	3	80.000	0	100.00	-2	120.00	-1
Phenanthrene	2.0000	2	5.0000	-1	10.000	0	16.000	2	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-5
Anthracene	2.0000	2	5.0000	1	10.000	3	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-5	60.000	-7
Di-n-butylphthalate					10.000	5	16.000	6	20.000	3	25.000	3	40.000	-2	50.000	-7	60.000	-9
Fluoranthene	2.0000	0	5.0000	2	10.000	4	16.000	6	20.000	4	25.000	2	40.000	-2	50.000	-6	60.000	-9
Pyrene	2.0000	0	5.0000	2	10.000	4	16.000	3	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Butylbenzylphthalate					10.000	-3	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-2	60.000	-1
3,3'-Dichlorobenzidine					20.000	-12	32.000	4	40.000	5	50.000	7	80.000	3	100.00	-2	120.00	-5
Benzo(a)anthracene	2.0000	7	5.0000	4	10.000	1	16.000	1	20.000	0	25.000	-2	40.000	-3	50.000	-4	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	7	16.000	8	20.000	6	25.000	4	40.000	-5	50.000	-9	60.000	-10
Chrysene	2.0000	-9	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	4	40.000	4	50.000	5	60.000	6
Di-n-octylphthalate					10.000	-2	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-3	60.000	-4
Benzo(b)fluoranthene	2.0000	-7	5.0000	-3	10.000	-4	16.000	2	20.000	1	25.000	1	40.000	1	50.000	3	60.000	6
Benzo(k)fluoranthene	2.0000	8	5.0000	6	10.000	5	16.000	5	20.000	3	25.000	1	40.000	-4	50.000	-10	60.000	-15
Benzo(a)pyrene	2.0000	-4	5.0000	-2	10.000	0	16.000	2	20.000	3	25.000	1	40.000	1	50.000	-1	60.000	-2
Indeno(1,2,3-cd)pyrene	2.0000	-10	5.0000	-5	10.000	-3	16.000	5	20.000	4	25.000	5	40.000	3	50.000	1	60.000	-1
Dibenz(a,h)anthracene	2.0000	-7	5.0000	0	10.000	0	16.000	6	20.000	3	25.000	2	40.000	0	50.000	-1	60.000	-2
Benzo(g,h,i)perylene	2.0000	0	5.0000	-5	10.000	-5	16.000	2	20.000	4	25.000	3	40.000	2	50.000	0	60.000	0
2-Fluorophenol	2.0000	-13	5.0000	-5	10.000	2	16.000	5	20.000	5	25.000	2	40.000	1	50.000	1	60.000	2
Phenol-d5	2.0000	-12	5.0000	-4	10.000	4	16.000	6	20.000	4	25.000	4	40.000	1	50.000	-1	60.000	-1
Nitrobenzene-d5	2.0000	5	5.0000	2	10.000	1	16.000	0	20.000	1	25.000	-2	40.000	-1	50.000	-3	60.000	-3
2-Fluorobiphenyl	2.0000	9	5.0000	8	10.000	0	16.000	-1	20.000	-2	25.000	-4	40.000	-2	50.000	-4	60.000	-4
2,4,6-Tribromophenol	2.0000	-9	5.0000	-4	10.000	-3	16.000	-1	20.000	0	25.000	-1	40.000	5	50.000	6	60.000	7
Terphenyl-d14	2.0000	-4	5.0000	-1	10.000	0	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-2	60.000	-2

NPM 03/25/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Phenol]: Picked or reassigned peak in ICAL (yco17).

NPM 03/25/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Aniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [Pyridine]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [4,6-Dinitro-2-methylphenol]: Corrected automatically drawn baseline in ICAL (yco19).

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Name : 6PTBNA6
Calnum : 555120229001 Cal Date : 24-MAR-2015

ICV 555120229020 (yco20 24-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	40.57	ug/mL	1	30	
Phenol	40.00	37.01	ug/mL	-7	20	
bis(2-Chloroethyl)ether	40.00	37.87	ug/mL	-5	30	
2-Chlorophenol	40.00	37.60	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	38.61	ug/mL	-3	30	
1,4-Dichlorobenzene	40.00	38.94	ug/mL	-3	20	
Benzyl alcohol	40.00	38.78	ug/mL	-3	30	
1,2-Dichlorobenzene	40.00	39.81	ug/mL	0	30	
2-Methylphenol	40.00	39.37	ug/mL	-2	30	
bis(2-Chloroisopropyl) ether	40.00	38.86	ug/mL	-3	30	
4-Methylphenol	40.00	35.55	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.03	ug/mL	-5	30	
Hexachloroethane	40.00	39.27	ug/mL	-2	30	
Nitrobenzene	40.00	37.56	ug/mL	-6	30	
Isophorone	40.00	37.96	ug/mL	-5	30	
2-Nitrophenol	40.00	39.52	ug/mL	-1	20	
2,4-Dimethylphenol	40.00	38.75	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.43	ug/mL	-6	30	
Benzoic acid	100.0	98.65	ug/mL	-1	40	
2,4-Dichlorophenol	40.00	38.04	ug/mL	-5	20	
1,2,4-Trichlorobenzene	40.00	39.93	ug/mL	0	30	
Naphthalene	40.00	37.88	ug/mL	-5	30	
4-Chloroaniline	40.00	38.21	ug/mL	-4	30	
Hexachlorobutadiene	40.00	40.43	ug/mL	1	20	
4-Chloro-3-methylphenol	40.00	38.65	ug/mL	-3	20	
2-Methylnaphthalene	40.00	38.28	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	37.15	ug/mL	-7	40	
2,4,6-Trichlorophenol	40.00	38.55	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.89	ug/mL	-3	30	
2-Chloronaphthalene	40.00	37.40	ug/mL	-7	30	
2-Nitroaniline	40.00	37.59	ug/mL	-6	30	
Dimethylphthalate	40.00	37.77	ug/mL	-6	30	
2,6-Dinitrotoluene	40.00	37.29	ug/mL	-7	30	
Acenaphthylene	40.00	36.06	ug/mL	-10	30	
3-Nitroaniline	40.00	36.42	ug/mL	-9	30	
Acenaphthene	40.00	39.17	ug/mL	-2	20	
2,4-Dinitrophenol	40.00	39.87	ug/mL	0	40	
4-Nitrophenol	40.00	37.10	ug/mL	-7	40	
Dibenzofuran	40.00	39.34	ug/mL	-2	30	
2,4-Dinitrotoluene	40.00	40.78	ug/mL	2	30	
Diethylphthalate	40.00	36.54	ug/mL	-9	30	
Fluorene	40.00	36.00	ug/mL	-10	30	
4-Chlorophenyl-phenylether	40.00	37.82	ug/mL	-5	40	
4-Nitroaniline	40.00	37.61	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.56	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	43.60	ug/mL	9	20	
Azobenzene	40.00	35.74	ug/mL	-11	30	
4-Bromophenyl-phenylether	40.00	36.77	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.86	ug/mL	-5	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.02	ug/mL	-5	20	
Phenanthrene	40.00	37.31	ug/mL	-7	30	
Anthracene	40.00	37.43	ug/mL	-6	30	
Di-n-butylphthalate	40.00	36.66	ug/mL	-8	30	
Fluoranthene	40.00	36.56	ug/mL	-9	20	
Pyrene	40.00	35.15	ug/mL	-12	30	
Butylbenzylphthalate	40.00	37.87	ug/mL	-5	30	
3,3'-Dichlorobenzidine	60.00	58.22	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.04	ug/mL	-5	30	
bis(2-Ethylhexyl)phthalate	40.00	37.26	ug/mL	-7	30	
Chrysene	40.00	39.42	ug/mL	-1	30	
Di-n-octylphthalate	40.00	36.91	ug/mL	-8	20	
Benzo(b)fluoranthene	40.00	39.31	ug/mL	-2	30	
Benzo(k)fluoranthene	40.00	37.69	ug/mL	-6	30	
Benzo(a)pyrene	40.00	38.34	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	40.00	38.60	ug/mL	-3	30	
Dibenz(a,h)anthracene	40.00	37.25	ug/mL	-7	30	
Benzo(g,h,i)perylene	40.00	37.66	ug/mL	-6	30	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA05 IDF : 1.0
Seqnum : 545171960003 File : xdt03 Time : 29-APR-2015 10:58
Cal : 545102874001 Caldate : 12-MAR-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.5536	0.5919	40.00	42.77	ug/mL	7	30	0.0500	
Phenol	1.6636	1.7066	40.00	41.03	ug/mL	3	20	0.0500	
bis(2-Chloroethyl)ether	1.1917	1.1376	40.00	38.18	ug/mL	-5	30	0.0500	
2-Chlorophenol	1.4397	1.4149	40.00	39.31	ug/mL	-2	30	0.0500	
1,3-Dichlorobenzene	1.5343	1.6118	40.00	42.02	ug/mL	5	30	0.0500	
1,4-Dichlorobenzene	1.5372	1.6699	40.00	43.45	ug/mL	9	20	0.0500	
Benzyl alcohol	0.9176	0.9104	40.00	39.68	ug/mL	-1	30	0.0500	
1,2-Dichlorobenzene	1.4629	1.5893	40.00	43.46	ug/mL	9	30	0.0500	
2-Methylphenol	1.1253	1.1318	40.00	40.23	ug/mL	1	30	0.0500	
bis(2-Chloroisopropyl) ether	1.4324	1.6343	40.00	45.64	ug/mL	14	30	0.0500	
4-Methylphenol	1.6307	1.6673	40.00	40.90	ug/mL	2	30	0.0500	
N-Nitroso-di-n-propylamine	0.6806	0.7674	40.00	45.10	ug/mL	13	30	0.0500	
Hexachloroethane	0.6209	0.6334	40.00	40.81	ug/mL	2	30	0.0500	
Nitrobenzene	0.3710	0.3437	40.00	37.06	ug/mL	-7	30	0.0500	
Isophorone	0.6529	0.6290	40.00	38.53	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2071	0.2002	40.00	38.67	ug/mL	-3	20	0.0500	
2,4-Dimethylphenol	0.3533	0.3257	40.00	36.87	ug/mL	-8	30	0.0500	
bis(2-Chloroethoxy)methane	0.3894	0.3582	20.00	18.40	ug/mL	-8	30	0.0500	
Benzoic acid	0.2608	0.2360	90.00	81.44	ug/mL	-10	40	0.0500	
2,4-Dichlorophenol	0.2999	0.3091	40.00	41.23	ug/mL	3	20	0.0500	
1,2,4-Trichlorobenzene	0.3209	0.3359	40.00	41.87	ug/mL	5	30	0.0500	
Naphthalene	1.0917	1.0423	20.00	19.09	ug/mL	-5	30	0.0500	
4-Chloroaniline	0.4085	0.4334	40.00	38.40	ug/mL	-4	30	0.0500	
Hexachlorobutadiene	0.1710	0.1834	40.00	42.89	ug/mL	7	20	0.0500	
4-Chloro-3-methylphenol	0.3147	0.3050	40.00	38.76	ug/mL	-3	20	0.0500	
2-Methylnaphthalene	0.7234	0.6796	20.00	18.79	ug/mL	-6	30	0.0500	
Hexachlorocyclopentadiene	0.3693	0.3782	40.00	40.97	ug/mL	2	40	0.0500	
2,4,6-Trichlorophenol	0.4076	0.4335	40.00	42.55	ug/mL	6	20	0.0500	
2,4,5-Trichlorophenol	0.4316	0.4630	40.00	42.91	ug/mL	7	30	0.0500	
2-Chloronaphthalene	1.2707	1.2890	20.00	20.29	ug/mL	1	30	0.0500	
2-Nitroaniline	0.3906	0.3649	40.00	37.37	ug/mL	-7	30	0.0500	
Dimethylphthalate	1.4455	1.4653	40.00	40.55	ug/mL	1	30	0.0500	
2,6-Dinitrotoluene	0.3513	0.3432	40.00	39.08	ug/mL	-2	30	0.0500	
Acenaphthylene	2.0943	2.0645	20.00	19.72	ug/mL	-1	30	0.0500	
3-Nitroaniline	0.3712	0.3648	40.00	39.67	ug/mL	-1	30	0.0500	
Acenaphthene	1.3432	1.2156	20.00	18.10	ug/mL	-9	20	0.0500	
2,4-Dinitrophenol	0.2059	0.1756	40.00	34.11	ug/mL	-15	40	0.0500	
4-Nitrophenol	0.2074	0.2088	40.00	40.27	ug/mL	1	40	0.0500	
Dibenzofuran	1.8185	1.8489	20.00	20.33	ug/mL	2	30	0.0500	
2,4-Dinitrotoluene	0.4686	0.4622	40.00	39.46	ug/mL	-1	30	0.0500	
Diethylphthalate	1.5366	1.5036	20.00	19.57	ug/mL	-2	30	0.0500	
Fluorene	1.5382	1.5791	20.00	20.53	ug/mL	3	30	0.0500	
4-Chlorophenyl-phenylether	0.7083	0.7202	20.00	20.33	ug/mL	2	40	0.0500	
4-Nitroaniline	0.3775	0.3715	40.00	39.36	ug/mL	-2	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1471	0.1413	40.00	38.41	ug/mL	-4	30	0.0500	
N-Nitrosodiphenylamine	0.5994	0.5663	20.00	18.90	ug/mL	-6	20	0.0500	
Azobenzene	0.8083	0.7352	20.00	18.19	ug/mL	-9	30	0.0500	
4-Bromophenyl-phenylether	0.2277	0.2129	20.00	18.70	ug/mL	-7	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2334	0.2209	40.00	37.85	ug/mL	-5	30	0.0500	
Pentachlorophenol	0.1632	0.1568	40.00	38.43	ug/mL	-4	20	0.0500	
Phenanthrene	1.1517	1.1637	20.00	20.21	ug/mL	1	30	0.0500	
Anthracene	1.1636	1.1788	20.00	20.26	ug/mL	1	30	0.0500	
Di-n-butylphthalate	1.3762	1.3243	20.00	19.25	ug/mL	-4	30	0.0500	
Fluoranthene	1.3073	1.2403	20.00	18.98	ug/mL	-5	20	0.0500	
Pyrene	1.3224	1.2883	20.00	19.48	ug/mL	-3	30	0.0500	
Butylbenzylphthalate	0.5998	0.5572	20.00	18.58	ug/mL	-7	30	0.0500	
3,3'-Dichlorobenzidine	0.3727	0.3828	40.00	41.09	ug/mL	3	40	0.0500	
Benzo(a)anthracene	1.2062	1.1995	20.00	19.89	ug/mL	-1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.7753	0.8457	20.00	21.82	ug/mL	9	30	0.0500	
Chrysene	1.1261	1.1363	20.00	20.18	ug/mL	1	30	0.0500	
Di-n-octylphthalate	1.4785	1.5890	20.00	21.49	ug/mL	7	20	0.0500	
Benzo(b)fluoranthene	1.2321	1.2773	20.00	20.73	ug/mL	4	30	0.0500	
Benzo(k)fluoranthene	1.1118	1.1808	20.00	21.24	ug/mL	6	30	0.0500	
Benzo(a)pyrene	1.1538	1.2167	20.00	21.09	ug/mL	5	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3110	1.2507	20.00	19.08	ug/mL	-5	30	0.0500	
Dibenz(a,h)anthracene	1.0892	1.0580	20.00	19.43	ug/mL	-3	30	0.0500	
Benzo(g,h,i)perylene	1.1063	1.0240	20.00	18.51	ug/mL	-7	30	0.0500	
2-Fluorophenol	1.3119	1.3058	20.00	19.91	ug/mL	0	30	0.0500	
Phenol-d5	1.6365	1.6324	20.00	19.95	ug/mL	0	30	0.0500	
Nitrobenzene-d5	0.4090	0.3928	20.00	19.21	ug/mL	-4	30	0.0500	
2-Fluorobiphenyl	1.6601	1.6316	20.00	19.66	ug/mL	-2	30	0.0500	
2,4,6-Tribromophenol	0.2252	0.1982	20.00	17.60	ug/mL	-12	30	0.0500	
Terphenyl-d14	0.9962	0.9571	20.00	19.21	ug/mL	-4	30	0.0500	

KMH 04/29/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 04/29/15 Reviewer: LW Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 IDF : 1.0
Seqnum : 555170972003 File : yds03 Time : 28-APR-2015 18:21
Cal : 555120229001 Caldate : 24-MAR-2015
Standards: S26477

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	1.4908	1.2993	32.00	27.89	ug/mL	-13	30	0.0500	
Phenol	1.9445	1.9472	32.00	32.04	ug/mL	0	20	0.0500	
bis(2-Chloroethyl)ether	1.3230	1.3273	32.00	32.11	ug/mL	0	30	0.0500	
2-Chlorophenol	1.3741	1.3736	32.00	31.99	ug/mL	0	30	0.0500	
1,3-Dichlorobenzene	1.5624	1.5669	32.00	32.09	ug/mL	0	30	0.0500	
1,4-Dichlorobenzene	1.4134	1.4081	32.00	31.88	ug/mL	0	20	0.0500	
Benzyl alcohol	0.8668	0.8323	32.00	30.73	ug/mL	-4	30	0.0500	
1,2-Dichlorobenzene	1.3361	1.3393	32.00	32.08	ug/mL	0	30	0.0500	
2-Methylphenol	0.9875	0.9519	32.00	30.85	ug/mL	-4	30	0.0500	
bis(2-Chloroisopropyl) ether	2.0533	1.9420	32.00	30.27	ug/mL	-5	30	0.0500	
4-Methylphenol	1.5012	1.4678	32.00	31.29	ug/mL	-2	30	0.0500	
N-Nitroso-di-n-propylamine	0.8217	0.7644	32.00	29.77	ug/mL	-7	30	0.0500	
Hexachloroethane	0.6422	0.6387	32.00	31.83	ug/mL	-1	30	0.0500	
Nitrobenzene	0.4379	0.4306	32.00	31.46	ug/mL	-2	30	0.0500	
Isophorone	0.8618	0.8215	32.00	30.51	ug/mL	-5	30	0.0500	
2-Nitrophenol	0.2096	0.2104	32.00	32.11	ug/mL	0	20	0.0500	
2,4-Dimethylphenol	0.4025	0.3601	32.00	28.62	ug/mL	-11	30	0.0500	
bis(2-Chloroethoxy)methane	0.4534	0.4385	16.00	15.47	ug/mL	-3	30	0.0500	
Benzoic acid	0.2980	0.2617	80.00	70.25	ug/mL	-12	40	0.0500	
2,4-Dichlorophenol	0.3437	0.3512	32.00	32.71	ug/mL	2	20	0.0500	
1,2,4-Trichlorobenzene	0.4130	0.4260	32.00	33.01	ug/mL	3	30	0.0500	
Naphthalene	0.9959	0.9685	16.00	15.56	ug/mL	-3	30	0.0500	
4-Chloroaniline	0.4175	0.4105	32.00	31.09	ug/mL	-3	30	0.0500	
Hexachlorobutadiene	0.2660	0.2834	32.00	34.10	ug/mL	7	20	0.0500	
4-Chloro-3-methylphenol	0.3785	0.3839	32.00	32.45	ug/mL	1	20	0.0500	
2-Methylnaphthalene	0.7917	0.7741	16.00	15.64	ug/mL	-2	30	0.0500	
Hexachlorocyclopentadiene	0.4535	0.4454	32.00	31.43	ug/mL	-2	40	0.0500	
2,4,6-Trichlorophenol	0.5195	0.5254	32.00	32.36	ug/mL	1	20	0.0500	
2,4,5-Trichlorophenol	0.5227	0.5342	32.00	32.71	ug/mL	2	30	0.0500	
2-Chloronaphthalene	1.2940	1.2614	16.00	15.60	ug/mL	-3	30	0.0500	
2-Nitroaniline	0.4715	0.4454	32.00	30.23	ug/mL	-6	30	0.0500	
Dimethylphthalate	1.5682	1.6156	32.00	32.97	ug/mL	3	30	0.0500	
2,6-Dinitrotoluene	0.3509	0.3602	32.00	32.84	ug/mL	3	30	0.0500	
Acenaphthylene	2.0263	1.9853	16.00	15.68	ug/mL	-2	30	0.0500	
3-Nitroaniline	0.3567	0.3365	32.00	30.19	ug/mL	-6	30	0.0500	
Acenaphthene	1.1114	1.0973	16.00	15.80	ug/mL	-1	20	0.0500	
2,4-Dinitrophenol	0.2013	0.1839	32.00	33.79	ug/mL	6	40	0.0500	
4-Nitrophenol	0.2615	0.2397	32.00	29.33	ug/mL	-8	40	0.0500	
Dibenzofuran	1.7330	1.7907	16.00	16.53	ug/mL	3	30	0.0500	
2,4-Dinitrotoluene	0.4589	0.4770	32.00	33.26	ug/mL	4	30	0.0500	
Diethylphthalate	1.6100	1.6518	16.00	16.42	ug/mL	3	30	0.0500	
Fluorene	1.5373	1.5406	16.00	16.03	ug/mL	0	30	0.0500	
4-Chlorophenyl-phenylether	0.8974	0.9098	16.00	16.22	ug/mL	1	40	0.0500	
4-Nitroaniline	0.3219	0.3121	32.00	31.02	ug/mL	-3	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1345	0.1404	32.00	33.40	ug/mL	4	30	0.0500	
N-Nitrosodiphenylamine	0.4995	0.5040	16.00	16.15	ug/mL	1	20	0.0500	
Azobenzene	0.7102	0.7007	16.00	15.79	ug/mL	-1	30	0.0500	
4-Bromophenyl-phenylether	0.2631	0.2725	16.00	16.57	ug/mL	4	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2558	0.2788	32.00	34.89	ug/mL	9	30	0.0500	
Pentachlorophenol	0.1892	0.1880	32.00	31.79	ug/mL	-1	20	0.0500	
Phenanthrene	0.9724	0.9831	16.00	16.18	ug/mL	1	30	0.0500	
Anthracene	1.0075	1.0137	16.00	16.10	ug/mL	1	30	0.0500	
Di-n-butylphthalate	1.3465	1.4005	16.00	16.64	ug/mL	4	30	0.0500	
Fluoranthene	1.4832	1.5464	16.00	16.68	ug/mL	4	20	0.0500	
Pyrene	1.4953	1.5419	16.00	16.50	ug/mL	3	30	0.0500	
Butylbenzylphthalate	0.6762	0.6630	16.00	15.69	ug/mL	-2	30	0.0500	
3,3'-Dichlorobenzidine	0.5388	0.6008	32.00	35.68	ug/mL	12	40	0.0500	
Benzo(a)anthracene	1.2478	1.2421	16.00	15.93	ug/mL	0	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.8203	0.8727	16.00	17.02	ug/mL	6	30	0.0500	
Chrysene	1.1047	1.1058	16.00	16.02	ug/mL	0	30	0.0500	
Di-n-octylphthalate	1.5226	1.5581	16.00	16.37	ug/mL	2	20	0.0500	
Benzo(b)fluoranthene	1.3503	1.4117	16.00	16.73	ug/mL	5	30	0.0500	
Benzo(k)fluoranthene	1.1285	1.2008	16.00	17.03	ug/mL	6	30	0.0500	
Benzo(a)pyrene	1.2719	1.3115	16.00	16.50	ug/mL	3	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3830	1.4188	16.00	16.41	ug/mL	3	30	0.0500	
Dibenz(a,h)anthracene	1.0673	1.1067	16.00	16.59	ug/mL	4	30	0.0500	
Benzo(g,h,i)perylene	1.0854	1.1412	16.00	16.82	ug/mL	5	30	0.0500	
2-Fluorophenol	1.6585	1.6366	16.00	15.79	ug/mL	-1	30	0.0500	
Phenol-d5	2.0836	2.1274	16.00	16.34	ug/mL	2	30	0.0500	
Nitrobenzene-d5	0.5150	0.4937	16.00	15.34	ug/mL	-4	30	0.0500	
2-Fluorobiphenyl	1.6233	1.6077	16.00	15.85	ug/mL	-1	30	0.0500	
2,4,6-Tribromophenol	0.2824	0.2867	16.00	16.24	ug/mL	2	30	0.0500	
Terphenyl-d14	1.1429	1.1959	16.00	16.74	ug/mL	5	30	0.0500	

NPM 04/28/15 [Aniline]: Picked or reassigned peak.

Analyst: NPM Date: 04/28/15 Reviewer: LW Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266374 MSBNA Soil
EPA 8270C

Inst : MSBNA06 IDF : 1.0
Seqnum : 555173392003 File : ydu03 Time : 30-APR-2015 10:41
Cal : 555120229001 Caldate : 24-MAR-2015
Standards: S26477

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	1.4908	1.4198	32.00	30.48	ug/mL	-5	30	0.0500	
Phenol	1.9445	1.9414	32.00	31.95	ug/mL	0	20	0.0500	
bis(2-Chloroethyl)ether	1.3230	1.2967	32.00	31.37	ug/mL	-2	30	0.0500	
2-Chlorophenol	1.3741	1.3454	32.00	31.33	ug/mL	-2	30	0.0500	
1,3-Dichlorobenzene	1.5624	1.5503	32.00	31.75	ug/mL	-1	30	0.0500	
1,4-Dichlorobenzene	1.4134	1.4126	32.00	31.98	ug/mL	0	20	0.0500	
Benzyl alcohol	0.8668	0.8242	32.00	30.43	ug/mL	-5	30	0.0500	
1,2-Dichlorobenzene	1.3361	1.3269	32.00	31.78	ug/mL	-1	30	0.0500	
2-Methylphenol	0.9875	0.9507	32.00	30.81	ug/mL	-4	30	0.0500	
bis(2-Chloroisopropyl) ether	2.0533	1.9116	32.00	29.79	ug/mL	-7	30	0.0500	
4-Methylphenol	1.5012	1.4643	32.00	31.21	ug/mL	-2	30	0.0500	
N-Nitroso-di-n-propylamine	0.8217	0.7881	32.00	30.69	ug/mL	-4	30	0.0500	
Hexachloroethane	0.6422	0.6394	32.00	31.86	ug/mL	0	30	0.0500	
Nitrobenzene	0.4379	0.4437	32.00	32.43	ug/mL	1	30	0.0500	
Isophorone	0.8618	0.8279	32.00	30.74	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2096	0.2085	32.00	31.83	ug/mL	-1	20	0.0500	
2,4-Dimethylphenol	0.4025	0.4164	32.00	33.10	ug/mL	3	30	0.0500	
bis(2-Chloroethoxy)methane	0.4534	0.4306	16.00	15.19	ug/mL	-5	30	0.0500	
Benzoic acid	0.2980	0.2080	80.00	55.83	ug/mL	**-30**	40	0.0500	!c-
2,4-Dichlorophenol	0.3437	0.3526	32.00	32.83	ug/mL	3	20	0.0500	
1,2,4-Trichlorobenzene	0.4130	0.4259	32.00	33.00	ug/mL	3	30	0.0500	
Naphthalene	0.9959	0.9604	16.00	15.43	ug/mL	-4	30	0.0500	
4-Chloroaniline	0.4175	0.4251	32.00	32.11	ug/mL	0	30	0.0500	
Hexachlorobutadiene	0.2660	0.2863	32.00	34.44	ug/mL	8	20	0.0500	
4-Chloro-3-methylphenol	0.3785	0.3904	32.00	33.00	ug/mL	3	20	0.0500	
2-Methylnaphthalene	0.7917	0.7895	16.00	15.96	ug/mL	0	30	0.0500	
Hexachlorocyclopentadiene	0.4535	0.3957	32.00	27.92	ug/mL	-13	40	0.0500	
2,4,6-Trichlorophenol	0.5195	0.5050	32.00	31.11	ug/mL	-3	20	0.0500	
2,4,5-Trichlorophenol	0.5227	0.5048	32.00	30.91	ug/mL	-3	30	0.0500	
2-Chloronaphthalene	1.2940	1.2210	16.00	15.10	ug/mL	-6	30	0.0500	
2-Nitroaniline	0.4715	0.4465	32.00	30.31	ug/mL	-5	30	0.0500	
Dimethylphthalate	1.5682	1.5444	32.00	31.52	ug/mL	-2	30	0.0500	
2,6-Dinitrotoluene	0.3509	0.3385	32.00	30.87	ug/mL	-4	30	0.0500	
Acenaphthylene	2.0263	1.9094	16.00	15.08	ug/mL	-6	30	0.0500	
3-Nitroaniline	0.3567	0.3209	32.00	28.79	ug/mL	-10	30	0.0500	
Acenaphthene	1.1114	1.0235	16.00	14.73	ug/mL	-8	20	0.0500	
2,4-Dinitrophenol	0.2013	0.1065	32.00	24.89	ug/mL	**-22**	40	0.0500	!c-
4-Nitrophenol	0.2615	0.2427	32.00	29.70	ug/mL	-7	40	0.0500	
Dibenzofuran	1.7330	1.6819	16.00	15.53	ug/mL	-3	30	0.0500	
2,4-Dinitrotoluene	0.4589	0.4449	32.00	31.03	ug/mL	-3	30	0.0500	
Diethylphthalate	1.6100	1.5565	16.00	15.47	ug/mL	-3	30	0.0500	
Fluorene	1.5373	1.4696	16.00	15.30	ug/mL	-4	30	0.0500	
4-Chlorophenyl-phenylether	0.8974	0.8692	16.00	15.50	ug/mL	-3	40	0.0500	
4-Nitroaniline	0.3219	0.3003	32.00	29.86	ug/mL	-7	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1345	0.1084	32.00	25.80	ug/mL	-19	30	0.0500	
N-Nitrosodiphenylamine	0.4995	0.4786	16.00	15.33	ug/mL	-4	20	0.0500	
Azobenzene	0.7102	0.6686	16.00	15.06	ug/mL	-6	30	0.0500	
4-Bromophenyl-phenylether	0.2631	0.2570	16.00	15.63	ug/mL	-2	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2558	0.2715	32.00	33.97	ug/mL	6	30	0.0500	
Pentachlorophenol	0.1892	0.1529	32.00	25.85	ug/mL	-19	20	0.0500	
Phenanthrene	0.9724	0.9367	16.00	15.41	ug/mL	-4	30	0.0500	
Anthracene	1.0075	0.9610	16.00	15.26	ug/mL	-5	30	0.0500	
Di-n-butylphthalate	1.3465	1.2938	16.00	15.37	ug/mL	-4	30	0.0500	
Fluoranthene	1.4832	1.4747	16.00	15.91	ug/mL	-1	20	0.0500	
Pyrene	1.4953	1.4865	16.00	15.91	ug/mL	-1	30	0.0500	
Butylbenzylphthalate	0.6762	0.6322	16.00	14.96	ug/mL	-7	30	0.0500	
3,3'-Dichlorobenzidine	0.5388	0.5767	32.00	34.25	ug/mL	7	40	0.0500	
Benzo(a)anthracene	1.2478	1.2072	16.00	15.48	ug/mL	-3	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.8203	0.8468	16.00	16.52	ug/mL	3	30	0.0500	
Chrysene	1.1047	1.0431	16.00	15.11	ug/mL	-6	30	0.0500	
Di-n-octylphthalate	1.5226	1.4731	16.00	15.48	ug/mL	-3	20	0.0500	
Benzo(b)fluoranthene	1.3503	1.3351	16.00	15.82	ug/mL	-1	30	0.0500	
Benzo(k)fluoranthene	1.1285	1.1580	16.00	16.42	ug/mL	3	30	0.0500	
Benzo(a)pyrene	1.2719	1.2569	16.00	15.81	ug/mL	-1	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3830	1.3298	16.00	15.39	ug/mL	-4	30	0.0500	
Dibenz(a,h)anthracene	1.0673	1.0471	16.00	15.70	ug/mL	-2	30	0.0500	
Benzo(g,h,i)perylene	1.0854	1.0446	16.00	15.40	ug/mL	-4	30	0.0500	
2-Fluorophenol	1.6585	1.5725	16.00	15.17	ug/mL	-5	30	0.0500	
Phenol-d5	2.0836	2.0273	16.00	15.57	ug/mL	-3	30	0.0500	
Nitrobenzene-d5	0.5150	0.4956	16.00	15.40	ug/mL	-4	30	0.0500	
2-Fluorobiphenyl	1.6233	1.5512	16.00	15.29	ug/mL	-4	30	0.0500	
2,4,6-Tribromophenol	0.2824	0.2662	16.00	15.08	ug/mL	-6	30	0.0500	
Terphenyl-d14	1.1429	1.1394	16.00	15.95	ug/mL	0	30	0.0500	

KMH 04/30/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 04/30/15

!=warning -=low bias c=CCV

555173392003

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 545171960

Date : 04/29/15 Reference : xdt03
Sequence : MSBNA05 xdt Analyzed : 04/29/15 10:58

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	481008	5.62	1952579	7.11	1041473	9.27	2047104	11.12	2180927	14.44	1839191	16.95
		LOWER LIMIT	240504	5.12	976290	6.61	520737	8.77	1023552	10.62	1090464	13.94	919596	16.45
		UPPER LIMIT	962016	6.12	3905158	7.61	2082946	9.77	4094208	11.62	4361854	14.94	3678382	17.45
003	CCV		481008	5.62	1952579	7.11	1041473	9.27	2047104	11.12	2180927	14.44	1839191	16.95
004	BLANK	QC785661	467942	5.62	1881482	7.11	989581	9.27	1867119	11.12	1981584	14.43	1567245	16.95
005	BS	QC785662	535627	5.62	2224771	7.12	1197532	9.27	2350531	11.12	2565832	14.44	2049772	16.96
006	BSD	QC785663	592887	5.62	2414492	7.12	1282676	9.27	2481159	11.12	2691703	14.44	2189507	16.96
007	SAMPLE	266375-002	592394	5.62	2354565	7.11	1257424	9.27	2369986	11.12	2583132	14.44	2369796	16.95
008	SAMPLE	266375-001	571516	5.62	2281963	7.11	1204181	9.27	2320205	11.12	2480978	14.44	2270283	16.96
009	SAMPLE	266343-001	516535	5.62	2082009	7.11	1109718	9.27	2031344	11.12	2146708	14.43	1802856	16.95
010	SAMPLE	266343-002	530917	5.62	2107011	7.11	1115883	9.27	2109952	11.12	2260845	14.44	1959842	16.96
011	SAMPLE	266343-003	538990	5.62	2125193	7.11	1141012	9.27	2112605	11.12	2217220	14.44	1939327	16.96
012	SAMPLE	266374-001	533633	5.62	2140346	7.11	1136613	9.27	2176466	11.12	2320156	14.44	2176459	16.96
013	SAMPLE	266374-012	548863	5.62	2207155	7.12	1265172	9.28	2452143	11.13	2578178	14.44	2361938	16.96
014	SAMPLE	266374-002	566945	5.62	2259246	7.11	1180973	9.27	2220687	11.12	2350803	14.44	2203169	16.96
015	SAMPLE	266374-008	556087	5.62	2218344	7.11	1172186	9.27	2180777	11.12	2346805	14.44	2163795	16.96
016	SAMPLE	266374-005	549301	5.62	2193689	7.11	1140472	9.27	2129315	11.12	2311102	14.44	2227116	16.97

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 555170972

Date : 04/28/15
Sequence : MSBNA06 yds

Reference : yds03
Analyzed : 04/28/15 18:21

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	435607	6.08	1427325	7.57	862769	9.73	1902044	11.58	1928551	14.98	2013689	17.87
		LOWER LIMIT	217804	5.58	713663	7.07	431385	9.23	951022	11.08	964276	14.48	1006845	17.37
		UPPER LIMIT	871214	6.58	2854650	8.07	1725538	10.23	3804088	12.08	3857102	15.48	4027378	18.37
003	CCV		435607	6.08	1427325	7.57	862769	9.73	1902044	11.58	1928551	14.98	2013689	17.87
004	BLANK	QC785799	495945	6.09	1782170	7.57	1079353	9.73	2153734	11.58	2526059	14.98	2555062	17.87
005	LCS	QC785800	379862	6.09	1265485	7.57	838633	9.73	1858981	11.58	1950206	14.98	2276816	17.88
006	SAMPLE	266374-004	506145	6.08	1854128	7.57	1090126	9.72	2131141	11.58	2438493	14.98	2533802	17.87
007	SAMPLE	266374-007	491871	6.08	1780869	7.57	1082260	9.72	2110149	11.58	2373531	14.97	2463048	17.87
008	SAMPLE	266374-015	420621	6.08	1248497	7.58	594294	9.79	1285716	11.64	2076717	14.99	2301391	17.88
009	SAMPLE	266374-021	526501	6.09	1886201	7.57	1129909	9.72	2231513	11.58	2348703	14.98	2361305	17.88
010	SAMPLE	266374-017	486969	6.08	1758043	7.57	1001254	9.72	1719849	11.58	1970789	14.98	2085078	17.88
011	SAMPLE	266374-020	483062	6.08	1742086	7.57	1006607	9.72	1882952	11.58	1871515	14.98	1623467	17.88
012	SAMPLE	266374-022	512262	6.08	1847738	7.57	1071629	9.72	2169154	11.58	2019273	14.98	1517766	17.87
013	SAMPLE	266374-018	535572	6.08	1886809	7.57	1047115	9.72	1852827	11.58	1980470	14.98	1727606	17.87
014	SAMPLE	266374-019	510707	6.08	1875954	7.57	1067941	9.72	2171762	11.58	1958025	14.98	1255397	17.87
015	MSS	266374-011	390731	6.08	924618	7.58	1126 *	9.76	9717 *	11.54	1333562	15.05	877374 *	17.89
016	SAMPLE	266374-014	428903	6.08	1526288	7.57	883200	9.73	1552917	11.58	1712538	14.98	1292459	17.87
017	SAMPLE	266374-013	517802	6.08	1683387	7.57	923679	9.72	1914759	11.58	1955532	14.98	1356272	17.87
018	SAMPLE	266374-009	550705	6.08	1806944	7.57	1036836	9.72	2066477	11.58	2077716	14.97	1434911	17.86
019	SAMPLE	266374-006	543645	6.08	1902737	7.57	1007981	9.73	2018343	11.58	2016120	14.98	1301699	17.87
020	SAMPLE	266374-016	536132	6.08	1786211	7.57	994674	9.73	1970240	11.58	1847268	14.98	1159252	17.86
021	SAMPLE	266374-003	569331	6.08	1909185	7.57	1086582	9.72	2203139	11.58	2009746	14.97	1185298	17.86
022	MS	QC785801	218257	6.08	38558 *	7.58	2127 *	9.75	1808 *	11.58	1142527	15.05	680638 *	17.89
023	MSD	QC785802	333569	6.08	820885	7.58	3077 *	9.74	1146 *	11.47	1326521	15.04	748675 *	17.88

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 555173392

Date : 04/30/15
Sequence : MSBNA06 ydu

Reference : ydu03
Analyzed : 04/30/15 10:41

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	419826	6.08	1356273	7.57	848536	9.73	1873302	11.58	1838562	14.98	1919197	17.88
		LOWER LIMIT	209913	5.58	678137	7.07	424268	9.23	936651	11.08	919281	14.48	959599	17.38
		UPPER LIMIT	839652	6.58	2712546	8.07	1697072	10.23	3746604	12.08	3677124	15.48	3838394	18.38
003	CCV		419826	6.08	1356273	7.57	848536	9.73	1873302	11.58	1838562	14.98	1919197	17.88
004	BLANK	QC785961	601043	6.08	1941339	7.57	1080962	9.73	2186014	11.58	1863589	14.98	2151473	17.88
005	BS	QC785962	402625	6.08	1291721	7.58	820146	9.73	1883248	11.58	1958955	14.99	2367266	17.89
006	BSD	QC785963	363972	6.08	1224783	7.58	756186	9.73	1773132	11.58	1829419	14.99	2178934	17.89
007	SAMPLE	266398-001	463247	6.08	1435941	7.57	878621	9.73	2103962	11.58	2681842	14.98	2726162	17.88
008	SAMPLE	266343-003	500880	6.08	1706492	7.57	1098169	9.73	2286328	11.58	2604805	14.98	2483674	17.88
009	SAMPLE	266374-010	582570	6.08	1993331	7.57	1109244	9.72	2169093	11.58	2365305	14.98	2310088	17.88
010	SAMPLE	266374-015	536502	6.08	1355109	7.57	772547	9.74	1636021	11.59	2220136	14.98	2387856	17.88
011	MSS	266374-011	473818	6.08	1255698	7.58	715012	9.76	1453874	11.61	2140974	14.98	2399554	17.88
012	SAMPLE	266374-001	594880	6.08	1852397	7.57	953602	9.73	1813316	11.59	2168672	14.99	2414574	17.91
013	SAMPLE	266374-002	577593	6.08	1927839	7.57	1000112	9.73	1882012	11.59	2143499	14.99	2371121	17.91
014	SAMPLE	266374-008	584611	6.08	1966140	7.57	1093821	9.73	2202692	11.58	2529006	14.98	2465855	17.89
015	SAMPLE	266377-001	590248	6.08	2013274	7.57	1132693	9.73	2326552	11.58	2561809	14.98	2558084	17.89
016	SAMPLE	266377-002	558199	6.08	1931579	7.57	1076728	9.73	2230908	11.58	2447748	14.98	2456891	17.89
017	SAMPLE	266377-003	586628	6.08	2031643	7.57	1131568	9.73	2336023	11.58	2584562	14.98	2559650	17.89
018	SAMPLE	266397-001	492854	6.08	1693872	7.58	897921	9.73	1964400	11.59	2096937	14.99	2240167	17.90
019	SAMPLE	266389-001	562173	6.08	1902960	7.57	1095272	9.73	2247510	11.58	2011395	14.99	2024888	17.91
020	SAMPLE	266389-002	595554	6.08	2001685	7.57	1169635	9.73	2393543	11.58	2367860	14.98	2376902	17.89
021	SAMPLE	266389-003	568317	6.08	1902636	7.57	1083940	9.73	2058906	11.58	1955855	15.00	1857190	17.93
022	SAMPLE	266389-004	490713	6.09	1693352	7.57	1037578	9.73	2135592	11.58	1963298	14.99	1600473	17.90
023	MSS	266389-006	492565	6.09	1700441	7.57	1019880	9.73	2032530	11.58	1901574	14.99	1359833	17.90

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 545102874

Instrument : MSBNA05 Begun : 03/12/15 10:34
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xcc01	IB	IB			03/12/15 10:34	1.0		?t
002	xcc02	CCV	RFCHECK			03/12/15 11:12	1.0	1	cc- cc+ ?t
003	xcc03	TUN	DFTPP			03/12/15 11:40	1.0	2	t
004	xcc04	CCV	RFCHECK			03/12/15 12:42	1.0	1	t
005	xcc05	TUN	DFTPP			03/12/15 13:14	1.0	2	
006	xcc06	ICAL	ICAL			03/12/15 13:52	1.0	3	
007	xcc07	ICAL	ICAL			03/12/15 14:27	1.0	4	
008	xcc08	ICAL	ICAL			03/12/15 15:05	1.0	5	
009	xcc09	ICAL	ICAL			03/12/15 15:41	1.0	1	
010	xcc10	ICAL	ICAL			03/12/15 16:17	1.0	6	
011	xcc11	ICAL	ICAL			03/12/15 16:53	1.0	7	
012	xcc12	ICAL	ICAL			03/12/15 17:29	1.0	8	
013	xcc13	ICAL	ICAL			03/12/15 18:06	1.0	9	
014	xcc14	ICAL	ICAL			03/12/15 18:41	1.0	10	
015	xcc15	ICV	ICV			03/12/15 19:17	1.0	11	

NPM 03/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 15.

Standards used: 1=S26477 2=S26170 3=S26474 4=S26475 5=S26476 6=S26478 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias -=low bias ?t=missing tune cc=CCV CCC failure t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 545171960

Instrument : MSBNA05 Begun : 04/29/15 10:00
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xdt01	IB	IB			04/29/15 10:00	1.0		?t
002	xdt02	TUN	DFTPP			04/29/15 10:36	1.0	1	
003	xdt03	CCV				04/29/15 10:58	1.0	2	
004	xdt04	BLANK	QC785661	Water	222617	04/29/15 11:35	1.0	3	
005	xdt05	BS	QC785662	Water	222617	04/29/15 12:13	1.0	3	1:MEPH4=69
006	xdt06	BSD	QC785663	Water	222617	04/29/15 12:49	1.0	3	1:MEPH4=63
007	xdt07	SAMPLE	266375-002	Water	222652	04/29/15 13:27	1.0	3	spk
008	xdt08	SAMPLE	266375-001	Water	222617	04/29/15 14:07	1.0	3	
009	xdt09	SAMPLE	266343-001	Water	222617	04/29/15 14:47	10.0	3	diluted (client history)
010	xdt10	SAMPLE	266343-002	Water	222617	04/29/15 15:24	10.0	3	diluted (client history)
011	xdt11	SAMPLE	266343-003	Water	222617	04/29/15 16:01	50.0	3	high NT
012	xdt12	SAMPLE	266374-001	Water	222617	04/29/15 16:40	10.0	3	high NT
013	xdt13	SAMPLE	266374-012	Water	222617	04/29/15 17:16	10.0	3	high NT
014	xdt14	SAMPLE	266374-002	Water	222617	04/29/15 17:53	10.0	3	high NT
015	xdt15	SAMPLE	266374-008	Water	222617	04/29/15 18:30	10.0	3	high NT
016	xdt16	SAMPLE	266374-005	Soil	222651	04/29/15 19:07	10.0	3	

NPM 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 8.

KMH 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Standards used: 1=S26814 2=S26478 3=S26428
Flags used: ?t=missing tune spk=5% spike rule
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555120229

Instrument : MSBNA06 Begun : 03/24/15 11:49
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yco01	IB	IB			03/24/15 11:49	1.0		?t
002	yco02	TUN	DFTPP			03/24/15 12:18	1.0	1	
003	yco03	CCV				03/24/15 12:38	1.0	2	cc+
004	yco04	TUN	DFTPP			03/24/15 13:15	1.0	1	t
005	yco05	TUN	DFTPP			03/24/15 13:30	1.0	1	
006	yco06	CCV				03/24/15 13:51	1.0	2	cc+
007	yco07	TUN	DFTPP			03/24/15 14:39	1.0	1	
008	yco08	CCV				03/24/15 14:57	1.0	2	cc+
009	yco09	TUN	DFTPP			03/24/15 15:50	1.0	1	
010	yco10	CCV				03/24/15 16:12	1.0	2	cc+
011	yco11	ICAL	ICAL			03/24/15 16:49	1.0	3	
012	yco12	ICAL	ICAL			03/24/15 17:25	1.0	4	
013	yco13	ICAL	ICAL			03/24/15 18:01	1.0	5	
014	yco14	ICAL	ICAL			03/24/15 18:37	1.0	6	
015	yco15	ICAL	ICAL			03/24/15 19:14	1.0	2	
016	yco16	ICAL	ICAL			03/24/15 19:50	1.0	7	
017	yco17	ICAL	ICAL			03/24/15 20:28	1.0	8	
018	yco18	ICAL	ICAL			03/24/15 21:07	1.0	9	
019	yco19	ICAL	ICAL			03/24/15 21:45	1.0	10	
020	yco20	ICV	ICV			03/24/15 22:23	1.0	11	

KMH 03/24/15 : tune adjusted after runs 3, 4 & 6. maint done after run 8

NPM 03/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S26170 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias ?t=missing tune cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555170972

Instrument : MSBNA06 Begun : 04/28/15 17:32
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yds01	IB	IB			04/28/15 17:32	1.0		?t
002	yds02	TUN	DFTPP			04/28/15 18:01	1.0	1	
003	yds03	CCV				04/28/15 18:21	1.0	2	
004	yds04	BLANK	QC785799	Soil	222651	04/28/15 19:09	1.0	3	
005	yds05	LCS	QC785800	Soil	222651	04/28/15 19:46	1.0	3	
006	yds06	SAMPLE	266374-004	Soil	222651	04/28/15 20:23	1.0	3	
007	yds07	SAMPLE	266374-007	Soil	222651	04/28/15 21:00	1.0	3	
008	yds08	SAMPLE	266374-015	Soil	222651	04/28/15 21:38	1.0	3	
009	yds09	SAMPLE	266374-021	Soil	222651	04/28/15 22:15	1.0	3	
010	yds10	SAMPLE	266374-017	Soil	222651	04/28/15 22:54	2.0	3	
011	yds11	SAMPLE	266374-020	Soil	222651	04/28/15 23:32	2.0	3	
012	yds12	SAMPLE	266374-022	Soil	222651	04/29/15 00:11	2.0	3	
013	yds13	SAMPLE	266374-018	Soil	222651	04/29/15 00:47	3.0	3	
014	yds14	SAMPLE	266374-019	Soil	222651	04/29/15 01:26	3.0	3	
015	yds15	MSS	266374-011	Soil	222651	04/29/15 02:04	2.0	3	22:NTPH4=39000
016	yds16	SAMPLE	266374-014	Soil	222651	04/29/15 02:41	2.0	3	
017	yds17	SAMPLE	266374-013	Soil	222651	04/29/15 03:20	50.0	3	
018	yds18	SAMPLE	266374-009	Soil	222651	04/29/15 03:57	10.0	3	
019	yds19	SAMPLE	266374-006	Soil	222651	04/29/15 04:36	10.0	3	
020	yds20	SAMPLE	266374-016	Soil	222651	04/29/15 05:17	16.67	3	
021	yds21	SAMPLE	266374-003	Soil	222651	04/29/15 05:53	20.0	3	
022	yds22	MS	QC785801	Soil	222651	04/29/15 06:30	2.0	3	<<t , 28:NNSPH=72000
023	yds23	MSD	QC785802	Soil	222651	04/29/15 07:08	2.0	3	<<t , 14:PHAN=110000

KMH 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

Standards used: 1=S26814 2=S26477 3=S26428
Flags used: <<t=out of clock ?t=missing tune
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555173392

Instrument : MSBNA06 Begun : 04/30/15 09:52
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ydu01	IB	IB			04/30/15 09:52	1.0		?t
002	ydu02	TUN	DFTPP			04/30/15 10:21	1.0	1	
003	ydu03	CCV				04/30/15 10:41	1.0	2	
004	ydu04	BLANK	QC785961	Water	222692	04/30/15 11:21	1.0	3	
005	ydu05	BS	QC785962	Water	222692	04/30/15 11:58	1.0	3	
006	ydu06	BSD	QC785963	Water	222692	04/30/15 12:37	1.0	3	
007	ydu07	SAMPLE	266398-001	Water	222692	04/30/15 13:14	150.0	3	high NT
008	ydu08	SAMPLE	266343-003	Water	222617	04/30/15 13:51	10.0	3	diluted (client history)
009	ydu09	SAMPLE	266374-010	Soil	222651	04/30/15 14:28	100.0	3	
010	ydu10	SAMPLE	266374-015	Soil	222651	04/30/15 15:04	7.143	3	high NT
011	ydu11	MSS	266374-011	Soil	222651	04/30/15 15:39	20.0	3	high NT
012	ydu12	SAMPLE	266374-001	Water	222617	04/30/15 16:16	2.0	3	
013	ydu13	SAMPLE	266374-002	Water	222617	04/30/15 16:52	1.0	3	
014	ydu14	SAMPLE	266374-008	Water	222617	04/30/15 17:28	1.0	3	
015	ydu15	SAMPLE	266377-001	Water	222617	04/30/15 18:04	1.0	3	
016	ydu16	SAMPLE	266377-002	Water	222617	04/30/15 18:40	1.0	3	
017	ydu17	SAMPLE	266377-003	Water	222617	04/30/15 19:16	1.0	3	
018	ydu18	SAMPLE	266397-001	Water	222692	04/30/15 19:53	20.0	3	5:PHAN=250
019	ydu19	SAMPLE	266389-001	Soil	222736	04/30/15 20:30	10.0	3	
020	ydu20	SAMPLE	266389-002	Soil	222736	04/30/15 21:07	10.0	3	
021	ydu21	SAMPLE	266389-003	Soil	222736	04/30/15 21:45	10.0	3	
022	ydu22	SAMPLE	266389-004	Soil	222736	04/30/15 22:22	2.0	3	<<t
023	ydu23	MSS	266389-006	Soil	222736	04/30/15 22:59	2.0	3	<<t

NPM 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 7.

KMH 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

Standards used: 1=S26814 2=S26477 3=S26428
Flags used: <<t=out of clock ?t=missing tune
Page 1 of 1

SAMPLE PREPARATION SUMMARY

Batch # : 222651 Analysis : 8270
Started By : EYL Prep Date : 28-APR-2015 12:32 Finished By : EYL
Method : 3550B SOP Version : 8270_3550_rv15 Units : g
Spike #1 ID : S26606 Spike #2 ID : S26837

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266374-003		Soil	29.87	1	1	0.03348		.4				8270	
266374-004		Soil	29.82	1	1	0.03353		.4				8270	
266374-005		Soil	29.75	1	1	0.03361		.4				8270	
266374-006		Soil	29.71	1	1	0.03366		.4				8270	
266374-007		Soil	30.21	1	1	0.0331		.4				8270	
266374-009		Soil	29.87	1	1	0.03348		.4				8270	
266374-010		Soil	30.14	1	1	0.03318		.4				8270	
266374-011		Soil	29.99	1	1	0.03334		.4				8270	
266374-013		Soil	29.94	1	1	0.0334		.4				8270	
266374-014		Soil	30.42	1	1	0.03287		.4				8270	
266374-015		Soil	30.42	1	1	0.03287		.4				8270	
266374-016		Soil	30.3	1	1	0.033		.4				8270	
266374-017		Soil	29.65	1	1	0.03373		.4				8270	
266374-018		Soil	30.08	1	1	0.03324		.4				8270	
266374-019		Soil	29.83	1	1	0.03352		.4				8270	
266374-020		Soil	30.49	1	1	0.0328		.4				8270	
266374-021		Soil	30.18	1	1	0.03313		.4				8270	
266374-022		Soil	29.97	1	1	0.03337		.4				8270	
QC785799	BLANK	Soil	29.65	1	1	0.03373		.4				8270	
QC785800	LCS	Soil	29.66	1	1	0.03372		.4	1			8270	
QC785801	MS	Soil	29.66	1	1	0.03372		.4	1			8270	
QC785802	MSD	Soil	29.58	1	1	0.03381		.4	1			8270	

KMH 04/29/15 : Matrix spikes QC785801,QC785802 (batch 222651) were not reported because the parent sample required a dilution that would have diluted out the spikes.

Analyst: KMH Date: 04/29/15 Reviewer: LW Date: 04/29/15

BNA Soil Prep Log

Curtis & Tompkins, Ltd.

Page: 61 **BK 3666**

LIMS Batch No: 222651
LIMS Analysis 8270
Date Extracted: 4/28/15

Extraction Method:
☒ EPA 3550b Sonication
☐ Other _____

Cleanup Method (if necessary):
☐ EPA 3640a GPC
☐ Other _____

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
266374-003	G	29.87	☒ 1.0 ☐		
4	↓	29.82	☒ 1.0 ☐		
5	↓	29.75	☒ 1.0 ☐		
6	↓	29.71	☒ 1.0 ☐		
7	H	30.21	☒ 1.0 ☐		
9	G	29.87	☒ 1.0 ☐		
10	↓	30.14	☒ 1.0 ☐		
11	↓	29.99	☒ 1.0 ☐		MSS
13	O	29.94	☒ 1.0 ☐		
14	↓	30.42	☒ 1.0 ☐		
15	↓	30.42	☒ 1.0 ☐		
16	↓	30.30	☒ 1.0 ☐		
17	↓	29.65	☒ 1.0 ☐		
18	↓	30.08	☒ 1.0 ☐		
19	↓	29.83	☒ 1.0 ☐		
20	↓	30.49	☒ 1.0 ☐		
21	V	30.18	☒ 1.0 ☐		
22	G	29.97	☒ 1.0 ☐		
MB QC785799	N/A	29.65	☒ 1.0 ☐		EMXF27F
LCS 500	↓	29.66	☒ 1.0 ☐		↓
MS 801	↓	29.66	☒ 1.0 ☐		266374-011G
MSD 802	↓	29.58	☒ 1.0 ☐		↓
			☐ 1.0 ☐		
			☐ 1.0 ☐		
			☐ 1.0 ☐		

☐ MS/MSD not included due to: ☐ insufficient volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, CH_2Cl_2-rinsed granular Na_2SO_4 used for QC & to dry samples	EMXF27F	EEL 4/28/15
0.4 mL of surrogate solution was added to all samples	S266606B	
1.0 mL of matrix spiking solution was added to all spikes	S268374	
≥100mL 1:1 CH_2Cl_2:Acetone was added to all: CH_2Cl_2	EM54275	
Acetone	EM54318	
Solvent was added at (time)	12:32	
☒ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	X	
soxhlets off at:	N/A	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM1604C509	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	X	

4/28/15
Extraction Chemist / Date

Continued from page _____
Continued on page _____

4/29/15
Reviewed by / Date

TITLE Soil Aliquot | PROJECT | DATE

Continued from page

Sample ID	Weight(g)	Analysis	Batch #	Scale used	Comments
266351-013 comp	49.59	TE-HM		Dish 1	comp 351-001-004 @ 25g/L
14	49.74				-005-008
15	49.82				-009-012
266359-001 B	50.03				
2	50.20				
266360-001 A	49.52				
2	49.88				
3	49.68				MSS
4	50.27				
5	50.21				
6	50.14				
7	50.09				
8	50.43				
266363-001 B	50.03				
2	50.22				
MB NA	49.91				EMxF27F
LCS	49.69				↓
MS	49.51				266360-003A
MSD	49.48				↓
					25ml 4-27-15
266374-003 G	29.87	8270		Dish 1	
4	29.82				
5	29.75				
6	29.71				
7 H	30.21				
9 G	29.87				
10	30.14				
11	29.99				MSS
13 D	29.94				
14	30.42				
15	30.42				
16	30.30				
17	29.65				
18	30.08				
19	29.83				
20	30.49				
21	30.18				
22 G	29.97				
MB NA	29.65				EMxF27F
LCS	29.66				↓
MS	29.66				266374-011G
MSD	29.58				↓
					EJL 4/28/15

Continued to page

SIGNATURE | DATE

DISCLOSED TO AND UNDERSTOOD BY | DATE

PROPRIETARY INFORMATION

Laboratory Job Number 266374

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Percent Moisture Summary Report

Batch: 222671
Date: 04/28/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266374-003	11.0798	17.7308	17.1523	91	9
266374-004	11.4004	17.2533	16.3384	84	16
266374-005	11.3428	16.8718	16.5300	94	6
266374-006	11.1472	17.3655	16.7709	90	10
266374-007	11.3346	18.4218	17.3892	85	15
266374-009	11.2522	17.6239	17.1260	92	8
266374-010	11.1174	16.4495	16.2607	96	4
266374-011	10.9996	16.6840	15.7501	84	16
266374-013	11.3622	18.0926	17.7860	95	5
266374-014	10.9076	17.5449	16.8677	90	10
266374-015	11.3457	17.0948	16.3605	87	13
266374-016	11.2407	18.4417	17.9157	93	7
266374-017	11.0709	19.0325	18.0883	88	12
266374-018	11.3255	17.4801	16.6415	86	14
266374-019	10.8789	16.7074	16.4610	96	4
266374-020	11.3140	17.2332	16.4121	86	14
266374-021	11.3497	17.9107	16.9042	85	15
266374-022	11.3613	18.0716	17.8088	96	4
QC785892	11.0492	18.2492	17.9817	96	4
of 266374-022			RPD:	0.2%	5.3%

Moisture LOG

Curtis & Tompkins, Ltd.

LIMS Batch #: 222671
Date: 4-28-15

Page: **83**
Benchbook#: **BK 3643**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	52	11.2602	0	11.2602	
266374-003 G	80	11.0798	17.7308	17.1523	
-004	11	11.4004	17.2533	16.3384	
-005	50	11.3428	16.8718	16.5300	
-006	47	11.1472	17.3655	16.7709	
-007 H	32	11.3346	18.4218	17.3892	
-009 G	4	11.2522	17.6239	17.1260	
-010	79	11.1174	16.4495	16.2607	
-011	3	10.9996	16.6840	15.7501	
-013 D	86	11.3622	18.0926	17.7860	
-014	33	10.9076	17.5449	16.8677	
-015	41	11.3457	17.0948	16.3605	
-016	83	11.2407	18.4417	17.9157	
-017	49	11.0709	19.0325	18.0883	
-018	36	11.3255	17.4801	16.6415	
-019	42	10.8789	16.7074	16.4610	
-020	26	11.3140	17.2332	16.4121	
-021	93	11.3497	17.9107	16.9042	
-022 G	81	11.3613	18.0716	17.8088	
SDUP -022	55	11.0492	18.2492	17.9817	
			MW 4-29-15		

Date/ Time IN: 4-28-15 2220
Temp (C) IN: 105
Date/ Time OUT: 4-29-15 1750
Temp (C) OUT: 105

4-28-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
~~4-05-15~~ SL				
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827

Continued on Page

Read and Understood By

Signed Date Signed Date


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266392
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Former APL Terminal
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLB7GW	266392-001
APLB9GW	266392-002
APLB21GW	266392-003
APLB21(2.5)	266392-004
APLB21(4.5)	266392-005
APLB21(8.5)	266392-006
TB42815	266392-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 05/07/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266392**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APL Terminal**
Request Date:	**04/28/15**
Samples Received:	**04/28/15**

This data package contains sample and QC results for four water samples and three soil samples, requested for the above referenced project on 04/28/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

Some sample preservation was done upon receipt; see the attached receipt form.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
APLB21(4.5) (lab # 266392-005) was diluted due to the dark and viscous nature of the sample extract.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High response was observed for vinyl acetate in the ICV analyzed 02/03/15 22:20; this analyte was not detected at or above the RL in the associated samples.

High responses were observed for bromomethane and vinyl acetate in the CCV analyzed 04/29/15 14:00; these analytes were not detected at or above the RL in the associated samples.

APLB7GW (lab # 266392-001) and APLB9GW (lab # 266392-002) were diluted due to foaming.

No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A) Soil:
No analytical problems were encountered.

Metals (EPA 6010B, EPA 6020, and EPA 7470A) Filtrate:
High recovery was observed for selenium in the MS of APLB21GW (lab # 266392-003); the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266392**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APL Terminal**
Request Date:	**04/28/15**
Samples Received:	**04/28/15**

Metals (EPA 6010B, EPA 6020, and EPA 7470A) Filtrate:

Low recovery was observed for lead in the post digest spike of APLB21GW (lab # 266392-003); the BS/BSD were within limits. High recovery was observed for selenium; the BS/BSD were within limits, and this analyte was not detected at or above the RL in the associated sample.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):

No analytical problems were encountered.

Chain of Custody

Seq. No. 3176

Lab: C&T

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

246392

amec

Samplers: Steve Korbay

Job Number: 0D14170810.03

Name/Location: Former APL Terminal

Project Manager: _____ Recorder: Steve Korbay (Signature Required)

| MATRIX | | | | # CONTAINERS | | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | | |

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 246392 Date Received 4/28/15 Number of coolers 1
Client AMEC Project Former APL Terminal

Date Opened 4/28 By (print) SL (sign)
Date Logged in 4/28 By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
   Shipping info
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? SL 4/28 YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? YES (NO) N/A
16. Did you check preservatives for all bottles for each sample? (YES) NO N/A
17. Did you document your preservative check? (YES) NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
21. Was the client contacted concerning this sample delivery? YES (NO)
   If YES, Who was called? By Date:

COMMENTS
10) COC states there are (9) containers for -002, only (7) were received.
15) Added HNO3 (50770) @ 1540 on 4/28/15 to -003

Rev 10, 9/12

Curtis & Tompkins Sample Preservation for 266392

Sample	pH: <2	>9	>12	Other
-003a	[X]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____

Analyst: BO
Date: 4/28/15

Page 1 of 1

Curtis & Tompkins, Ltd.

Detections Summary for 266392

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Former APL Terminal

Client Sample ID : APLB7GW Laboratory Sample ID : 266392-001

No Detections

Client Sample ID : APLB9GW Laboratory Sample ID : 266392-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	520		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	310		310	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB21GW Laboratory Sample ID : 266392-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Motor Oil C24-C36	460		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Barium	1,400		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD

Client Sample ID : APLB21(2.5) Laboratory Sample ID : 266392-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.6	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	13		5.5	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Arsenic	7.4		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	100		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.31		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	18		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.5		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	21		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	5.9		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.43		0.019	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.74		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	15		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Selenium	1.5		0.52	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	87		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : APLB21(4.5) Laboratory Sample ID : 266392-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	60	Y	5.7	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	320		29	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Antimony	2.0		0.59	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	5.6		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	280		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.27		0.12	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	49		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.4		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	66		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	470		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	1.2		0.093	mg/Kg	Dry	5.000	EPA 7471A	METHOD
Molybdenum	0.92		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Selenium	0.98		0.59	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	240		1.2	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	13		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : APLB21(8.5) Laboratory Sample ID : 266392-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.9	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	10		6.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Arsenic	1.9		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	59		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.19		0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.35		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	5.9		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	6.2		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	4.7		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	28		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	24		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	17		1.1	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	17		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : TB42815 Laboratory Sample ID : 266392-007

No Detections

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 266392

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222731
Units:	ug/L	Sampled:	04/28/15
Diln Fac:	1.000	Received:	04/28/15

Field ID:	APLB9GW	Lab ID:	266392-002
Type:	SAMPLE	Analyzed:	04/30/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	80-132

Field ID:	TB42815	Lab ID:	266392-007
Type:	SAMPLE	Analyzed:	05/01/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	80-132

Type:	BLANK	Analyzed:	04/30/15
Lab ID:	QC786106		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	80-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222731
Units:	ug/L	Analyzed:	04/30/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786104

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	893.2	89	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	80-132

Type: BSD Lab ID: QC786105

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	925.3	93	80-120	4	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	80-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	APLB9GW	Diln Fac:	1.000
MSS Lab ID:	266392-002	Batch#:	222731
Matrix:	Water	Sampled:	04/28/15
Units:	ug/L	Received:	04/28/15

Type: MS Analyzed: 04/30/15
Lab ID: QC786206

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	25.00	2,000	1,809	89	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	80-132

Type: MSD Analyzed: 05/01/15
Lab ID: QC786207

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,696	84	76-120	6	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	80-132

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCVOA Water: EPA 8015B

Inst : GC07
Calnum : 325099925001
Units : ng

Name : tvh/bfb_069
Date : 10-MAR-2015 19:46
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069_011	325099925011	TVH_14	10-MAR-2015 19:46	S26765 (1000X), S26658 (5000X)
L2	069_012	325099925012	TVH_15	10-MAR-2015 20:22	S26764 (1000X), S26658 (5000X)
L3	069_013	325099925013	TVH_16	10-MAR-2015 20:58	S26763 (1000X), S26658 (5000X)
L4	069_014	325099925014	TVH_17	10-MAR-2015 21:34	S26761 (2000X), S26658 (5000X)
L5	069_015	325099925015	TVH_18	10-MAR-2015 22:11	S26761 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	2900.5	2369.9	2305.6	2167.8	2176.1	AVRG		4.19E-4		2384.0	13	0.995	20	
Bromofluorobenzene (FID)	A	2083.0	2044.6	2051.0	2166.9	2281.1	AVRG		4.71E-4		2125.3	5	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	**22**	2500.0	-1	10000	-3	25000	-9	50000	-9
Bromofluorobenzene (FID)	A	900.00	-2	900.00	-4	900.00	-3	900.00	2	900.00	7

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

325099925001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Name : tvh/bfb_069
Calnum : 325099925001 Cal Date : 10-MAR-2015

ICV 325099925017 (069_017 10-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9097	ng	-9	15	

Analyst: ERR Date: 03/11/15 Reviewer: EAH Date: 03/11/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : QC786104 IDF : 1.0
Seqnum : 325173363003.2 File : 120_003 Time : 30-APR-2015 10:35
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (2000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2129.4	5000	4466	ng	-11	15	u
Bromofluorobenzene (FID)	A	2125.3	1834.8	900.0	777.0	ng	-14	15	u

ERR 05/01/15 : ccv/lcs,qc786104,222731 [general version]

Analyst: ERR Date: 05/04/15 Reviewer: EAH Date: 05/04/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : STODDARD IDF : 1.0
Seqnum : 325173363008 File : 120_008 Time : 30-APR-2015 15:50
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26214 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Bromofluorobenzene (FID)	A	2125.3	2298.5	900.0	973.4	ng	8	15	

Analyst: KKM Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325173363011 File : 120_011 Time : 30-APR-2015 17:59
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (2000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2118.1	5000	4442	ng	-11	15	
Bromofluorobenzene (FID)	A	2125.3	1855.1	900.0	785.6	ng	-13	15	

Analyst: ERR Date: 05/01/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : STODDARD IDF : 1.0
Seqnum : 325173363015 File : 120_015 Time : 30-APR-2015 20:24
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26214 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Bromofluorobenzene (FID)	A	2125.3	2333.4	900.0	988.1	ng	10	15	

Analyst: ERR Date: 05/04/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 325173363023 File : 120_023 Time : 01-MAY-2015 01:13
Cal : 325099925001 Caldate : 10-MAR-2015
Standards: S26709 (1000X), S26658 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2384.0	2065.4	10000	8664	ng	-13	15	
Bromofluorobenzene (FID)	A	2125.3	2142.9	900.0	907.4	ng	1	15	

Analyst: ERR Date: 05/01/15 Reviewer: EAH Date: 05/04/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325099925

Instrument : GC07 Begun : 03/10/15 09:25
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	069_001	X	CMARKER			03/10/15 09:25	1.0	1 2	
002	069_002	CCV	BTXE			03/10/15 10:02	1.0	3 2	
003	069_003	CCV	TVH			03/10/15 10:38	1.0	4 2	
004	069_004	CCV	BTXE			03/10/15 11:14	1.0	3 2	
005	069_005	X	IB			03/10/15 12:08	1.0	2	
006	069_006	CCV	BTXE			03/10/15 13:23	1.0	3 2	
007	069_007	CCV	TVH			03/10/15 14:01	1.0	4 2	
008	069_008	X	CMARKER			03/10/15 14:37	1.0	1 2	
009	069_009	X	IB			03/10/15 18:34	1.0	2	
010	069_010	IB	CALIB			03/10/15 19:10	1.0	2	
011	069_011	ICAL	TVH_14			03/10/15 19:46	1.0	5 2	
012	069_012	ICAL	TVH_15			03/10/15 20:22	1.0	6 2	
013	069_013	ICAL	TVH_16			03/10/15 20:58	1.0	7 2	
014	069_014	ICAL	TVH_17			03/10/15 21:34	1.0	8 2	
015	069_015	ICAL	TVH_18			03/10/15 22:11	1.0	8 2	
016	069_016	X	IB			03/10/15 22:47	1.0	2	
017	069_017	ICV	TVH			03/10/15 23:23	1.0	9 2	
018	069_018	X	ICV			03/10/15 23:59	1.0	9 2	
019	069_019	CMARKER	CMARK			03/11/15 00:35	1.0	1 2	

ERR 03/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Reviewed by: ERR Date: 03/11/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26582 5=S26765 6=S26764 7=S26763 8=S26761 9=S26760

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 325173363

Instrument : GC07 Begun : 04/30/15 09:23
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	120_001	X	CMARKER			04/30/15 09:23	1.0	1 2	
002	120_002	CCV	BTXE			04/30/15 09:59	1.0	3 2	
003	120_003	CCV/BS	QC786104	Water	222731	04/30/15 10:35	1.0	4 2	
004	120_004	CCV	BTXE			04/30/15 11:12	1.0	3 2	
005	120_005	BLANK	QC786106	Water	222731	04/30/15 11:48	1.0	2	
006	120_006	BSD	QC786105	Water	222731	04/30/15 12:49	1.0	4 2	
007	120_007	ICAL	STODDARD			04/30/15 14:37	1.0	5 2	
008	120_008	CCV	STODDARD			04/30/15 15:50	1.0	5 2	
009	120_009	ICAL	M.S._2000			04/30/15 16:47	1.0	6 2	
010	120_010	BLANK	QC786522	Water	222731	04/30/15 17:23	1.0	2	
011	120_011	CCV	TVH			04/30/15 17:59	1.0	4 2	
012	120_012	X	CMARKER			04/30/15 18:36	1.0	1 2	
013	120_013	SAMPLE	266416-001	Water	222731	04/30/15 19:12	1.0	2	
014	120_014	X	IB			04/30/15 19:48	1.0	2	
015	120_015	CCV	STODDARD			04/30/15 20:24	1.0	5 2	
016	120_016	CCV	M.S._2000			04/30/15 21:01	1.0	6 2	
017	120_017	CCV	STODDARD			04/30/15 21:36	1.0	5 2	
018	120_018	CCV	M.S._2000			04/30/15 22:12	1.0	6 2	
019	120_019	MSS	266392-002	Water	222731	04/30/15 22:48	1.0	2	
020	120_020	MS	QC786206	Water	222731	04/30/15 23:25	1.0	4 2	
021	120_021	MSD	QC786207	Water	222731	05/01/15 00:01	1.0	4 2	
022	120_022	SAMPLE	266392-007	Water	222731	05/01/15 00:37	1.0	2	
023	120_023	CCV	TVH			05/01/15 01:13	1.0	4 2	
024	120_024	CCV	TVH			05/01/15 01:49	1.0	4 2	
025	120_025	X	CMARKER			05/01/15 02:25	1.0	1 2	

ERR 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Reviewed by: ERR Date: 05/04/15

Standards used: 1=S26730 2=S26658 3=S26505 4=S26709 5=S26214 6=S27176

Laboratory Job Number 266392

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/28/15
Units:	ug/L	Received:	04/28/15
Diln Fac:	1.000	Prepared:	04/28/15
Batch#:	222656		

Field ID:	APLB9GW	Lab ID:	266392-002
Type:	SAMPLE	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	520	51
Motor Oil C24-C36	310	310

Surrogate	%REC	Limits
o-Terphenyl	80	67-136

Field ID:	APLB21GW	Lab ID:	266392-003
Type:	SAMPLE	Analyzed:	04/30/15

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	460	300

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

Type:	BLANK	Analyzed:	04/29/15
Lab ID:	QC785821		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	86	67-136

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222656
Units:	ug/L	Prepared:	04/28/15
Diln Fac:	1.000	Analyzed:	04/29/15

Type: BS
Lab ID: QC785822
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,050	82	60-121

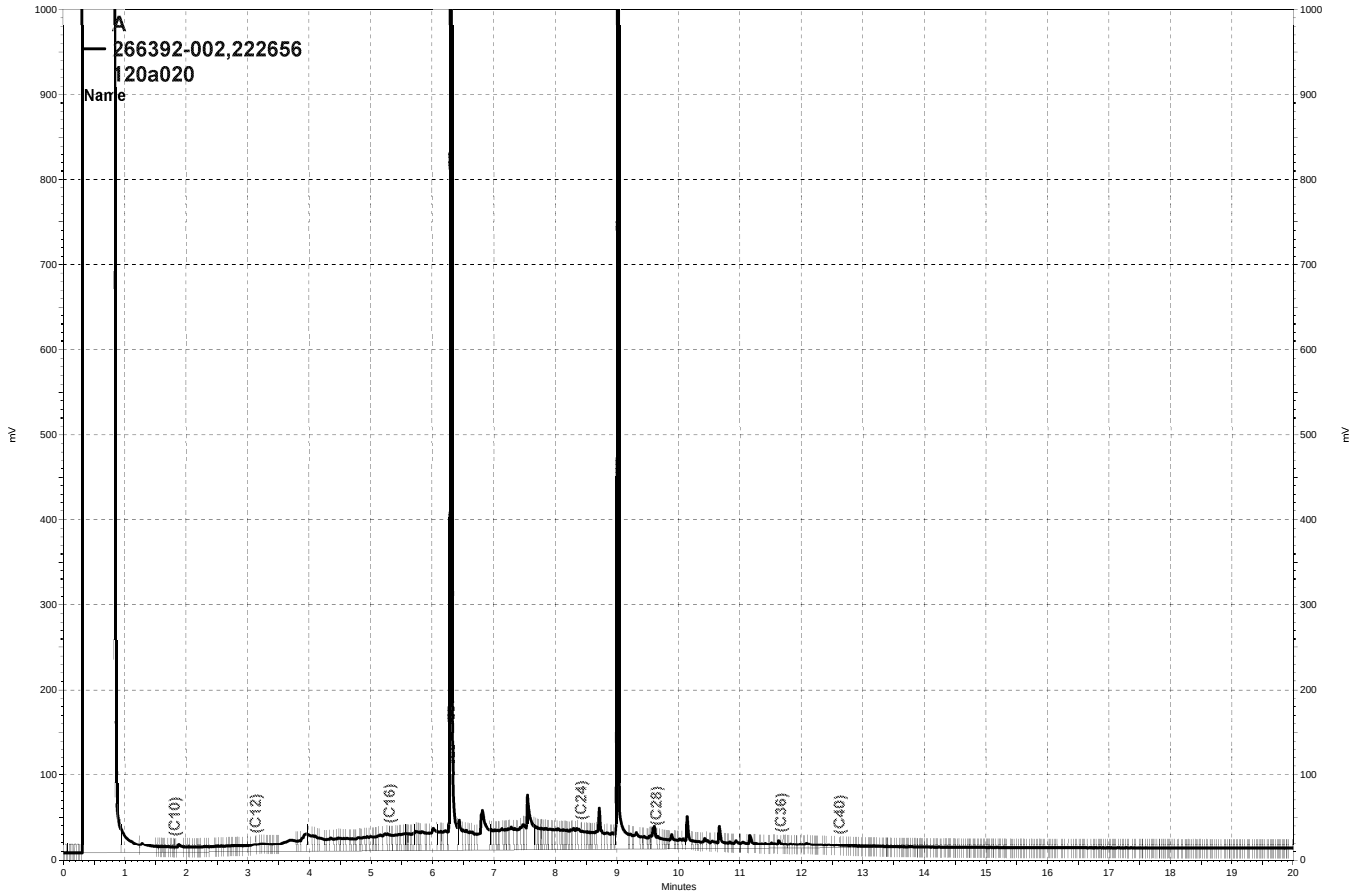
Surrogate	%REC	Limits
o-Terphenyl	92	67-136

Type: BSD
Lab ID: QC785823
Cleanup Method: EPA 3630C

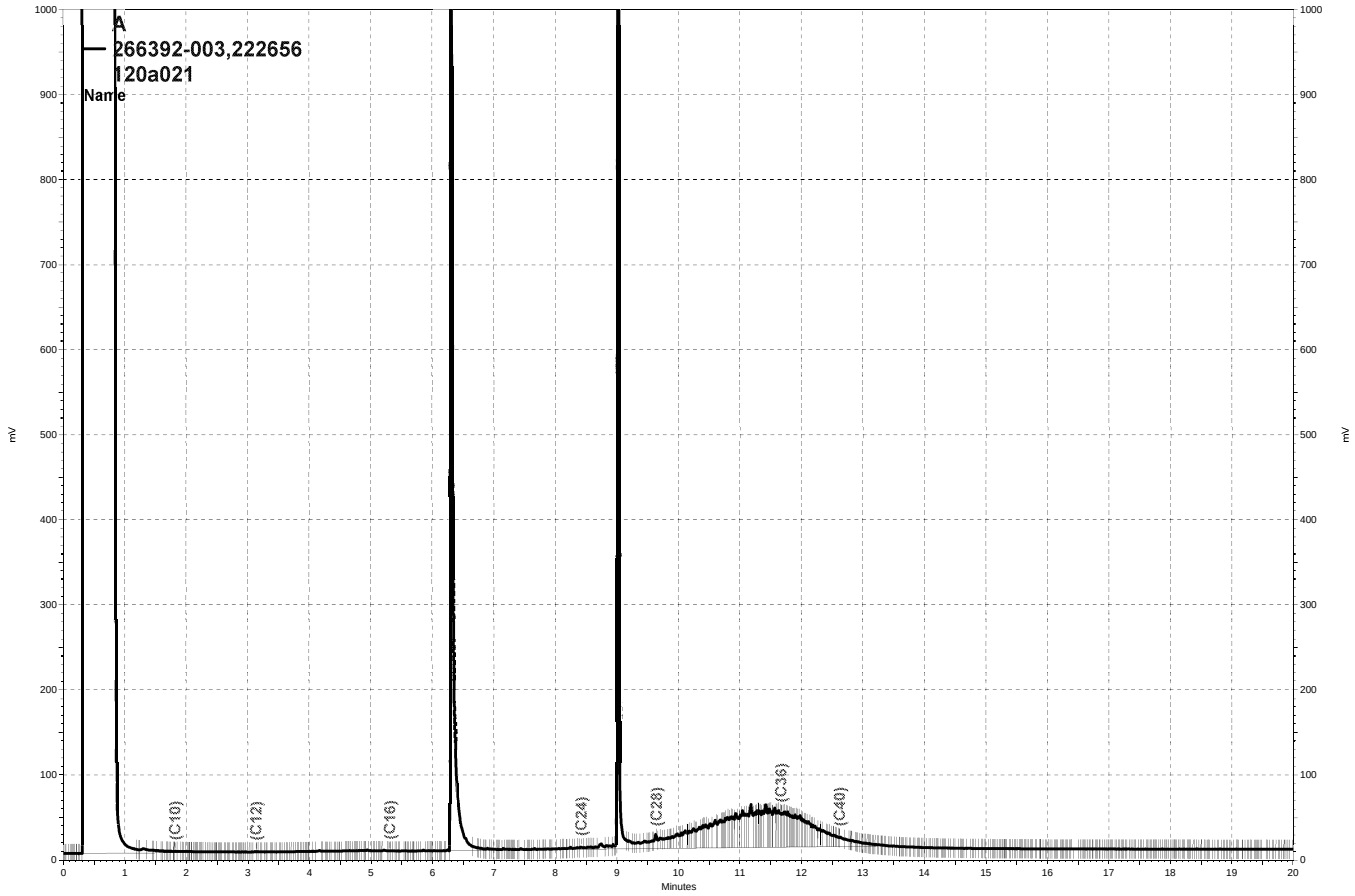
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,327	93	60-121	13	32

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

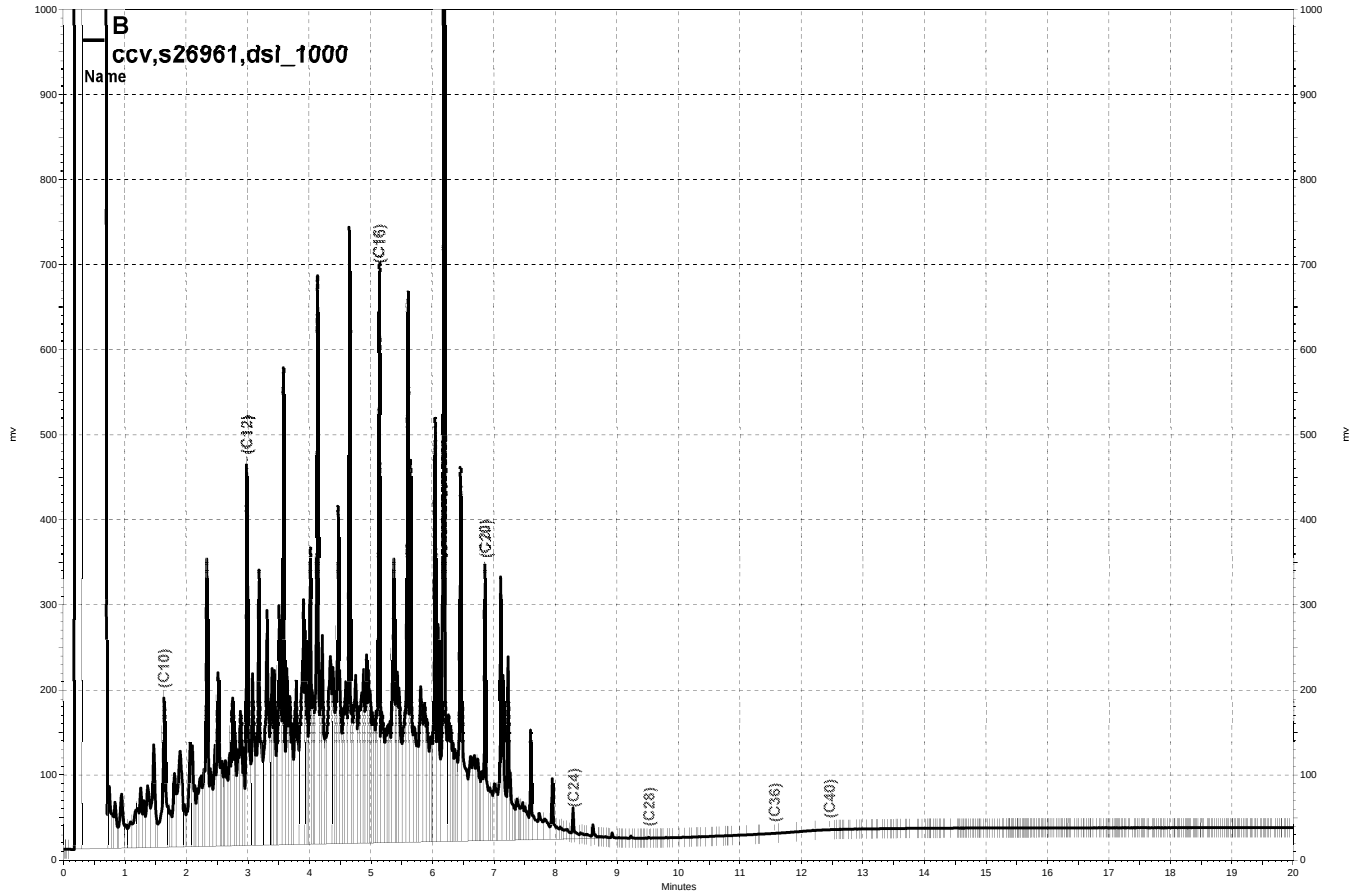
RPD= Relative Percent Difference



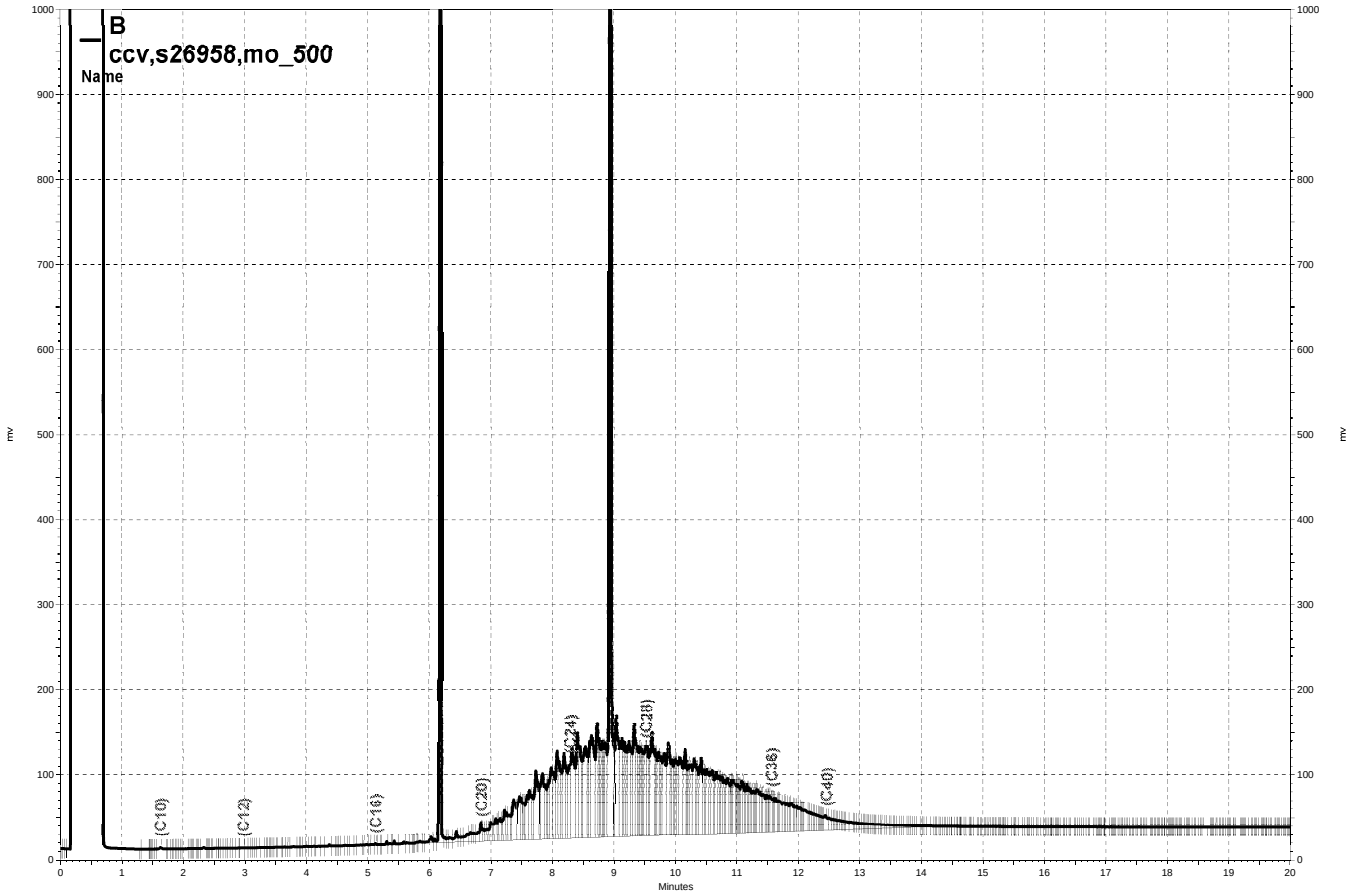
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a020, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a021, A



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\119b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\119b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Water
EPA 8015B

Inst : GC14B Name : DSL_364
Calnum : 224523202001 Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742001
Units : mg/L

Name : OTPHEX_112
Date : 22-APR-2015 17:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_013	225161742013	HEX OTP_5	22-APR-2015 17:35	S26468
L2	112_014	225161742014	HEX OTP_10	22-APR-2015 18:02	S26469
L3	112_015	225161742015	HEX OTP_25	22-APR-2015 18:30	S26470
L4	112_016	225161742016	HEX OTP_50	22-APR-2015 18:59	S26471
L5	112_017	225161742017	HEX OTP_100	22-APR-2015 19:27	S26472
L6	112_018	225161742018	HEX OTP_200	22-APR-2015 19:55	S26473

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	41558	43661	41740	41428	40639	40974	AVRG		2.40E-5		41667	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	0	10.000	5	25.000	0	50.000	-1	100.00	-2	200.00	-2

JDG 04/23/15 [Hexacosane B]: Samples requiring Hexacosane will not be analyzed on this instrument.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742002
Units : mg/L

Name : MO_112
Date : 22-APR-2015 20:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_020	225161742020	MO_50	22-APR-2015 20:52	S26392
L2	112_021	225161742021	MO_250	22-APR-2015 21:21	S26393
L3	112_022	225161742022	MO_500	22-APR-2015 21:49	S26394
L4	112_023	225161742023	MO_1000	22-APR-2015 22:17	S26395
L5	112_024	225161742024	MO_2500	22-APR-2015 22:46	S26389 (2X)
L6	112_025	225161742025	MO_5000	22-APR-2015 23:14	S26389

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	18614	22373	22608	22415	23777	21336	AVRG		4.58E-5		21854	8	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.000	-15	250.00	2	500.00	3	1000.0	3	2500.0	9	5000.0	-2

JDG 04/23/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Water
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175098483001
Units : mg/L

Name : OTPHEX_068
Date : 09-MAR-2015 12:32
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a006	175098483006	HEXOTP_5	09-MAR-2015 12:32	S26468
L2	068a007	175098483007	HEXOTP_10	09-MAR-2015 13:00	S26469
L3	068a008	175098483008	HEXOTP_25	09-MAR-2015 13:27	S26470
L4	068a009	175098483009	HEXOTP_50	09-MAR-2015 13:55	S26471
L5	068a010	175098483010	HEXOTP_100	09-MAR-2015 14:23	S26472
L6	068a011	175098483011	HEXOTP_200	09-MAR-2015 14:51	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	65431	66263	74546	76430	76757	76644	AVRG		1.38E-5		72678	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-10	10.000	-9	25.000	3	50.000	5	100.00	6	200.00	5

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_5 (068a006).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_50 (068a009).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_100 (068a010).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175098483002
Units : mg/L

Name : DSL_068
Date : 09-MAR-2015 15:47
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a013	175098483013	DSL_10	09-MAR-2015 15:47	S26213
L2	068a014	175098483014	DSL_100	09-MAR-2015 16:15	S25844
L3	068a015	175098483015	DSL_500	09-MAR-2015 16:43	S25845
L4	068a016	175098483016	DSL_1000	09-MAR-2015 17:11	S25846
L5	068a017	175098483017	DSL_5000	09-MAR-2015 17:38	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	68069	68135	68803	69079	68596	AVRG		1.46E-5		68536	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-1	100.00	-1	500.00	0	1000.0	1	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline for all levels except L5

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Water
EPA 8015B

Inst : GC17A Name : DSL_068
Calnum : 175098483002 Cal Date : 09-MAR-2015

ICV 175098483019 (068a019 09-MAR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	466.9	mg/L	-7	15	

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175098483003
Units : mg/L

Name : MO_068
Date : 09-MAR-2015 19:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a022	175098483022	MO_50	09-MAR-2015 19:59	S26392
L2	068a023	175098483023	MO_250	09-MAR-2015 20:27	S26393
L3	068a024	175098483024	MO_500	09-MAR-2015 20:55	S26394
L4	068a025	175098483025	MO_1000	09-MAR-2015 21:23	S26395
L5	068a026	175098483026	MO_2500	09-MAR-2015 21:52	S26389 (2X)
L6	068a027	175098483027	MO_5000	09-MAR-2015 22:20	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	39977	45859	46757	46197	44946	44699	AVRG		2.24E-5		44739	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	-11	250.00	3	500.00	5	1000.0	3	2500.0	0	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline in MO_50 (068a022).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_250 (068a023).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_1000 (068a025).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_5000 (068a027).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799014 File : 119_014 Time : 29-APR-2015 13:42
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20613	500.0	471.6	mg/L	-6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37213	50.00	44.66	mg/L	-11	15	

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225171799015 File : 119_015 Time : 29-APR-2015 14:10
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	36872	500.0	554.6	mg/L	11	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40838	50.00	49.01	mg/L	-2	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225171799029 File : 119_029 Time : 29-APR-2015 21:36
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20873	500.0	477.6	mg/L	-4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37946	50.00	45.53	mg/L	-9	15	

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 225171799030 File : 119_030 Time : 29-APR-2015 22:04
Standards: S26961

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35384	1000	1064	mg/L	6	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	41641	50.00	49.97	mg/L	0	15	

JDG 04/30/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165171796003 File : 119b003 Time : 29-APR-2015 08:12
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	34010	500.0	490.1	mg/L	-2	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60469	50.00	53.72	mg/L	7	15	

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165171796004 File : 119b004 Time : 29-APR-2015 08:40
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50714	1000	1096	mg/L	10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	62475	50.00	55.50	mg/L	11	15	

JDG 04/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165171796012 File : 119b012 Time : 29-APR-2015 13:12
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	31201	500.0	449.6	mg/L	-10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59081	50.00	52.49	mg/L	5	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165171796013 File : 119b013 Time : 29-APR-2015 13:39
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	48169	250.0	260.2	mg/L	4	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59365	50.00	52.74	mg/L	5	15	

SFL 04/29/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/29/15 Reviewer: EAH Date: 04/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231012 File : 120a012 Time : 30-APR-2015 12:21
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46390	500.0	518.5	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	77236	50.00	53.14	mg/L	6	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175173231013 File : 120a013 Time : 30-APR-2015 12:49
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	66974	500.0	488.6	mg/L	-2	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	78596	50.00	54.07	mg/L	8	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231026 File : 120a026 Time : 30-APR-2015 19:47
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46535	500.0	520.1	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	76397	50.00	52.56	mg/L	5	15	

JDG 05/01/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175173231027 File : 120a027 Time : 30-APR-2015 20:15
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	65265	1000	952.3	mg/L	-5	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	79842	50.00	54.93	mg/L	10	15	

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165171796

Instrument : GC15B
Method : EPA 8015B
Begun : 04/29/15 07:16
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119b001	X	IB				04/29/15 07:16	1.0		
002	119b002	X	CMARKER				04/29/15 07:44	1.0	1	
003	119b003	CCV	MO_500				04/29/15 08:12	1.0	2	
004	119b004	CCV	DSL_1000				04/29/15 08:40	1.0	3	
005	119b005	BLANK	QC785880	S	Soil	222669	04/29/15 09:15	1.0		
006	119b006	MSS	266363-001	S	Soil	222669	04/29/15 09:43	5.0		
007	119b007	MS	QC785882	S	Soil	222669	04/29/15 10:11	5.0		
008	119b008	MSD	QC785883	S	Soil	222669	04/29/15 10:39	5.0		1:BUNKC:12-40=5100
009	119b009	X	IB				04/29/15 11:22	1.0		
010	119b010	BS	QC785822	S	Water	222656	04/29/15 12:17	1.0		
011	119b011	BSD	QC785823	S	Water	222656	04/29/15 12:44	1.0		
012	119b012	CCV	MO_500				04/29/15 13:12	1.0	2	
013	119b013	CCV	DSL_250				04/29/15 13:39	1.0	4	
014	119b014	X	CMARKER				04/29/15 14:40	1.0	1	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 8.

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 9 through 14.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175098483

Instrument : GC17A
Method : EPA 8015B
Begun : 03/09/15 09:23
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	068a001	X	IB			03/09/15 09:23	1.0		
002	068a002	X	CMARKER			03/09/15 09:52	1.0	1	
003	068a003	CCV	MO_500			03/09/15 10:20	1.0	2	
004	068a004	CCV	DSL_250			03/09/15 10:48	1.0	3	
005	068a005	IB	CALIB			03/09/15 12:04	1.0		
006	068a006	ICAL	HEXOTP_5			03/09/15 12:32	1.0	4	
007	068a007	ICAL	HEXOTP_10			03/09/15 13:00	1.0	5	
008	068a008	ICAL	HEXOTP_25			03/09/15 13:27	1.0	6	
009	068a009	ICAL	HEXOTP_50			03/09/15 13:55	1.0	7	
010	068a010	ICAL	HEXOTP_100			03/09/15 14:23	1.0	8	
011	068a011	ICAL	HEXOTP_200			03/09/15 14:51	1.0	9	
012	068a012	IB	CALIB			03/09/15 15:19	1.0		
013	068a013	ICAL	DSL_10			03/09/15 15:47	1.0	10	
014	068a014	ICAL	DSL_100			03/09/15 16:15	1.0	11	
015	068a015	ICAL	DSL_500			03/09/15 16:43	1.0	12	
016	068a016	ICAL	DSL_1000			03/09/15 17:11	1.0	13	
017	068a017	ICAL	DSL_5000			03/09/15 17:38	1.0	14	
018	068a018	IB	CALIB			03/09/15 18:06	1.0		
019	068a019	ICV	DSL_500			03/09/15 18:34	1.0	15	
020	068a020	X	ICV			03/09/15 19:02	1.0	16	
021	068a021	IB	CALIB			03/09/15 19:31	1.0		
022	068a022	ICAL	MO_50			03/09/15 19:59	1.0	17	
023	068a023	ICAL	MO_250			03/09/15 20:27	1.0	18	
024	068a024	ICAL	MO_500			03/09/15 20:55	1.0	19	
025	068a025	ICAL	MO_1000			03/09/15 21:23	1.0	20	
026	068a026	ICAL	MO_2500			03/09/15 21:52	1.0	21	
027	068a027	ICAL	MO_5000			03/09/15 22:20	1.0	21	
028	068a028	IB	CALIB			03/09/15 22:48	1.0		
029	068a029	CMARKER	C8-C50			03/09/15 23:16	1.0	1	
030	068a030	IB	CALIB			03/09/15 23:44	1.0		

SFL 03/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Standards used: 1=S26646 2=S26734 3=S26622 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S25641 17=S26392 18=S26393 19=S26394 20=S26395 21=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175173231

Instrument : GC17A
Method : EPA 8015B
Begun : 04/30/15 07:11
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	120a001	X	IB				04/30/15 07:11	1.0	
002	120a002	X	CMARKER				04/30/15 07:40	1.0	1
003	120a003	CCV	MO_500				04/30/15 08:08	1.0	2
004	120a004	CCV	DSL_1000				04/30/15 08:36	1.0	3
005	120a005	BLANK	QC786019		Soil	222707	04/30/15 09:03	1.0	
006	120a006	LCS	QC786020		Soil	222707	04/30/15 09:32	1.0	
007	120a007	SAMPLE	266420-002		Soil	222707	04/30/15 10:00	1.0	
008	120a008	MSS	266374-022		Soil	222707	04/30/15 10:28	2.0	
009	120a009	MS	QC786021		Soil	222707	04/30/15 10:56	2.0	
010	120a010	MSD	QC786022		Soil	222707	04/30/15 11:24	2.0	
011	120a011	X	IB				04/30/15 11:53	1.0	
012	120a012	CCV	MO_500				04/30/15 12:21	1.0	2
013	120a013	CCV	DSL_250				04/30/15 12:49	1.0	4
014	120a014	SAMPLE	266386-001		Soil	222707	04/30/15 14:10	1.0	
015	120a015	SAMPLE	266374-015		Soil	222707	04/30/15 14:38	20.0	
016	120a016	X	IB				04/30/15 15:06	1.0	
017	120a017	SAMPLE	266393-001	S	Water	222656	04/30/15 15:34	1.0	
018	120a018	SAMPLE	266393-002	S	Water	222656	04/30/15 16:03	1.0	
019	120a019	SAMPLE	266401-001	S	Water	222656	04/30/15 16:31	1.0	
020	120a020	SAMPLE	266392-002		Water	222656	04/30/15 16:59	1.0	
021	120a021	SAMPLE	266392-003		Water	222656	04/30/15 17:27	1.0	
022	120a022	SAMPLE	266374-019		Soil	222739	04/30/15 17:55	3.0	
023	120a023	SAMPLE	266374-020		Soil	222739	04/30/15 18:23	3.0	
024	120a024	SAMPLE	266392-005		Soil	222739	04/30/15 18:51	5.0	
025	120a025	X	CMARKER				04/30/15 19:19	1.0	1
026	120a026	CCV	MO_500				04/30/15 19:47	1.0	2
027	120a027	CCV	DSL_1000				04/30/15 20:15	1.0	3
028	120a028	X	CCV				04/30/15 20:43	1.0	2
029	120a029	X	CCV				04/30/15 21:10	1.0	3
030	120a030	SAMPLE	266408-007		Soil	222739	04/30/15 21:38	1.0	
031	120a031	SAMPLE	266460-001		Soil	222739	04/30/15 22:05	1.0	
032	120a032	SAMPLE	266460-002		Soil	222739	04/30/15 22:34	1.0	
033	120a033	CCV	MO_500				04/30/15 23:01	1.0	2
034	120a034	CCV	DSL_250				04/30/15 23:29	1.0	5

SFL 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 34.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225161742

Instrument : GC14B
Method : EPA 8015B
Begun : 04/22/15 07:42
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	112_001	X	IB			04/22/15 07:42	1.0		
002	112_002	X	C8-C50			04/22/15 08:10	1.0	1	
003	112_003	X	MO_500			04/22/15 08:39	1.0	2	
004	112_004	X	DSL_500			04/22/15 09:08	1.0	3	
005	112_005	X	JP5_250			04/22/15 11:07	1.0	4	
006	112_006	X	IB			04/22/15 13:08	1.0		
007	112_007	X	C8-C50			04/22/15 13:36	1.0	1	
008	112_008	X	MO_500			04/22/15 14:04	1.0	2	
009	112_009	X	DSL_250			04/22/15 14:32	1.0	5	
010	112_010	X	MO_500			04/22/15 15:57	1.0	2	
011	112_011	X	DSL_250			04/22/15 16:25	1.0	5	
012	112_012	IB	CALIB			04/22/15 17:07	1.0		
013	112_013	ICAL	HEX OTP_5			04/22/15 17:35	1.0	6	
014	112_014	ICAL	HEX OTP_10			04/22/15 18:02	1.0	7	
015	112_015	ICAL	HEX OTP_25			04/22/15 18:30	1.0	8	
016	112_016	ICAL	HEX OTP_50			04/22/15 18:59	1.0	9	
017	112_017	ICAL	HEX OTP_100			04/22/15 19:27	1.0	10	
018	112_018	ICAL	HEX OTP_200			04/22/15 19:55	1.0	11	
019	112_019	IB	CALIB			04/22/15 20:23	1.0		
020	112_020	ICAL	MO_50			04/22/15 20:52	1.0	12	
021	112_021	ICAL	MO_250			04/22/15 21:21	1.0	13	
022	112_022	ICAL	MO_500			04/22/15 21:49	1.0	14	
023	112_023	ICAL	MO_1000			04/22/15 22:17	1.0	15	
024	112_024	ICAL	MO_2500			04/22/15 22:46	1.0	16	
025	112_025	ICAL	MO_5000			04/22/15 23:14	1.0	16	
026	112_026	IB	CALIB			04/22/15 23:43	1.0		
027	112_027	CMARKER	C8-C50			04/23/15 00:11	1.0	1	
028	112_028	IB	CALIB			04/23/15 00:39	1.0		

JDG 04/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26646 2=S26958 3=S26960 4=S26748 5=S26959 6=S26468 7=S26469 8=S26470 9=S26471 10=S26472 11=S26473 12=S26392 13=S26393 14=S26394 15=S26395 16=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225171799

Instrument : GC14B
Method : EPA 8015B
Begun : 04/29/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	119_001	X	IB				04/29/15 07:19	1.0		
002	119_002	X	CMARKER				04/29/15 07:48	1.0	1	
003	119_003	CCV	MO_500				04/29/15 08:17	1.0	2	
004	119_004	CCV	DSL_1000				04/29/15 08:45	1.0	3	
005	119_005	CCV	HYFL_500				04/29/15 09:14	1.0	4	
006	119_006	SAMPLE	266364-004		Soil	222669	04/29/15 09:43	1.0		
007	119_007	SAMPLE	266364-005		Soil	222669	04/29/15 10:12	1.0		
008	119_008	SAMPLE	266374-007		Soil	222669	04/29/15 10:41	1.0		
009	119_009	X	IB				04/29/15 11:09	1.0		
010	119_010	X	TEST				04/29/15 11:37	1.0		
011	119_011	BLANK	QC785821	S	Water	222656	04/29/15 12:17	1.0		
012	119_012	SAMPLE	266378-001	S	Water	222656	04/29/15 12:45	1.0		
013	119_013	SAMPLE	266378-002	S	Water	222656	04/29/15 13:14	1.0		
014	119_014	CCV	MO_500				04/29/15 13:42	1.0	2	
015	119_015	CCV	DSL_500				04/29/15 14:10	1.0	5	
016	119_016	CCV	HYFL_500				04/29/15 14:38	1.0	4	
017	119_017	BLANK	QC785821		Water	222656	04/29/15 15:58	1.0		
018	119_018	SAMPLE	266342-001	S	Water	222656	04/29/15 16:26	1.0		12:BUNKC:10-40=85000
019	119_019	SAMPLE	266373-001	S	Water	222656	04/29/15 16:54	1.0		
020	119_020	SAMPLE	266373-002	S	Water	222656	04/29/15 17:22	1.0		
021	119_021	SAMPLE	266373-003	S	Water	222656	04/29/15 17:51	1.0		
022	119_022	SAMPLE	266373-004	S	Water	222656	04/29/15 18:19	1.0		
023	119_023	SAMPLE	266373-005	S	Water	222656	04/29/15 18:47	1.0		
024	119_024	SAMPLE	266377-001	S	Water	222656	04/29/15 19:15	1.0		
025	119_025	SAMPLE	266377-002	S	Water	222656	04/29/15 19:43	1.0		
026	119_026	SAMPLE	266377-003	S	Water	222656	04/29/15 20:11	1.0		
027	119_027	SAMPLE	266374-011		Soil	222669	04/29/15 20:39	100.0		2:BUNKC:10-40=6800
028	119_028	X	CMARKER				04/29/15 21:07	1.0	1	
029	119_029	CCV	MO_500				04/29/15 21:36	1.0	2	
030	119_030	CCV	DSL_1000				04/29/15 22:04	1.0	3	
031	119_031	CCV	HYFL_500				04/29/15 22:33	1.0	4	
032	119_032	X	CCV				04/29/15 23:01	1.0	2	
033	119_033	X	CCV				04/29/15 23:30	1.0	3	
034	119_034	X	CCV				04/29/15 23:58	1.0	4	
035	119_035	SAMPLE	266374-002		Water	222656	04/30/15 00:27	1.0		
036	119_036	SAMPLE	266374-008		Water	222656	04/30/15 00:55	1.0		
037	119_037	SAMPLE	266374-012		Water	222656	04/30/15 01:23	1.0		
038	119_038	CCV	MO_500				04/30/15 01:52	1.0	2	
039	119_039	CCV	DSL_500				04/30/15 02:20	1.0	5	
040	119_040	X	CCV				04/30/15 02:48	1.0	2	
041	119_041	X	CCV				04/30/15 03:17	1.0	5	

SFL 04/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

JDG 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 17 through 41.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960

SAMPLE PREPARATION SUMMARY

Batch # : 222656
Started By : JM1
Method : 3520C
Spike #1 ID : S27144
Prep Date : 28-APR-2015 15:05
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : JCD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266342-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-002		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266373-003		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266373-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266373-005		Water	500	2.5	1	0.005	7	.5			3630C	(rebatched)	
266374-002		Water	500	2.5	1	0.005	7	.5				TEHM	
266374-008		Water	500	2.5	1	0.005	7	.5				TEHM	
266374-012		Water	500	2.5	1	0.005	7	.5				TEHM	
266377-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266377-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266377-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266378-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266378-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266392-002		Water	490	2.5	1	0.005102	7	.5				TEHM	A/O @1315 4/29
266392-003		Water	500	2.5	1	0.005	7	.5				TEHM	A/O @1315 4/29
266393-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266393-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266401-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
266401-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	A/O @1315 4/29
QC785821	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC785822	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC785823	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

SFL 04/29/15 : Matrix spikes were not performed for this analysis in batch 222656 due to insufficient sample amount.

EAH 04/30/15 : Reviewed for all jobs except 266392, 393 and 104.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

Page 25 BK 3668

LIMS Batch No: 226656
LIMS Analysis: TEHIM
Date Extracted: 4-28-15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Cleanup Method (if needed):
☑ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
266342-001	H	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
266373-001	D	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
2		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
3		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
4		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
5	A	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
266374-002	F	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
8	I	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
12	V	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
266377-001	K	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
2		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
3		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
266378-001	H	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
2		☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
~~266342-001~~		☑ 500 ☐	☑ 7 ☐	☐ 2.5 ☐	X ☐ ≤2pH	
MB QC78 5821	N/A	☑ 500 ☐	☐ 7 ☐ NA	☑ 2.5 ☐	☑ ≤2pH	
BS 2		☑ 500 ☐	☐ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
BSD 3		☑ 500 ☐	☐ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
266392002	G	☐ 500 ☑ 490	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	a/o @ 1315 on 4/29 by MM
1 3	B	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
266393001	H	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	X ☑ ≤2pH	
1 2	H	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
266401.001	B	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	
1 2	B	☑ 500 ☐	☑ 7 ☐	☑ 2.5 ☐	☑ ≤2pH	

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	527144B	JM1 4-28-15
0.5 mL of TEH_SP was added to all spikes	526964F	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS140656	
☒ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EMS4351	
Extraction Start Time:	1505/1315	
Extraction End Time:	0915/1715	CRJ 4/29/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	JCO 4/29/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

Mark Mast 4-28-15
Extraction Chemist Date

Contined from Page _____
Continued on Page _____

SN 4/30/15
Reviewed by Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: LEB
Cleanup Date: 4/30/15

Benchbook # **BK 3677**
Page 45

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266393-601	222656	☑ 1.0 ☐	☑ 1.0 ☐	
↓ 2	↓	☑ 1.0 ☐	☑ 1.0 ☐	
266401-001		☑ 1.0 ☐	☑ 1.0 ☐	
↓ 2		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	R15A003	LEB 4/30/15
☐ Extracts were cleaned up using — g cartridges	N/A	↓
Extracts were eluted with 4.0 mL CH_2Cl_2	EM54351	
Concentrated to volumes as noted above	✓	

Lauren Brougham 4/30/15
Extraction Chemist / Date

Continued from page —
Continued on page —

SFL 4/30/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: JCD
Cleanup Date: 4/29/15

Benchbook # **BK 3677**
Page 44

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266342 - 001	222656	☑ 1.0 ☐	☑ 1.0 ☐	
266373 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
4		☑ 1.0 ☐	☑ 1.0 ☐	
5		☑ 1.0 ☐	☑ 1.0 ☐	
266377 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
266378 - 001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC785821		☑ 1.0 ☐	☑ 1.0 ☐	
BS 2		☑ 1.0 ☐	☑ 1.0 ☐	
BSD 3		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	R15A003	JCD 4/29/15
☐ Extracts were cleaned up using ___ g cartridges	NA	
Extracts were eluted with 4.0 mL CH_2Cl_2	EM54351	
Concentrated to volumes as noted above	✓	

Jamie Daughtry 4/29/15
Extraction Chemist / Date

Continued from page ___
Continued on page ___

SF 4/30/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: ARG
Cleanup Date: 5-1-15

Benchbook # **BK 3677**
Page 47

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266373	222656	☐ 1.0 ~~☐ 1.0~~ ARG 5/1/15	☐ 1.0 ☒ 0.5	
2	↓	☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
5		☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	ARG 5/1/15

	Mfg & Lot # / Time / Program	Initials / Date
☒ Extracts were cleaned up using C&T assembled 1.0 g columns	RISA003	ARG 5/1/15
☐ Extracts were cleaned up using — g cartridges	NA	
Extracts were eluted with 41.0 mL CH_2Cl_2	EMS4351	
Concentrated to volumes as noted above	✓	

ARG 5/1/15
Extraction Chemist / Date

Continued from page 1
Continued on page _____

Reviewed by / Date

Laboratory Job Number 266392

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/28/15
Units:	mg/Kg	Received:	04/28/15
Basis:	dry	Prepared:	04/30/15
Batch#:	222739	Analyzed:	04/30/15

Field ID: APLB21(2.5) Moisture: 8%
Type: SAMPLE Diln Fac: 1.000
Lab ID: 266392-004

Analyte	Result	RL
Diesel C10-C24	2.6 Y	1.1
Motor Oil C24-C36	13	5.5

Surrogate	%REC	Limits
o-Terphenyl	127	59-140

Field ID: APLB21(4.5) Moisture: 13%
Type: SAMPLE Diln Fac: 5.000
Lab ID: 266392-005

Analyte	Result	RL
Diesel C10-C24	60 Y	5.7
Motor Oil C24-C36	320	29

Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Field ID: APLB21(9.5) Moisture: 17%
Type: SAMPLE Diln Fac: 1.000
Lab ID: 266392-006

Analyte	Result	RL
Diesel C10-C24	2.9 Y	1.2
Motor Oil C24-C36	10	6.0

Surrogate	%REC	Limits
o-Terphenyl	93	59-140

Type: BLANK Diln Fac: 1.000
Lab ID: QC786142

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786143	Batch#:	222739
Matrix:	Soil	Prepared:	04/30/15
Units:	mg/Kg	Analyzed:	04/30/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.20	56.54	113	58-137

Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222739
MSS Lab ID:	266408-003	Sampled:	04/27/15
Matrix:	Soil	Received:	04/29/15
Units:	mg/Kg	Prepared:	04/30/15
Basis:	dry	Analyzed:	04/30/15
Diln Fac:	1.000		

Type: MS Moisture: 9%
Lab ID: QC786144

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	5.026	55.23	69.14	116	46-154

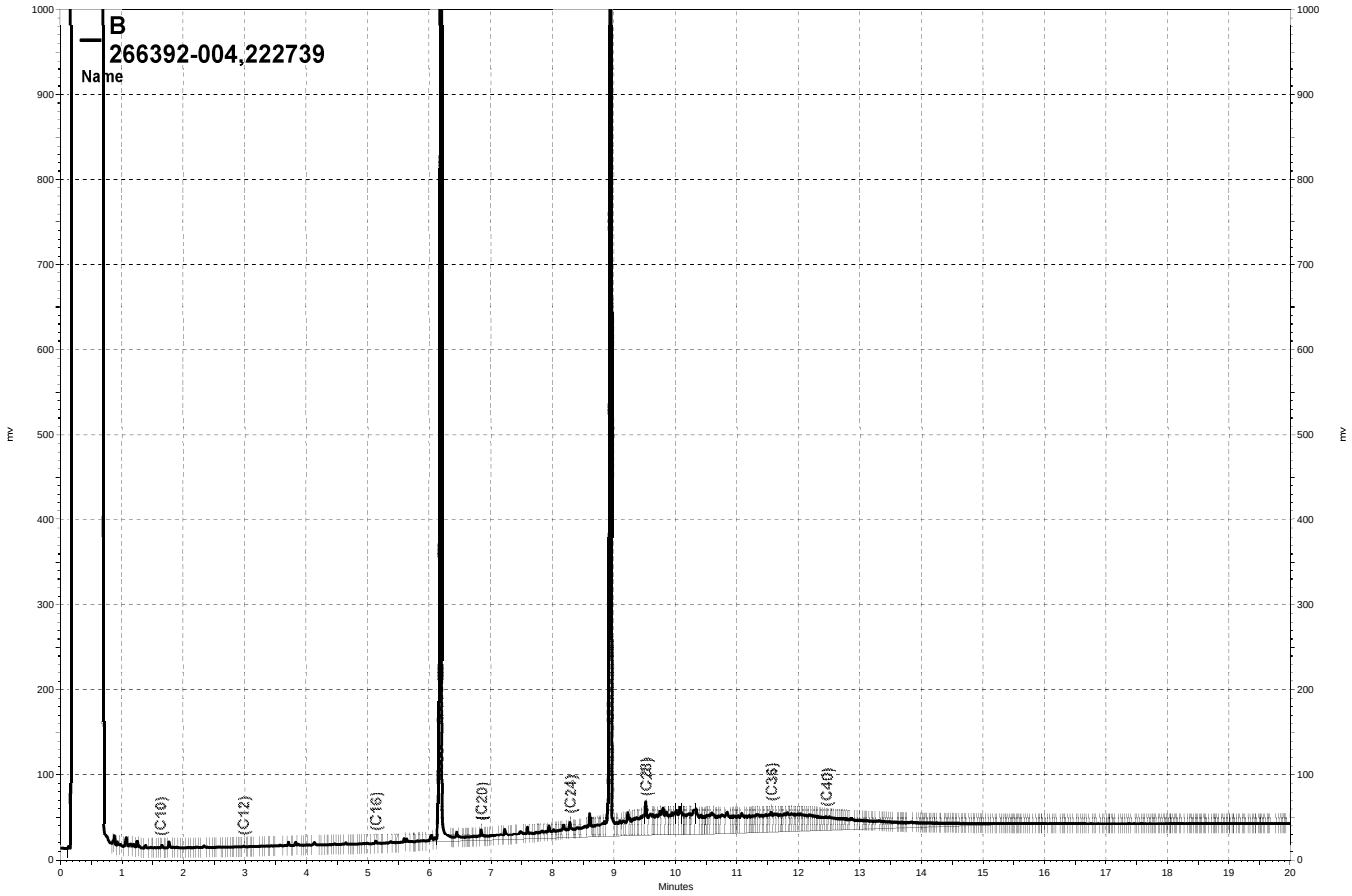
Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Type: MSD Moisture: 9%
Lab ID: QC786145

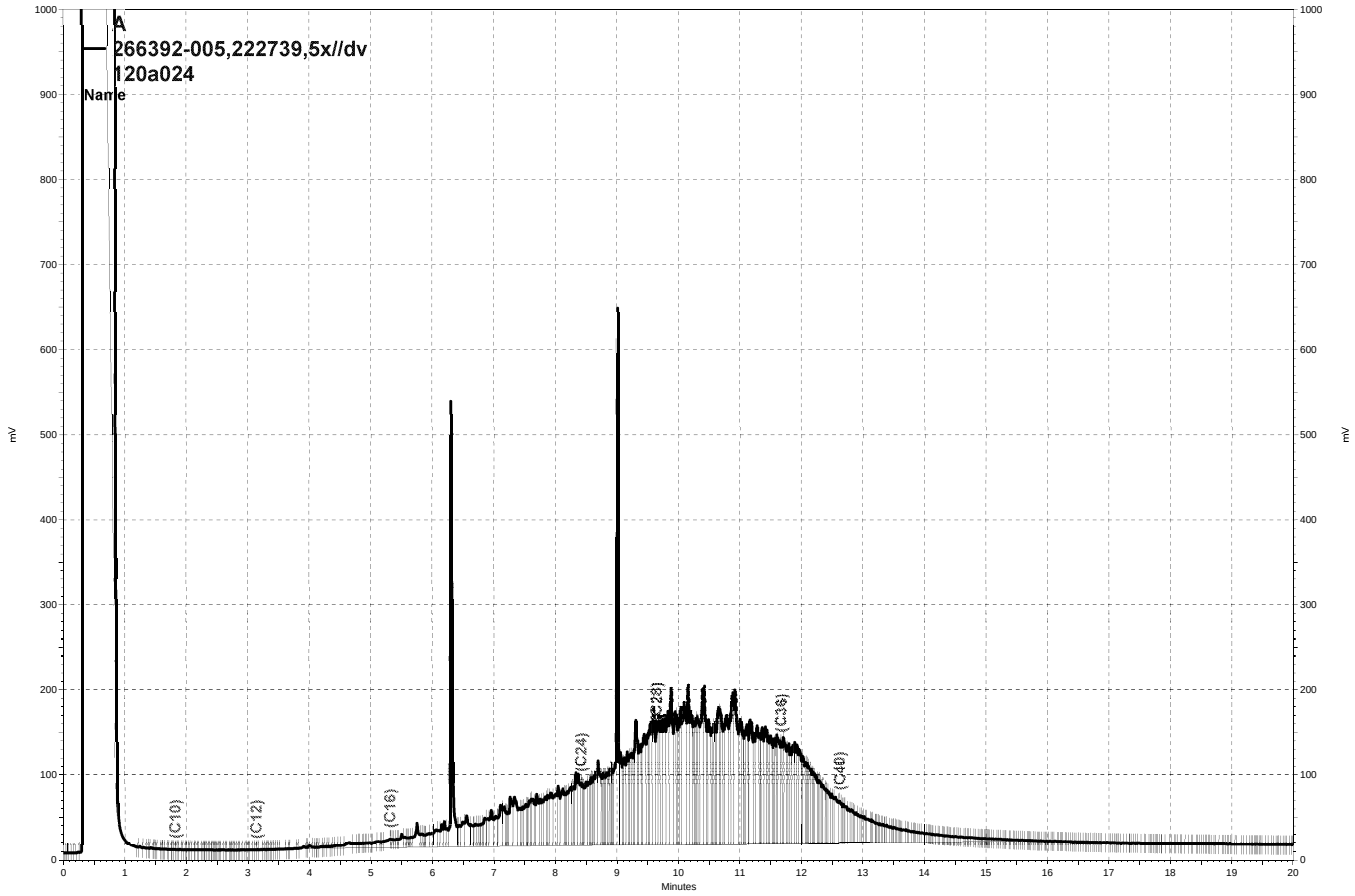
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	55.39	67.11	112	46-154	3	50

Surrogate	%REC	Limits
o-Terphenyl	117	59-140

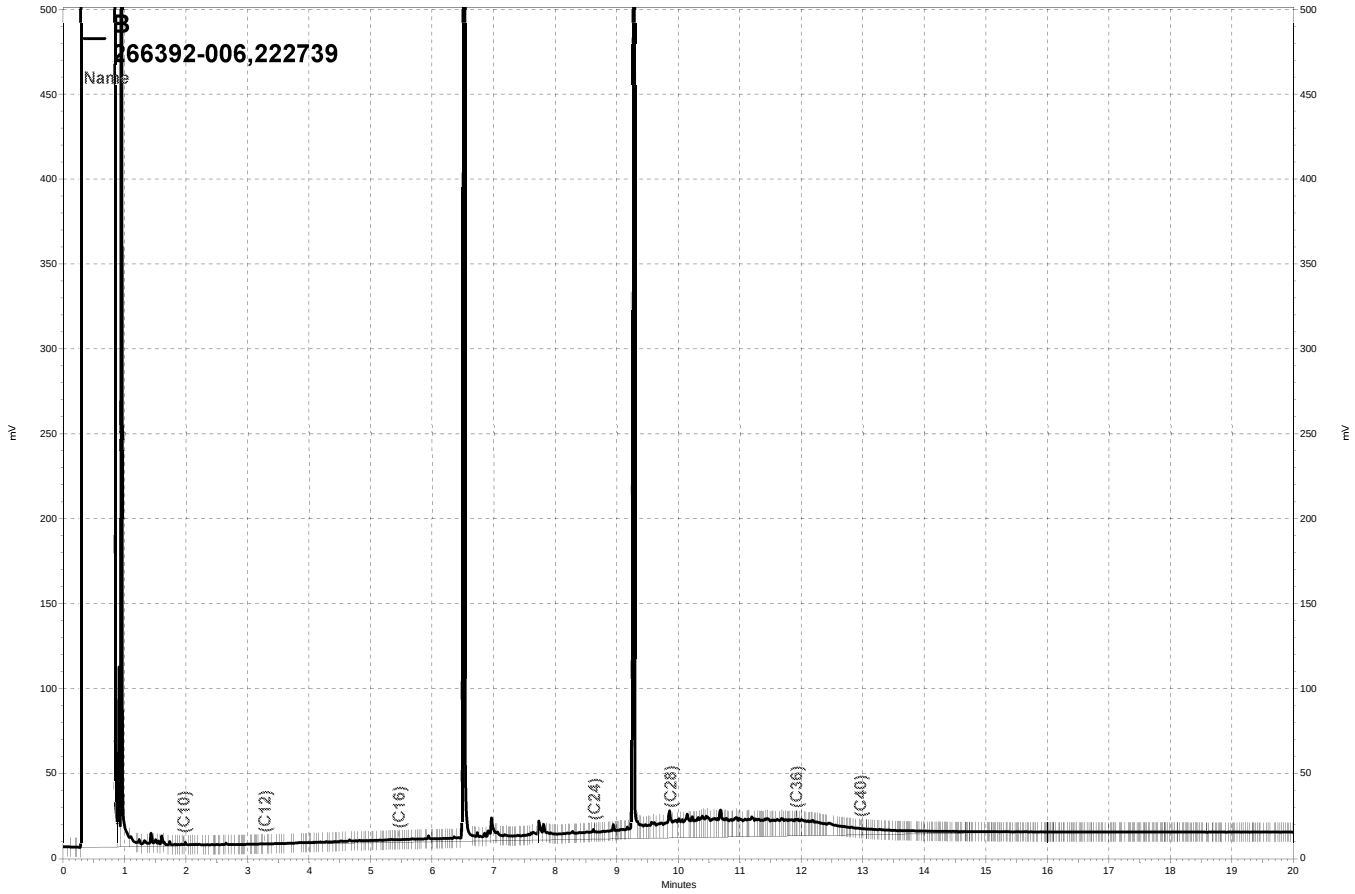
RPD= Relative Percent Difference



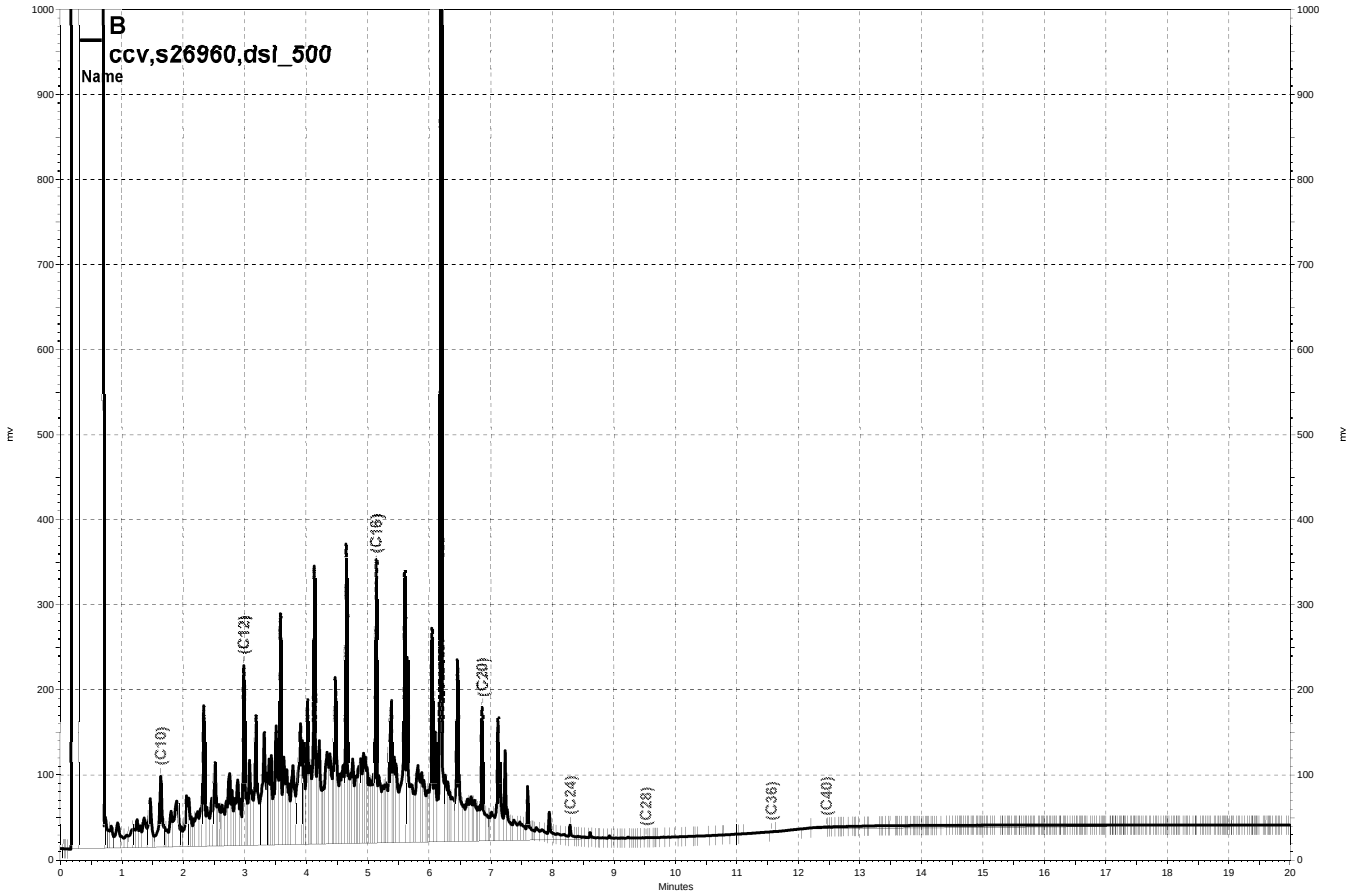
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b031, B



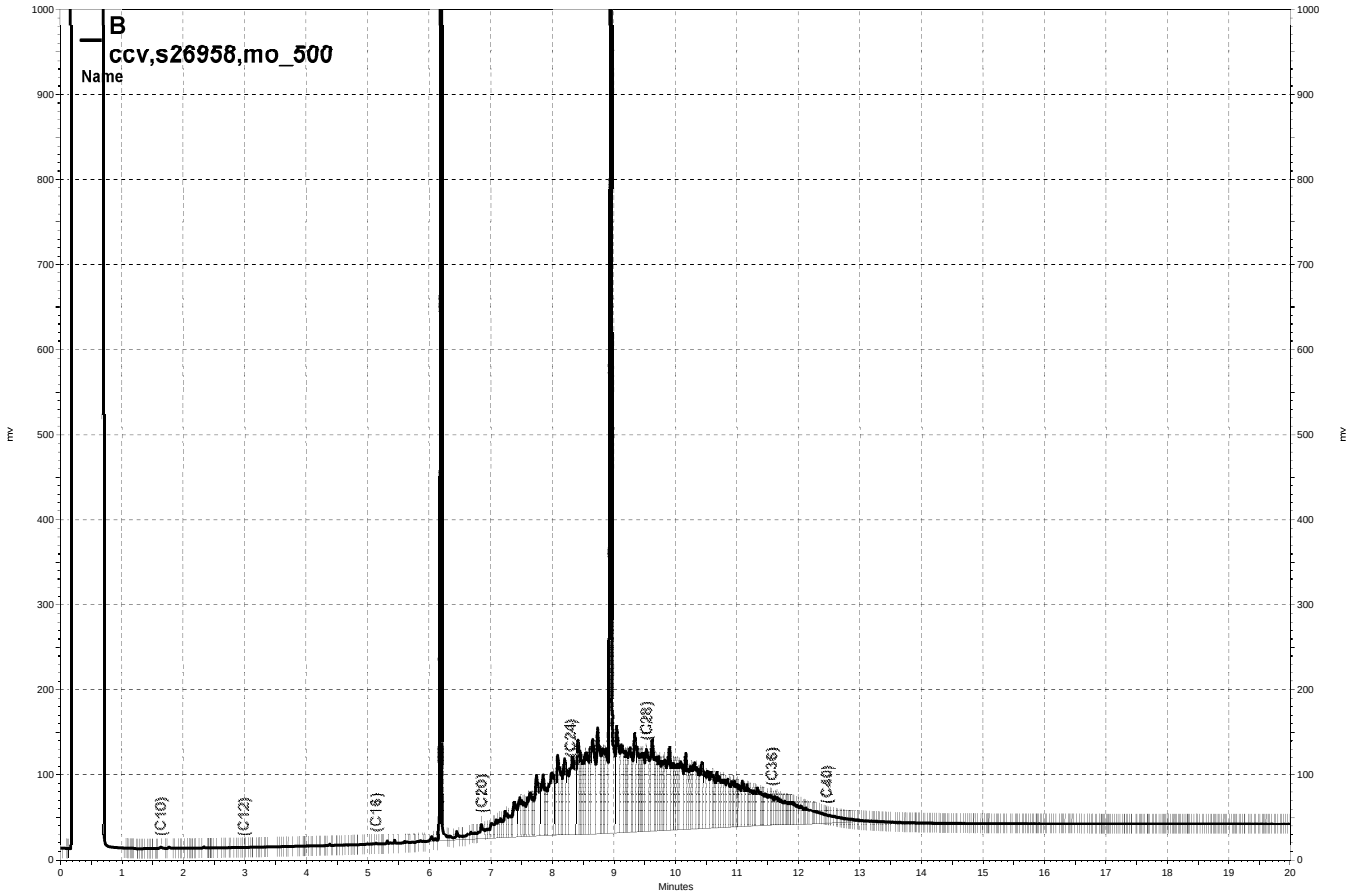
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\120a024, A



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\120b026, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b017, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\120b016, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Soil
EPA 8015B

Inst : GC14B Name : DSL_364
Calnum : 224523202001 Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 225161742001
Units : mg/L

Name : OTPHEX_112
Date : 22-APR-2015 17:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_013	225161742013	HEX OTP_5	22-APR-2015 17:35	S26468
L2	112_014	225161742014	HEX OTP_10	22-APR-2015 18:02	S26469
L3	112_015	225161742015	HEX OTP_25	22-APR-2015 18:30	S26470
L4	112_016	225161742016	HEX OTP_50	22-APR-2015 18:59	S26471
L5	112_017	225161742017	HEX OTP_100	22-APR-2015 19:27	S26472
L6	112_018	225161742018	HEX OTP_200	22-APR-2015 19:55	S26473

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	41558	43661	41740	41428	40639	40974	AVRG		2.40E-5		41667	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	0	10.000	5	25.000	0	50.000	-1	100.00	-2	200.00	-2

JDG 04/23/15 [Hexacosane B]: Samples requiring Hexacosane will not be analyzed on this instrument.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC14B
Calnum : 225161742002
Units : mg/L

Name : MO_112
Date : 22-APR-2015 20:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_020	225161742020	MO_50	22-APR-2015 20:52	S26392
L2	112_021	225161742021	MO_250	22-APR-2015 21:21	S26393
L3	112_022	225161742022	MO_500	22-APR-2015 21:49	S26394
L4	112_023	225161742023	MO_1000	22-APR-2015 22:17	S26395
L5	112_024	225161742024	MO_2500	22-APR-2015 22:46	S26389 (2X)
L6	112_025	225161742025	MO_5000	22-APR-2015 23:14	S26389

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	18614	22373	22608	22415	23777	21336	AVRG		4.58E-5		21854	8	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.000	-15	250.00	2	500.00	3	1000.0	3	2500.0	9	5000.0	-2

JDG 04/23/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

225161742002

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Soil
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483001
Units : mg/L

Name : OTPHEX_068
Date : 09-MAR-2015 12:32
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a006	175098483006	HEXOTP_5	09-MAR-2015 12:32	S26468
L2	068a007	175098483007	HEXOTP_10	09-MAR-2015 13:00	S26469
L3	068a008	175098483008	HEXOTP_25	09-MAR-2015 13:27	S26470
L4	068a009	175098483009	HEXOTP_50	09-MAR-2015 13:55	S26471
L5	068a010	175098483010	HEXOTP_100	09-MAR-2015 14:23	S26472
L6	068a011	175098483011	HEXOTP_200	09-MAR-2015 14:51	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	65431	66263	74546	76430	76757	76644	AVRG		1.38E-5		72678	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-10	10.000	-9	25.000	3	50.000	5	100.00	6	200.00	5

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_5 (068a006).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_50 (068a009).

SFL 03/10/15 : Corrected automatically drawn baseline in HEXOTP_100 (068a010).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483002
Units : mg/L

Name : DSL_068
Date : 09-MAR-2015 15:47
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a013	175098483013	DSL_10	09-MAR-2015 15:47	S26213
L2	068a014	175098483014	DSL_100	09-MAR-2015 16:15	S25844
L3	068a015	175098483015	DSL_500	09-MAR-2015 16:43	S25845
L4	068a016	175098483016	DSL_1000	09-MAR-2015 17:11	S25846
L5	068a017	175098483017	DSL_5000	09-MAR-2015 17:38	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	68069	68135	68803	69079	68596	AVRG		1.46E-5		68536	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-1	100.00	-1	500.00	0	1000.0	1	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline for all levels except L5

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_068
Calnum : 175098483002 Cal Date : 09-MAR-2015

ICV 175098483019 (068a019 09-MAR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	466.9	mg/L	-7	15	

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175098483003
Units : mg/L

Name : MO_068
Date : 09-MAR-2015 19:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	068a022	175098483022	MO_50	09-MAR-2015 19:59	S26392
L2	068a023	175098483023	MO_250	09-MAR-2015 20:27	S26393
L3	068a024	175098483024	MO_500	09-MAR-2015 20:55	S26394
L4	068a025	175098483025	MO_1000	09-MAR-2015 21:23	S26395
L5	068a026	175098483026	MO_2500	09-MAR-2015 21:52	S26389 (2X)
L6	068a027	175098483027	MO_5000	09-MAR-2015 22:20	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	39977	45859	46757	46197	44946	44699	AVRG		2.24E-5		44739	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	-11	250.00	3	500.00	5	1000.0	3	2500.0	0	5000.0	0

SFL 03/10/15 : Corrected automatically drawn baseline in MO_50 (068a022).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_250 (068a023).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_1000 (068a025).

SFL 03/10/15 : Corrected automatically drawn baseline in MO_5000 (068a027).

Analyst: SFL Date: 03/10/15 Reviewer: EAH Date: 03/10/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225173230018 File : 120_018 Time : 30-APR-2015 15:16
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20147	500.0	461.0	mg/L	-8	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37658	50.00	45.19	mg/L	-10	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225173230019 File : 120_019 Time : 30-APR-2015 15:44
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	34586	500.0	520.2	mg/L	4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38359	50.00	46.03	mg/L	-8	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225173230032 File : 120_032 Time : 30-APR-2015 21:56
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20334	500.0	465.2	mg/L	-7	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38203	50.00	45.84	mg/L	-8	15	

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225173230033 File : 120_033 Time : 30-APR-2015 22:25
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	34725	500.0	522.3	mg/L	4	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38506	50.00	46.21	mg/L	-8	15	

JDG 05/01/15 : DSL_500: s26960

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165173232016 File : 120b016 Time : 30-APR-2015 14:14
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	29592	500.0	426.4	mg/L	-15	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	57321	50.00	50.92	mg/L	2	15	

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 165173232017 File : 120b017 Time : 30-APR-2015 14:42
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50415	500.0	544.7	mg/L	9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60419	50.00	53.68	mg/L	7	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165173232032 File : 120b032 Time : 30-APR-2015 23:11
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	32011	500.0	461.3	mg/L	-8	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	58507	50.00	51.98	mg/L	4	15	

EAH 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165173232033 File : 120b033 Time : 30-APR-2015 23:39
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	48291	250.0	260.9	mg/L	4	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	58215	50.00	51.72	mg/L	3	15	

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: EAH Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231012 File : 120a012 Time : 30-APR-2015 12:21
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46390	500.0	518.5	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	77236	50.00	53.14	mg/L	6	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175173231013 File : 120a013 Time : 30-APR-2015 12:49
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	66974	500.0	488.6	mg/L	-2	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	78596	50.00	54.07	mg/L	8	15	

SFL 04/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 04/30/15 Reviewer: EAH Date: 04/30/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175173231026 File : 120a026 Time : 30-APR-2015 19:47
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175098483003	09-MAR-2015	44739	46535	500.0	520.1	mg/L	4	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	76397	50.00	52.56	mg/L	5	15	

JDG 05/01/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175173231027 File : 120a027 Time : 30-APR-2015 20:15
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175098483002	09-MAR-2015	68536	65265	1000	952.3	mg/L	-5	15	
o-Terphenyl	175098483001	09-MAR-2015	72678	79842	50.00	54.93	mg/L	10	15	

JDG 05/01/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/01/15 Reviewer: SFL Date: 05/01/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165173232

Instrument : GC15B
Method : EPA 8015B
Begun : 04/30/15 07:12
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	120b001	X	IB			04/30/15 07:12	1.0		
002	120b002	X	CMARKER			04/30/15 07:40	1.0	1	
003	120b003	CCV	MO_500			04/30/15 08:08	1.0	2	
004	120b004	CCV	DSL_1000			04/30/15 08:36	1.0	3	
005	120b005	SAMPLE	266374-015	Soil	222707	04/30/15 09:08	1.0		10:BUNKC:10-40=66000
006	120b006	SAMPLE	266374-014	Soil	222707	04/30/15 09:36	1.0		
007	120b007	SAMPLE	266374-017	Soil	222707	04/30/15 10:04	1.0		
008	120b008	SAMPLE	266374-016	Soil	222707	04/30/15 10:32	2.0		2:BUNKC:12-40=5400
009	120b009	SAMPLE	266374-018	Soil	222707	04/30/15 10:59	2.0		
010	120b010	X	IB			04/30/15 11:27	1.0		
011	120b011	SAMPLE	266383-002	Soil	222707	04/30/15 11:55	1.0		
012	120b012	SAMPLE	266383-001	Soil	222707	04/30/15 12:23	1.0		
013	120b013	SAMPLE	266383-003	Soil	222707	04/30/15 12:50	1.0		
014	120b014	SAMPLE	266383-004	Soil	222707	04/30/15 13:18	1.0		
015	120b015	SAMPLE	266383-005	Soil	222707	04/30/15 13:46	1.0		
016	120b016	CCV	MO_500			04/30/15 14:14	1.0	2	
017	120b017	CCV	DSL_500			04/30/15 14:42	1.0	4	
018	120b018	CHECK	MO_500			04/30/15 15:31	1.0	5	
019	120b019	X	CMARKER			04/30/15 15:59	1.0	1	
020	120b020	BLANK	QC786142	Soil	222739	04/30/15 17:39	1.0		
021	120b021	LCS	QC786143	Soil	222739	04/30/15 18:06	1.0		
022	120b022	MSS	266408-003	Soil	222739	04/30/15 18:34	1.0		
023	120b023	MS	QC786144	Soil	222739	04/30/15 19:02	1.0		
024	120b024	MSD	QC786145	Soil	222739	04/30/15 19:30	1.0		
025	120b025	SAMPLE	266374-021	Soil	222739	04/30/15 19:57	1.0		
026	120b026	SAMPLE	266391-002	Soil	222739	04/30/15 20:25	1.0		
027	120b027	SAMPLE	266391-003	Soil	222739	04/30/15 20:53	1.0		3:DSL:16-24=8400
028	120b028	SAMPLE	266391-004	Soil	222739	04/30/15 21:20	1.0		3:DSL:16-24=6600
029	120b029	SAMPLE	266391-005	Soil	222739	04/30/15 21:48	1.0		3:BUNKC:12-40=7800
030	120b030	SAMPLE	266391-007	Soil	222739	04/30/15 22:16	1.0		3:DSL:16-24=6400
031	120b031	SAMPLE	266392-004	Soil	222739	04/30/15 22:44	1.0		
032	120b032	CCV	MO_500			04/30/15 23:11	1.0	2	
033	120b033	CCV	DSL_250			04/30/15 23:39	1.0	6	
034	120b034	X	CCV			05/01/15 00:07	1.0	2	
035	120b035	X	CCV			05/01/15 00:35	1.0	6	

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 35.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S27173 6=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175098483

Instrument : GC17A
Method : EPA 8015B
Begun : 03/09/15 09:23
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	068a001	X	IB			03/09/15 09:23	1.0		
002	068a002	X	CMARKER			03/09/15 09:52	1.0	1	
003	068a003	CCV	MO_500			03/09/15 10:20	1.0	2	
004	068a004	CCV	DSL_250			03/09/15 10:48	1.0	3	
005	068a005	IB	CALIB			03/09/15 12:04	1.0		
006	068a006	ICAL	HEXOTP_5			03/09/15 12:32	1.0	4	
007	068a007	ICAL	HEXOTP_10			03/09/15 13:00	1.0	5	
008	068a008	ICAL	HEXOTP_25			03/09/15 13:27	1.0	6	
009	068a009	ICAL	HEXOTP_50			03/09/15 13:55	1.0	7	
010	068a010	ICAL	HEXOTP_100			03/09/15 14:23	1.0	8	
011	068a011	ICAL	HEXOTP_200			03/09/15 14:51	1.0	9	
012	068a012	IB	CALIB			03/09/15 15:19	1.0		
013	068a013	ICAL	DSL_10			03/09/15 15:47	1.0	10	
014	068a014	ICAL	DSL_100			03/09/15 16:15	1.0	11	
015	068a015	ICAL	DSL_500			03/09/15 16:43	1.0	12	
016	068a016	ICAL	DSL_1000			03/09/15 17:11	1.0	13	
017	068a017	ICAL	DSL_5000			03/09/15 17:38	1.0	14	
018	068a018	IB	CALIB			03/09/15 18:06	1.0		
019	068a019	ICV	DSL_500			03/09/15 18:34	1.0	15	
020	068a020	X	ICV			03/09/15 19:02	1.0	16	
021	068a021	IB	CALIB			03/09/15 19:31	1.0		
022	068a022	ICAL	MO_50			03/09/15 19:59	1.0	17	
023	068a023	ICAL	MO_250			03/09/15 20:27	1.0	18	
024	068a024	ICAL	MO_500			03/09/15 20:55	1.0	19	
025	068a025	ICAL	MO_1000			03/09/15 21:23	1.0	20	
026	068a026	ICAL	MO_2500			03/09/15 21:52	1.0	21	
027	068a027	ICAL	MO_5000			03/09/15 22:20	1.0	21	
028	068a028	IB	CALIB			03/09/15 22:48	1.0		
029	068a029	CMARKER	C8-C50			03/09/15 23:16	1.0	1	
030	068a030	IB	CALIB			03/09/15 23:44	1.0		

SFL 03/10/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Standards used: 1=S26646 2=S26734 3=S26622 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S25641 17=S26392 18=S26393 19=S26394 20=S26395 21=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175173231

Instrument : GC17A
Method : EPA 8015B
Begun : 04/30/15 07:11
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	120a001	X	IB				04/30/15 07:11	1.0	
002	120a002	X	CMARKER				04/30/15 07:40	1.0	1
003	120a003	CCV	MO_500				04/30/15 08:08	1.0	2
004	120a004	CCV	DSL_1000				04/30/15 08:36	1.0	3
005	120a005	BLANK	QC786019		Soil	222707	04/30/15 09:03	1.0	
006	120a006	LCS	QC786020		Soil	222707	04/30/15 09:32	1.0	
007	120a007	SAMPLE	266420-002		Soil	222707	04/30/15 10:00	1.0	
008	120a008	MSS	266374-022		Soil	222707	04/30/15 10:28	2.0	
009	120a009	MS	QC786021		Soil	222707	04/30/15 10:56	2.0	
010	120a010	MSD	QC786022		Soil	222707	04/30/15 11:24	2.0	
011	120a011	X	IB				04/30/15 11:53	1.0	
012	120a012	CCV	MO_500				04/30/15 12:21	1.0	2
013	120a013	CCV	DSL_250				04/30/15 12:49	1.0	4
014	120a014	SAMPLE	266386-001		Soil	222707	04/30/15 14:10	1.0	
015	120a015	SAMPLE	266374-015		Soil	222707	04/30/15 14:38	20.0	
016	120a016	X	IB				04/30/15 15:06	1.0	
017	120a017	SAMPLE	266393-001	S	Water	222656	04/30/15 15:34	1.0	
018	120a018	SAMPLE	266393-002	S	Water	222656	04/30/15 16:03	1.0	
019	120a019	SAMPLE	266401-001	S	Water	222656	04/30/15 16:31	1.0	
020	120a020	SAMPLE	266392-002		Water	222656	04/30/15 16:59	1.0	
021	120a021	SAMPLE	266392-003		Water	222656	04/30/15 17:27	1.0	
022	120a022	SAMPLE	266374-019		Soil	222739	04/30/15 17:55	3.0	
023	120a023	SAMPLE	266374-020		Soil	222739	04/30/15 18:23	3.0	
024	120a024	SAMPLE	266392-005		Soil	222739	04/30/15 18:51	5.0	
025	120a025	X	CMARKER				04/30/15 19:19	1.0	1
026	120a026	CCV	MO_500				04/30/15 19:47	1.0	2
027	120a027	CCV	DSL_1000				04/30/15 20:15	1.0	3
028	120a028	X	CCV				04/30/15 20:43	1.0	2
029	120a029	X	CCV				04/30/15 21:10	1.0	3
030	120a030	SAMPLE	266408-007		Soil	222739	04/30/15 21:38	1.0	
031	120a031	SAMPLE	266460-001		Soil	222739	04/30/15 22:05	1.0	
032	120a032	SAMPLE	266460-002		Soil	222739	04/30/15 22:34	1.0	
033	120a033	CCV	MO_500				04/30/15 23:01	1.0	2
034	120a034	CCV	DSL_250				04/30/15 23:29	1.0	5

SFL 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 34.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225161742

Instrument : GC14B
Method : EPA 8015B
Begun : 04/22/15 07:42
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	112_001	X	IB			04/22/15 07:42	1.0		
002	112_002	X	C8-C50			04/22/15 08:10	1.0	1	
003	112_003	X	MO_500			04/22/15 08:39	1.0	2	
004	112_004	X	DSL_500			04/22/15 09:08	1.0	3	
005	112_005	X	JP5_250			04/22/15 11:07	1.0	4	
006	112_006	X	IB			04/22/15 13:08	1.0		
007	112_007	X	C8-C50			04/22/15 13:36	1.0	1	
008	112_008	X	MO_500			04/22/15 14:04	1.0	2	
009	112_009	X	DSL_250			04/22/15 14:32	1.0	5	
010	112_010	X	MO_500			04/22/15 15:57	1.0	2	
011	112_011	X	DSL_250			04/22/15 16:25	1.0	5	
012	112_012	IB	CALIB			04/22/15 17:07	1.0		
013	112_013	ICAL	HEX OTP_5			04/22/15 17:35	1.0	6	
014	112_014	ICAL	HEX OTP_10			04/22/15 18:02	1.0	7	
015	112_015	ICAL	HEX OTP_25			04/22/15 18:30	1.0	8	
016	112_016	ICAL	HEX OTP_50			04/22/15 18:59	1.0	9	
017	112_017	ICAL	HEX OTP_100			04/22/15 19:27	1.0	10	
018	112_018	ICAL	HEX OTP_200			04/22/15 19:55	1.0	11	
019	112_019	IB	CALIB			04/22/15 20:23	1.0		
020	112_020	ICAL	MO_50			04/22/15 20:52	1.0	12	
021	112_021	ICAL	MO_250			04/22/15 21:21	1.0	13	
022	112_022	ICAL	MO_500			04/22/15 21:49	1.0	14	
023	112_023	ICAL	MO_1000			04/22/15 22:17	1.0	15	
024	112_024	ICAL	MO_2500			04/22/15 22:46	1.0	16	
025	112_025	ICAL	MO_5000			04/22/15 23:14	1.0	16	
026	112_026	IB	CALIB			04/22/15 23:43	1.0		
027	112_027	CMARKER	C8-C50			04/23/15 00:11	1.0	1	
028	112_028	IB	CALIB			04/23/15 00:39	1.0		

JDG 04/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26646 2=S26958 3=S26960 4=S26748 5=S26959 6=S26468 7=S26469 8=S26470 9=S26471 10=S26472 11=S26473 12=S26392 13=S26393 14=S26394 15=S26395 16=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225173230

Instrument : GC14B
Method : EPA 8015B
Begun : 04/30/15 07:10
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	120_001	X	IB				04/30/15 07:10	1.0	
002	120_002	X	CMARKER				04/30/15 07:39	1.0	1
003	120_003	CCV	MO_500				04/30/15 08:08	1.0	2
004	120_004	CCV	DSL_1000				04/30/15 08:37	1.0	3
005	120_005	CCV	HYFL_500				04/30/15 09:05	1.0	4
006	120_006	SAMPLE	266373-002	S	Water	222656	04/30/15 09:34	1.0	
007	120_007	SAMPLE	266373-003	S	Water	222656	04/30/15 10:03	1.0	
008	120_008	SAMPLE	266373-005	S	Water	222656	04/30/15 10:32	1.0	
009	120_009	SAMPLE	266385-003		Soil	222707	04/30/15 11:00	1.0	
010	120_010	SAMPLE	266385-001		Soil	222707	04/30/15 11:28	1.0	
011	120_011	X	IB				04/30/15 11:56	1.0	
012	120_012	SAMPLE	266386-003		Soil	222707	04/30/15 12:25	1.0	
013	120_013	SAMPLE	266386-004		Soil	222707	04/30/15 12:53	1.0	
014	120_014	X	IB				04/30/15 13:21	1.0	
015	120_015	SAMPLE	266373-002		Water	222656	04/30/15 13:50	1.0	
016	120_016	SAMPLE	266373-003		Water	222656	04/30/15 14:19	1.0	
017	120_017	SAMPLE	266373-005		Water	222656	04/30/15 14:47	1.0	
018	120_018	CCV	MO_500				04/30/15 15:16	1.0	2
019	120_019	CCV	DSL_500				04/30/15 15:44	1.0	5
020	120_020	CCV	HYFL_500				04/30/15 16:13	1.0	4
021	120_021	X	CMARKER				04/30/15 16:46	1.0	1
022	120_022	SAMPLE	266401-002	S	Water	222656	04/30/15 17:14	1.0	
023	120_023	SAMPLE	266373-002	S	Water	222656	04/30/15 17:42	1.0	
024	120_024	SAMPLE	266373-003	S	Water	222656	04/30/15 18:11	1.0	
025	120_025	SAMPLE	266373-005	S	Water	222656	04/30/15 18:39	1.0	
026	120_026	SAMPLE	266392-006		Soil	222739	04/30/15 19:07	1.0	
027	120_027	SAMPLE	266408-001		Soil	222739	04/30/15 19:36	1.0	
028	120_028	SAMPLE	266408-002		Soil	222739	04/30/15 20:04	1.0	
029	120_029	SAMPLE	266408-004		Soil	222739	04/30/15 20:32	1.0	
030	120_030	SAMPLE	266408-005		Soil	222739	04/30/15 21:00	1.0	
031	120_031	SAMPLE	266408-006		Soil	222739	04/30/15 21:28	1.0	
032	120_032	CCV	MO_500				04/30/15 21:56	1.0	2
033	120_033	CCV	DSL_500				04/30/15 22:25	1.0	5
034	120_034	CCV	HYFL_500				04/30/15 22:53	1.0	4
035	120_035	X	CCV				04/30/15 23:22	1.0	2
036	120_036	X	CCV				04/30/15 23:50	1.0	6
037	120_037	X	CCV				05/01/15 00:18	1.0	4

JDG 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960 6=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 222739
Started By : JCD
Prep Date : 30-APR-2015 12:19
Method : 3550B
Analysis : TEH
Finished By : JCD
Units : g
Spike #1 ID : S27144
Spike #2 ID : S26964

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266374-019		Soil	50.02	5	1	0.09996		1				TEHM	
266374-020		Soil	50.32	5	1	0.09936		1				TEHM	
266374-021		Soil	50	5	1	0.1000		1				TEHM	
266391-002		Soil	50.25	5	1	0.0995		1				TEHM	
266391-003		Soil	49.96	5	1	0.1001		1				TEHM	
266391-004		Soil	50.07	5	1	0.09986		1				TEHM	
266391-005		Soil	50.19	5	1	0.09962		1				TEHM	
266391-007		Soil	50.46	5	1	0.09909		1				TEHM	
266392-004		Soil	49.82	5	1	0.1004		1				TEHM	
266392-005		Soil	50.32	5	1	0.09936		1				TEHM	
266392-006		Soil	49.82	5	1	0.1004		1				TEHM	
266408-001		Soil	50.35	5	1	0.0993		1				TEHM	
266408-002		Soil	49.6	5	1	0.1008		1				TEHM	
266408-003		Soil	49.65	5	1	0.1007		1				TEHM	
266408-004		Soil	50.11	5	1	0.09978		1				TEHM	
266408-005		Soil	49.84	5	1	0.1003		1				TEHM	
266408-006		Soil	49.95	5	1	0.1001		1				TEHM	
266408-007		Soil	50.41	5	1	0.09919		1				TEHM	
266460-001		Soil	50.34	5	1	0.09932		1				TEH	
266460-002		Soil	49.73	5	1	0.1005		1				TEH	
QC786142	BLANK	Soil	49.84	5	1	0.1003		1					
QC786143	LCS	Soil	49.8	5	1	0.1004		1	1				
QC786144	MS	Soil	49.74	5	1	0.1005		1	1				
QC786145	MSD	Soil	49.6	5	1	0.1008		1	1				

Analyst: SFL Date: 05/01/15 Reviewer: EAH Date: 05/01/15

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 42

LIMS Batch No: 222739
LIMS Analysis TEH/M
Date Extracted: 4/30/15

Extraction Method:
☐ Shaker Table
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	2166374-019	P	50.02	☑ 5.0 ☐		
	20	↓	50.32	☑ 5.0 ☐		
	21	↓	50.00	☑ 5.0 ☐		
	2166391-002	A	50.25	☑ 5.0 ☐		
5	3	↓	49.96	☑ 5.0 ☐		
	4	↓	50.07	☑ 5.0 ☐		
	5	↓	50.19	☑ 5.0 ☐		
	7	↓	50.46	☑ 5.0 ☐		
	2166392-004	B	49.82	☑ 5.0 ☐		
10	5	A	50.32	☑ 5.0 ☐		
	6	↓	49.82	☑ 5.0 ☐		
	2166408-001	C	50.35	☑ 5.0 ☐		
	2	↓	49.60	☑ 5.0 ☐		
	3	↓	49.65	☑ 5.0 ☐		
15	4	↓	50.11	☑ 5.0 ☐		
	5	↓	49.84	☑ 5.0 ☐		
	6	↓	49.95	☑ 5.0 ☐		
	7	↓	50.41	☑ 5.0 ☐		
	2166410-001	S	50.34	☑ 5.0 ☐		
20	2	↓	49.73	☑ 5.0 ☐		
	MS 736142	MA	49.84	☑ 5.0 ☐		
	LCS 3	↓	49.80	☑ 5.0 ☐		
	MS 4	↓	49.74	☑ 5.0 ☐		
	MSD 5	↓	49.60	☐ 5.0 ☐		
				☐ 5.0 ☐		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMXE87F	JCO 4/30/15
Samples were dried with CH2Cl2-rinsed powdered Na2SO4	↓	
1.0 mL of Surrogate solution was added to all samples	S27144 $	
1.0 mL of Spike solution was added to all spikes	S216961 E	
1:1 CH_2Cl_2 (lot# EM54275):Acetone(lot# EM54318) was added to all	✓	
Solvent added at (time)	1219	
☑ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	✓	
taken off Shaker Table at:	NA	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM160405C509	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	↓

Jamie Boyle 4/30/15
Extraction Chemist / Date

Continued from page ____
Continued on page ____

SK 5/11/15
Reviewed by / Date

Laboratory Job Number 266392

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB7GW	Batch#:	222682
Lab ID:	266392-001	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	4.000		

Analyte	Result	RL
Freon 12	ND	4.0
Chloromethane	ND	4.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	4.0
Chloroethane	ND	4.0
Trichlorofluoromethane	ND	4.0
Acetone	ND	40
Freon 113	ND	8.0
1,1-Dichloroethene	ND	2.0
Methylene Chloride	ND	40
Carbon Disulfide	ND	2.0
MTBE	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Vinyl Acetate	ND	40
1,1-Dichloroethane	ND	2.0
2-Butanone	ND	40
cis-1,2-Dichloroethene	ND	2.0
2,2-Dichloropropane	ND	2.0
Chloroform	ND	2.0
Bromochloromethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1-Dichloropropene	ND	2.0
Carbon Tetrachloride	ND	2.0
1,2-Dichloroethane	ND	2.0
Benzene	ND	2.0
Trichloroethene	ND	2.0
1,2-Dichloropropane	ND	2.0
Bromodichloromethane	ND	2.0
Dibromomethane	ND	2.0
4-Methyl-2-Pentanone	ND	40
cis-1,3-Dichloropropene	ND	2.0
Toluene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
2-Hexanone	ND	40
1,3-Dichloropropane	ND	2.0
Tetrachloroethene	ND	2.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB7GW	Batch#:	222682
Lab ID:	266392-001	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	4.000		

Analyte	Result	RL
Dibromochloromethane	ND	2.0
1,2-Dibromoethane	ND	2.0
Chlorobenzene	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Ethylbenzene	ND	2.0
m,p-Xylenes	ND	2.0
o-Xylene	ND	2.0
Styrene	ND	2.0
Bromoform	ND	4.0
Isopropylbenzene	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Propylbenzene	ND	2.0
Bromobenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
4-Chlorotoluene	ND	2.0
tert-Butylbenzene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
sec-Butylbenzene	ND	2.0
para-Isopropyl Toluene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
n-Butylbenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,2-Dibromo-3-Chloropropane	ND	8.0
1,2,4-Trichlorobenzene	ND	2.0
Hexachlorobutadiene	ND	8.0
Naphthalene	ND	8.0
1,2,3-Trichlorobenzene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	114	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB9GW	Batch#:	222682
Lab ID:	266392-002	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
Chloromethane	ND	5.0
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Chloroethane	ND	5.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	50
Freon 113	ND	10
1,1-Dichloroethene	ND	2.5
Methylene Chloride	ND	50
Carbon Disulfide	ND	2.5
MTBE	ND	2.5
trans-1,2-Dichloroethene	ND	2.5
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	2.5
2-Butanone	ND	50
cis-1,2-Dichloroethene	ND	2.5
2,2-Dichloropropane	ND	2.5
Chloroform	ND	2.5
Bromochloromethane	ND	2.5
1,1,1-Trichloroethane	ND	2.5
1,1-Dichloropropene	ND	2.5
Carbon Tetrachloride	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	ND	2.5
Trichloroethene	ND	2.5
1,2-Dichloropropane	ND	2.5
Bromodichloromethane	ND	2.5
Dibromomethane	ND	2.5
4-Methyl-2-Pentanone	ND	50
cis-1,3-Dichloropropene	ND	2.5
Toluene	ND	2.5
trans-1,3-Dichloropropene	ND	2.5
1,1,2-Trichloroethane	ND	2.5
2-Hexanone	ND	50
1,3-Dichloropropane	ND	2.5
Tetrachloroethene	ND	2.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB9GW	Batch#:	222682
Lab ID:	266392-002	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	5.000		

Analyte	Result	RL
Dibromochloromethane	ND	2.5
1,2-Dibromoethane	ND	2.5
Chlorobenzene	ND	2.5
1,1,1,2-Tetrachloroethane	ND	2.5
Ethylbenzene	ND	2.5
m,p-Xylenes	ND	2.5
o-Xylene	ND	2.5
Styrene	ND	2.5
Bromoform	ND	5.0
Isopropylbenzene	ND	2.5
1,1,2,2-Tetrachloroethane	ND	2.5
1,2,3-Trichloropropane	ND	2.5
Propylbenzene	ND	2.5
Bromobenzene	ND	2.5
1,3,5-Trimethylbenzene	ND	2.5
2-Chlorotoluene	ND	2.5
4-Chlorotoluene	ND	2.5
tert-Butylbenzene	ND	2.5
1,2,4-Trimethylbenzene	ND	2.5
sec-Butylbenzene	ND	2.5
para-Isopropyl Toluene	ND	2.5
1,3-Dichlorobenzene	ND	2.5
1,4-Dichlorobenzene	ND	2.5
n-Butylbenzene	ND	2.5
1,2-Dichlorobenzene	ND	2.5
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	2.5
Hexachlorobutadiene	ND	10
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	124	75-139
Toluene-d8	113	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB42815	Batch#:	222682
Lab ID:	266392-007	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB42815	Batch#:	222682
Lab ID:	266392-007	Sampled:	04/28/15
Matrix:	Water	Received:	04/28/15
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	122	75-139
Toluene-d8	114	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222682
Units:	ug/L	Analyzed:	04/29/15
Diln Fac:	1.000		

Type: BS Lab ID: QC785922

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	11.25	90	66-135
Benzene	12.50	13.16	105	80-123
Trichloroethene	12.50	12.17	97	80-123
Toluene	12.50	13.14	105	80-121
Chlorobenzene	12.50	11.67	93	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	108	80-120
Bromofluorobenzene	96	80-120

Type: BSD Lab ID: QC785923

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.28	90	66-135	0	24
Benzene	12.50	14.14	113	80-123	7	20
Trichloroethene	12.50	12.61	101	80-123	4	20
Toluene	12.50	13.40	107	80-121	2	20
Chlorobenzene	12.50	11.66	93	80-123	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-128
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	97	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785924	Batch#:	222682
Matrix:	Water	Analyzed:	04/29/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC785924	Batch#:	222682
Matrix:	Water	Analyzed:	04/29/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-128
1,2-Dichloroethane-d4	122	75-139
Toluene-d8	111	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 266392 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 475049673001 File : hb301 Time : 03-FEB-2015 11:53

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6582	25.78	
75	30% - 60% of mass 95	12955	50.74	
95		25533	100.00	
96	5% - 9% of mass 95	1596	6.25	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	20165	78.98	
175	5% - 9% of mass 174	1698	8.42	
176	> 95% and < 101% of mass 174	19349	95.95	
177	5% - 9% of mass 176	1144	5.91	

Analyst: BO Date: 02/04/15 Reviewer: LW Date: 02/05/15

CURTIS & TOMPKINS BFB TUNE FOR 266392 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 475171883005 File : hdt05 Time : 29-APR-2015 11:55

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8361	34.18	
75	30% - 60% of mass 95	13282	54.29	
95		24464	100.00	
96	5% - 9% of mass 95	1710	6.99	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	18968	77.53	
175	5% - 9% of mass 174	1589	8.38	
176	> 95% and < 101% of mass 174	18864	99.45	
177	5% - 9% of mass 176	1038	5.50	

DJA 04/30/15 : single scan

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 04/30/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 MSVOA Water: EPA 8260B

Inst : MSVOA08 Name : 826GOX8
Calnum : 475049673001 Date : 03-FEB-2015 16:16 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	hb308	475049673008	.25/.5PPB	03-FEB-2015 16:16	S24977 (2000000X), S26318 (2000000X), S26396 (2000000X), S25156 (1000000X), S26525 (5000X)
L2	hb309	475049673009	0.5/1PPB	03-FEB-2015 16:49	S24977 (1000000X), S26318 (1000000X), S26396 (1000000X), S25156 (500000X), S26525 (5000X)
L3	hb310	475049673010	2PPB	03-FEB-2015 17:22	S24977 (500000X), S26318 (250000X), S26396 (250000X), S25156 (250000X), S26525 (5000X)
L4	hb311	475049673011	5PPB	03-FEB-2015 17:55	S24977 (200000X), S26318 (100000X), S26396 (100000X), S25156 (100000X), S26525 (5000X)
L5	hb312	475049673012	10PPB	03-FEB-2015 18:28	S24977 (100000X), S26318 (50000X), S26396 (50000X), S25156 (50000X), S26525 (5000X)
L6	hb313	475049673013	20PPB	03-FEB-2015 19:01	S24977 (50000X), S26318 (25000X), S26396 (25000X), S25156 (25000X), S26525 (5000X)
L7	hb314	475049673014	50PPB	03-FEB-2015 19:34	S24977 (20000X), S26318 (10000X), S26396 (10000X), S25156 (10000X), S26525 (5000X)
L8	hb315	475049673015	75PPB	03-FEB-2015 20:08	S24977 (13330X), S26318 (6667X), S26396 (6667X), S25156 (6667X), S26525 (5000X)
L9	hb316	475049673016	100PPB	03-FEB-2015 20:41	S24977 (10000X), S26318 (5000X), S26396 (5000X), S25156 (5000X), S26525 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6707	0.6790	0.7870	0.7324	0.6390	0.7878	0.7414	0.6677	AVRG		1.40225		0.7131	8	15	0.05	0.99	
Chloromethane	1.2048	1.1454	1.2104	1.1919	1.0901	1.0450	0.9947	0.9639	0.8573	AVRG		0.92750		1.0782	11	15	0.10	0.99	
Vinyl Chloride	0.9028	0.8580	0.8903	0.9593	0.8869	0.8492	0.8346	0.8135	0.7417	AVRG		1.16335		0.8596	7	15	0.05	0.99	
Bromomethane		0.3810	0.4317	0.4532	0.4339	0.4576	0.5006	0.5067	0.4714	AVRG		2.20010		0.4545	9	15	0.05	0.99	
Chloroethane		0.4802	0.4817	0.5342	0.4681	0.4668	0.4806	0.4769	0.4411	AVRG		2.08896		0.4787	5	15	0.05	0.99	
Trichlorofluoromethane		0.7477	0.7971	0.8862	0.8065	0.7623	0.8372	0.8236	0.7209	AVRG		1.25364		0.7977	7	15	0.05	0.99	
Acetone					0.1485	0.1226	0.1186	0.1228	0.1119	AVRG		8.00832		0.1249	11	15	0.05	0.99	
Freon 113		0.3207	0.4253	0.4768	0.4301	0.4233	0.4671	0.4757	0.4227	AVRG		2.32446		0.4302	12	15	0.05	0.99	
1,1-Dichloroethene		0.4568	0.4748	0.5099	0.4543	0.4534	0.4695	0.4685	0.4350	AVRG		2.14922		0.4653	5	15	0.05	0.99	
Methylene Chloride		0.5855	0.5626	0.6348	0.5740	0.5653	0.5807	0.5723	0.5108	AVRG		1.74445		0.5732	6	15	0.05	0.99	
Carbon Disulfide		1.6733	1.7521	1.9350	1.7315	1.7223	1.7334	1.7064	1.5144	AVRG		0.58104		1.7211	7	15	0.05	0.99	
MTBE		1.1197	1.3286	1.1737	1.1157	1.0480	1.1267	1.0768	0.9589	AVRG		0.89404		1.1185	10	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5212	0.5170	0.5592	0.5287	0.5225	0.5356	0.5252	0.4841	AVRG		1.90771		0.5242	4	15	0.05	0.99	
Vinyl Acetate				0.6852	0.6122	0.7130	0.7229	0.7159	0.6148	AVRG		1.47637		0.6773	8	15	0.05	0.99	
1,1-Dichloroethane		1.1019	1.0556	1.1407	1.0738	1.0449	1.0466	1.0117	0.9012	AVRG		0.95508		1.0470	7	15	0.10	0.99	
2-Butanone					0.1813	0.1603	0.1599	0.1623	0.1433	AVRG		6.19513		0.1614	8	15	0.05	0.99	
2,2-Dichloropropane		0.5694	0.5971	0.6166	0.6142	0.5975	0.6197	0.6249	0.5686	AVRG		1.66387		0.6010	4	15	0.05	0.99	
cis-1,2-Dichloroethene		0.5979	0.5724	0.6410	0.5862	0.5907	0.6047	0.6033	0.5497	AVRG		1.68568		0.5932	4	15	0.05	0.99	
Chloroform		1.0529	0.9787	1.0716	0.9950	0.9660	0.9466	0.9275	0.8361	AVRG		1.02903		0.9718	8	15	0.05	0.99	
Bromochloromethane		0.2336	0.2521	0.2649	0.2479	0.2502	0.2669	0.2756	0.2504	AVRG		3.91841		0.2552	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.8142	0.7192	0.7845	0.7222	0.6934	0.7218	0.7006	0.6155	AVRG		1.38615		0.7214	8	15	0.05	0.99	
1,1-Dichloropropene		0.3992	0.4990	0.4788	0.4508	0.4353	0.4734	0.4651	0.4214	AVRG		2.20805		0.4529	7	15	0.05	0.99	
Carbon Tetrachloride		0.1674	0.2548	0.2833	0.2942	0.2970	0.3463			QUAD	0.12275	3.54935	-0.03859	0.2738	1.000	15	0.05	0.99	
1,2-Dichloroethane		0.3932	0.4980	0.4620	0.4252	0.4232	0.4175	0.4194	0.3641	AVRG		2.35114		0.4253	10	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.3945	1.4206	1.4132	1.3211	1.3094	1.2971	1.2878	1.1339	AVRG		0.75631		1.3222	7	15	0.05	0.99	
Trichloroethene		0.3285	0.3598	0.3404	0.3256	0.3138	0.3355	0.3416	0.3135	AVRG		3.00893		0.3323	5	15	0.05	0.99	
1,2-Dichloropropane		0.3882	0.4016	0.4022	0.3765	0.3697	0.3966	0.3796	0.3448	AVRG		2.61489		0.3824	5	15	0.05	0.99	
Bromodichloromethane		0.4138	0.4426	0.4511	0.4426	0.4497	0.4706	0.4604	0.4153	AVRG		2.25604		0.4433	5	15	0.05	0.99	
Dibromomethane		0.1813	0.2400	0.2064	0.1935	0.2007	0.2076	0.2071	0.1888	AVRG		4.92224		0.2032	9	15	0.05	0.99	
4-Methyl-2-Pentanone				0.2513	0.2312	0.2359	0.2357	0.2383	0.2204	AVRG		4.24712		0.2355	4	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4583	0.4905	0.4961	0.4748	0.4717	0.5151	0.5157	0.4553	AVRG		2.06314		0.4847	5	15	0.05	0.99	
Toluene		0.9075	1.0035	0.9963	0.9167	0.8923	0.9304	0.9786	0.8877	AVRG		1.06482		0.9391	5	15	0.05	0.99	
trans-1,3-Dichloropropene		0.3994	0.5019	0.4772	0.4743	0.4748	0.4851	0.5091	0.4598	AVRG		2.11547		0.4727	7	15	0.05	0.99	
1,1,2-Trichloroethane		0.1492	0.1995	0.1724	0.1649	0.1647	0.1684	0.1779	0.1638	AVRG		5.87981		0.1701	9	15	0.05	0.99	
2-Hexanone				0.1900	0.1873	0.1843	0.1868	0.1980	0.1787	AVRG		5.33271		0.1875	3	15	0.05	0.99	
1,3-Dichloropropane		0.4823	0.5934	0.5118	0.4860	0.4852	0.5062	0.5249	0.4779	AVRG		1.96675		0.5085	7	15	0.05	0.99	
Tetrachloroethene		0.2768	0.3323	0.3185	0.3086	0.2926	0.3309	0.3592	0.3383	AVRG		3.12831		0.3197	8	15	0.05	0.99	
Dibromochloromethane		0.2762	0.3451	0.3219	0.3147	0.3258	0.3482	0.3822	0.3474	AVRG		3.00582		0.3327	9	15	0.05	0.99	
1,2-Dibromoethane		0.2614	0.3650	0.2939	0.2872	0.2863	0.2961	0.3076	0.2861	AVRG		3.35624		0.2980	10	15	0.05	0.99	
Chlorobenzene		0.9918	1.0798	1.0418	0.9823	0.9325	0.9737	0.9982	0.8924	AVRG		1.01363		0.9866	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2661	0.3009	0.3192	0.3075	0.2982	0.3339	0.3567	0.3272	AVRG		3.18757		0.3137	9	15	0.05	0.99	
Ethylbenzene		1.5540	1.7880	1.7724	1.6202	1.5364	1.5680	1.6041	1.4031	AVRG		0.62275		1.6058	8	15	0.05	0.99	
m,p-Xylenes	0.6755	0.5451	0.6279	0.6409	0.6037	0.6018	0.6505	0.6555	0.5606	AVRG		1.61826		0.6179	7	15	0.05	0.99	
o-Xylene		0.5763	0.6213	0.6221	0.5807	0.5732	0.6655	0.7067	0.6322	AVRG		1.60707		0.6223	8	15	0.05	0.99	
Styrene		0.8745	1.0376	1.0253	1.0230	0.9898	1.0253	1.0649	0.9536	AVRG		1.00075		0.9992	6	15	0.05	0.99	
Bromoform		0.1245	0.1852	0.1702	0.1720	0.1801	0.2039			AVRG		5.79200		0.1727	15	15	0.10	0.99	
Isopropylbenzene		2.6952	3.4285	3.2592	3.0882	2.8772	3.1591	3.1220	2.7012	AVRG		0.32881		3.0413	9	15	0.05	0.99	
1,1,2,2-Tetrachloroethane	0.7067	0.5802	0.9220	0.6825	0.6320	0.6470	0.6539	0.6796	0.5979	AVRG		1.47499		0.6780	15	15	0.30	0.99	
1,2,3-Trichloropropane	0.1529	0.1303	0.2174	0.1502	0.1507	0.1512	0.1585	0.1564	0.1464	AVRG		6.36437		0.1571	15	15	0.05	0.99	
Propylbenzene		3.4131	4.1530	4.0401	3.7889	3.4918	3.6279	3.5897	3.0345	AVRG		0.27455		3.6424	10	15	0.05	0.99	
Bromobenzene		0.7000	0.8470	0.8052	0.7595	0.7545	0.8454	0.8981	0.7989	AVRG		1.24833		0.8011	8	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.1331	2.7196	2.6798	2.4246	2.3436	2.5591	2.5524	2.1863	AVRG		0.40820		2.4498	9	15	0.05	0.99	
2-Chlorotoluene		2.4347	2.9127	2.7600	2.5689	2.4731	2.5707	2.5494	2.1863	AVRG		0.39109		2.5570	8	15	0.05	0.99	
4-Chlorotoluene		2.3179	2.7101	2.4384	2.3181	2.2008	2.2482	2.2800	1.9610	AVRG		0.43303		2.3093	9	15	0.05	0.99	
tert-Butylbenzene		1.7518	2.2446	2.1315	2.0765	1.9028	2.2262	2.2187	1.9522	AVRG		0.48472		2.0630	9	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.2098	2.8208	2.6665	2.5903	2.2788	2.5368	2.5439	2.1663	AVRG		0.40377		2.4766	9	15	0.05	0.99	
sec-Butylbenzene		2.6794	3.5184	3.4063	3.2673	2.9648	3.1362	3.1736	2.8341	AVRG		0.32025		3.1225	9	15	0.05	0.99	
para-Isopropyl Toluene		1.8717	2.5670	2.4754	2.4398	2.2918	2.4474	2.5275	2.1767	AVRG		0.42559		2.3497	10	15	0.05	0.99	
1,3-Dichlorobenzene		1.1322	1.4148	1.3727	1.2921	1.2259	1.3471	1.3799	1.1947	AVRG		0.77226		1.2949	8	15	0.05	0.99	
1,4-Dichlorobenzene		1.3245	1.5314	1.4111	1.2730	1.2362	1.3052	1.3386	1.1647	AVRG		0.75580		1.3231	8	15	0.05	0.99	
n-Butylbenzene		1.9329	2.4337	2.2721	2.2043	2.0251	2.1512	1.9826	1.8556	AVRG		0.47456		2.1072	9	15	0.05	0.99	
1,2-Dichlorobenzene		1.1844	1.3067	1.2599	1.2244	1.1470	1.2893	1.3215	1.1433	AVRG		0.81000		1.2346	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.0813	0.1538	0.0922	0.0804	0.0834	0.0883	0.0940		LINR	0.49352	10.7885		0.0962	0.997	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4990	0.6427	0.6164	0.6273	0.5902	0.6856	0.7407	0.6505	AVRG		1.58342		0.6315	11	15	0.05	0.99	
Hexachlorobutadiene		0.2465	0.2820	0.2815	0.2693	0.2551	0.3098	0.3504	0.3248	AVRG		3.44936		0.2899	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene			1.0519	1.0312	1.0511	1.0839	1.2459	1.3400	1.1987	AVRG		0.87471		1.1432	10	15	0.05	0.99	
1,2,3-Trichlorobenzene	0.4324	0.3168	0.5057	0.5307	0.5207	0.5238	0.5995	0.6511		QUAD	0.18126	1.91137	-0.00782	0.5101	1.000	15	0.05	0.99	
Dibromofluoromethane	0.6207	0.6302	0.5460	0.6253	0.6233	0.6236	0.6206	0.5978	0.6017	AVRG		1.63959		0.6099	4	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3536	0.3437	0.3676	0.3404	0.3434	0.3404	0.3157	0.2943	0.2881	AVRG		3.01282		0.3319	8	15	0.05	0.99	
Toluene-d8	1.3360	1.3447	1.3950	1.3171	1.3177	1.3347	1.2929	1.3338	1.3353	AVRG		0.74955		1.3341	2	15	0.05	0.99	
Bromofluorobenzene	1.1741	1.1551	1.1654	1.1395	1.1401	1.0723	1.1067	1.0891	1.1084	AVRG		0.88664		1.1278	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	-6	2.0000	-5	5.0000	10	10.000	3	20.000	-10	50.000	10	75.000	4	100.00	-6
Chloromethane	0.5000	12	1.0000	6	2.0000	12	5.0000	11	10.000	1	20.000	-3	50.000	-8	75.000	-11	100.00	-20
Vinyl Chloride	0.5000	5	1.0000	0	2.0000	4	5.0000	12	10.000	3	20.000	-1	50.000	-3	75.000	-5	100.00	-14
Bromomethane			1.0000	-16	2.0000	-5	5.0000	0	10.000	-5	20.000	1	50.000	10	75.000	11	100.00	4
Chloroethane			1.0000	0	2.0000	1	5.0000	12	10.000	-2	20.000	-2	50.000	0	75.000	0	100.00	-8
Trichlorofluoromethane			1.0000	-6	2.0000	0	5.0000	11	10.000	1	20.000	-4	50.000	5	75.000	3	100.00	-10
Acetone									10.000	19	20.000	-2	50.000	-5	75.000	-2	100.00	-10
Freon 113			0.5000	**-25**	2.0000	-1	5.0000	11	10.000	0	20.000	-2	50.000	9	75.000	11	100.00	-2
1,1-Dichloroethene			0.5000	-2	2.0000	2	5.0000	10	10.000	-2	20.000	-3	50.000	1	75.000	1	100.00	-6
Methylene Chloride			0.5000	2	2.0000	-2	5.0000	11	10.000	0	20.000	-1	50.000	1	75.000	0	100.00	-11
Carbon Disulfide			0.5000	-3	2.0000	2	5.0000	12	10.000	1	20.000	0	50.000	1	75.000	-1	100.00	-12
MTBE			0.5000	0	2.0000	19	5.0000	5	10.000	0	20.000	-6	50.000	1	75.000	-4	100.00	-14
trans-1,2-Dichloroethene			0.5000	-1	2.0000	-1	5.0000	7	10.000	1	20.000	0	50.000	2	75.000	0	100.00	-8
Vinyl Acetate							5.0000	1	10.000	-10	20.000	5	50.000	7	75.000	6	100.00	-9
1,1-Dichloroethane			0.5000	5	2.0000	1	5.0000	9	10.000	3	20.000	0	50.000	0	75.000	-3	100.00	-14
2-Butanone									10.000	12	20.000	-1	50.000	-1	75.000	1	100.00	-11
2,2-Dichloropropane			0.5000	-5	2.0000	-1	5.0000	3	10.000	2	20.000	-1	50.000	3	75.000	4	100.00	-5
cis-1,2-Dichloroethene			0.5000	1	2.0000	-4	5.0000	8	10.000	-1	20.000	0	50.000	2	75.000	2	100.00	-7
Chloroform			0.5000	8	2.0000	1	5.0000	10	10.000	2	20.000	-1	50.000	-3	75.000	-5	100.00	-14
Bromochloromethane			0.5000	-8	2.0000	-1	5.0000	4	10.000	-3	20.000	-2	50.000	5	75.000	8	100.00	-2
1,1,1-Trichloroethane			0.5000	13	2.0000	0	5.0000	9	10.000	0	20.000	-4	50.000	0	75.000	-3	100.00	-15
1,1-Dichloropropene			0.5000	-12	2.0000	10	5.0000	6	10.000	0	20.000	-4	50.000	5	75.000	3	100.00	-7
Carbon Tetrachloride			0.5000	-16	2.0000	-4	5.0000	1	10.000	2	20.000	-1	50.000	0				
1,2-Dichloroethane			0.5000	-8	2.0000	17	5.0000	9	10.000	0	20.000	0	50.000	-2	75.000	-1	100.00	-14
Benzene			0.5000	5	2.0000	7	5.0000	7	10.000	0	20.000	-1	50.000	-2	75.000	-3	100.00	-14
Trichloroethene			0.5000	-1	2.0000	8	5.0000	2	10.000	-2	20.000	-6	50.000	1	75.000	3	100.00	-6
1,2-Dichloropropane			0.5000	2	2.0000	5	5.0000	5	10.000	-2	20.000	-3	50.000	4	75.000	-1	100.00	-10
Bromodichloromethane			0.5000	-7	2.0000	0	5.0000	2	10.000	0	20.000	1	50.000	6	75.000	4	100.00	-6
Dibromomethane			0.5000	-11	2.0000	18	5.0000	2	10.000	-5	20.000	-1	50.000	2	75.000	2	100.00	-7
4-Methyl-2-Pentanone							5.0000	7	10.000	-2	20.000	0	50.000	0	75.000	1	100.00	-6
cis-1,3-Dichloropropene			0.5000	-5	2.0000	1	5.0000	2	10.000	-2	20.000	-3	50.000	6	75.000	6	100.00	-6
Toluene			0.5000	-3	2.0000	7	5.0000	6	10.000	-2	20.000	-5	50.000	-1	75.000	4	100.00	-5
trans-1,3-Dichloropropene			0.5000	-16	2.0000	6	5.0000	1	10.000	0	20.000	0	50.000	3	75.000	8	100.00	-3
1,1,2-Trichloroethane			0.5000	-12	2.0000	17	5.0000	1	10.000	-3	20.000	-3	50.000	-1	75.000	5	100.00	-4
2-Hexanone							5.0000	1	10.000	0	20.000	-2	50.000	0	75.000	6	100.00	-5
1,3-Dichloropropane			0.5000	-5	2.0000	17	5.0000	1	10.000	-4	20.000	-5	50.000	0	75.000	3	100.00	-6
Tetrachloroethene			0.5000	-13	2.0000	4	5.0000	0	10.000	-3	20.000	-8	50.000	4	75.000	12	100.00	6
Dibromochloromethane			0.5000	-17	2.0000	4	5.0000	-3	10.000	-5	20.000	-2	50.000	5	75.000	15	100.00	4
1,2-Dibromoethane			0.5000	-12	2.0000	**23**	5.0000	-1	10.000	-4	20.000	-4	50.000	-1	75.000	3	100.00	-4
Chlorobenzene			0.5000	1	2.0000	9	5.0000	6	10.000	0	20.000	-5	50.000	-1	75.000	1	100.00	-10
1,1,1,2-Tetrachloroethane			0.5000	-15	2.0000	-4	5.0000	2	10.000	-2	20.000	-5	50.000	6	75.000	14	100.00	4
Ethylbenzene			0.5000	-3	2.0000	11	5.0000	10	10.000	1	20.000	-4	50.000	-2	75.000	0	100.00	-13

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	9	1.0000	-12	4.0000	2	10.000	4	20.000	-2	40.000	-3	100.00	5	150.00	6	200.00	-9
o-Xylene			0.5000	-7	2.0000	0	5.0000	0	10.000	-7	20.000	-8	50.000	7	75.000	14	100.00	2
Styrene			0.5000	-12	2.0000	4	5.0000	3	10.000	2	20.000	-1	50.000	3	75.000	7	100.00	-5
Bromoform			0.5000	**-28**	2.0000	7	5.0000	-1	10.000	0	20.000	4	50.000	18				
Isopropylbenzene			0.5000	-11	2.0000	13	5.0000	7	10.000	2	20.000	-5	50.000	4	75.000	3	100.00	-11
1,1,2,2-Tetrachloroethane	0.2500	4	0.5000	-14	2.0000	**36**	5.0000	1	10.000	-7	20.000	-5	50.000	-4	75.000	0	100.00	-12
1,2,3-Trichloropropane	0.2500	-3	0.5000	-17	2.0000	**38**	5.0000	-4	10.000	-4	20.000	-4	50.000	1	75.000	0	100.00	-7
Propylbenzene			0.5000	-6	2.0000	14	5.0000	11	10.000	4	20.000	-4	50.000	0	75.000	-1	100.00	-17
Bromobenzene			0.5000	-13	2.0000	6	5.0000	1	10.000	-5	20.000	-6	50.000	6	75.000	12	100.00	0
1,3,5-Trimethylbenzene			0.5000	-13	2.0000	11	5.0000	9	10.000	-1	20.000	-4	50.000	4	75.000	4	100.00	-11
2-Chlorotoluene			0.5000	-5	2.0000	14	5.0000	8	10.000	0	20.000	-3	50.000	1	75.000	0	100.00	-14
4-Chlorotoluene			0.5000	0	2.0000	17	5.0000	6	10.000	0	20.000	-5	50.000	-3	75.000	-1	100.00	-15
tert-Butylbenzene			0.5000	-15	2.0000	9	5.0000	3	10.000	1	20.000	-8	50.000	8	75.000	8	100.00	-5
1,2,4-Trimethylbenzene			0.5000	-11	2.0000	14	5.0000	8	10.000	5	20.000	-8	50.000	2	75.000	3	100.00	-13
sec-Butylbenzene			0.5000	-14	2.0000	13	5.0000	9	10.000	5	20.000	-5	50.000	0	75.000	2	100.00	-9
para-Isopropyl Toluene			0.5000	-20	2.0000	9	5.0000	5	10.000	4	20.000	-2	50.000	4	75.000	8	100.00	-7
1,3-Dichlorobenzene			0.5000	-13	2.0000	9	5.0000	6	10.000	0	20.000	-5	50.000	4	75.000	7	100.00	-8
1,4-Dichlorobenzene			0.5000	0	2.0000	16	5.0000	7	10.000	-4	20.000	-7	50.000	-1	75.000	1	100.00	-12
n-Butylbenzene			0.5000	-8	2.0000	15	5.0000	8	10.000	5	20.000	-4	50.000	2	75.000	-6	100.00	-12
1,2-Dichlorobenzene			0.5000	-4	2.0000	6	5.0000	2	10.000	-1	20.000	-7	50.000	4	75.000	7	100.00	-7
1,2-Dibromo-3-Chloropropane			0.5000	**86**	2.0000	**91**	5.0000	9	10.000	-8	20.000	-8	50.000	-4	75.000	2		
1,2,4-Trichlorobenzene			0.5000	**-21**	2.0000	2	5.0000	-2	10.000	-1	20.000	-7	50.000	9	75.000	17	100.00	3
Hexachlorobutadiene			0.5000	-15	2.0000	-3	5.0000	-3	10.000	-7	20.000	-12	50.000	7	75.000	**21**	100.00	12
Naphthalene					2.0000	-8	5.0000	-10	10.000	-8	20.000	-5	50.000	9	75.000	17	100.00	5
1,2,3-Trichlorobenzene	0.2500	**55**	0.5000	-3	2.0000	5	5.0000	4	10.000	-1	20.000	-3	50.000	1	75.000	0		
Dibromofluoromethane	50.000	2	50.000	3	50.000	-10	50.000	3	50.000	2	50.000	2	50.000	2	50.000	-2	50.000	-1
1,2-Dichloroethane-d4	50.000	7	50.000	4	50.000	11	50.000	3	50.000	3	50.000	3	50.000	-5	50.000	-11	50.000	-13
Toluene-d8	50.000	0	50.000	1	50.000	5	50.000	-1	50.000	-1	50.000	0	50.000	-3	50.000	0	50.000	0
Bromofluorobenzene	50.000	4	50.000	2	50.000	3	50.000	1	50.000	1	50.000	-5	50.000	-2	50.000	-3	50.000	-2

LW 02/09/15 [1,2-Dibromo-3-Chloropropane]: High bias at low point - ok for ND and hits > 5 ppb. Hits < 5 ppb need to rerun.

Analyst: BO Date: 02/06/15 Reviewer: LW Date: 02/09/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 MSVOA Water
EPA 8260B

Inst : MSVOA08 Name : 826GOX8
Calnum : 475049673001 Cal Date : 03-FEB-2015 Type : WATER

ICV 475049673017 (hb317 03-FEB-2015) stds: S24978 (10000X), S26525 (5000X)
ICV 475049673019 (hb319 03-FEB-2015) stds: S26221 (10000X), S26249 (10000X), S26569 (10000X), S26525 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	475049673017	20.00	15.69	ug/L	**-22**	30	!v-
Chloromethane	475049673017	20.00	17.37	ug/L	-13	30	
Vinyl Chloride	475049673017	20.00	17.71	ug/L	-11	20	
Bromomethane	475049673017	20.00	15.51	ug/L	**-22**	30	!v-
Chloroethane	475049673017	20.00	18.09	ug/L	-10	30	
Trichlorofluoromethane	475049673017	20.00	18.36	ug/L	-8	30	
Acetone	475049673019	25.00	23.94	ug/L	-4	40	
Freon 113	475049673019	25.00	22.78	ug/L	-9	30	
1,1-Dichloroethene	475049673019	25.00	27.78	ug/L	11	20	
Methylene Chloride	475049673019	25.00	27.16	ug/L	9	30	
Carbon Disulfide	475049673019	25.00	28.85	ug/L	15	30	
MTBE	475049673019	25.00	24.84	ug/L	-1	30	
trans-1,2-Dichloroethene	475049673019	25.00	26.94	ug/L	8	30	
Vinyl Acetate	475049673019	25.00	37.00	ug/L	**48**	40	v+
1,1-Dichloroethane	475049673019	25.00	26.57	ug/L	6	30	
2-Butanone	475049673019	25.00	25.05	ug/L	0	40	
2,2-Dichloropropane	475049673019	25.00	25.70	ug/L	3	30	
cis-1,2-Dichloroethene	475049673019	25.00	27.09	ug/L	8	30	
Chloroform	475049673019	25.00	27.16	ug/L	9	20	
Bromochloromethane	475049673019	25.00	27.16	ug/L	9	30	
1,1,1-Trichloroethane	475049673019	25.00	27.15	ug/L	9	30	
1,1-Dichloropropene	475049673019	25.00	26.19	ug/L	5	30	
Carbon Tetrachloride	475049673019	25.00	28.03	ug/L	12	30	
1,2-Dichloroethane	475049673019	25.00	26.48	ug/L	6	30	
Benzene	475049673019	25.00	26.50	ug/L	6	30	
Trichloroethene	475049673019	25.00	26.92	ug/L	8	30	
1,2-Dichloropropane	475049673019	25.00	25.76	ug/L	3	20	
Bromodichloromethane	475049673019	25.00	27.03	ug/L	8	30	
Dibromomethane	475049673019	25.00	25.75	ug/L	3	30	
4-Methyl-2-Pentanone	475049673019	25.00	23.88	ug/L	-4	40	
cis-1,3-Dichloropropene	475049673019	25.00	28.42	ug/L	14	30	
Toluene	475049673019	25.00	26.94	ug/L	8	20	
trans-1,3-Dichloropropene	475049673019	25.00	26.69	ug/L	7	30	
1,1,2-Trichloroethane	475049673019	25.00	25.25	ug/L	1	30	
2-Hexanone	475049673019	25.00	24.73	ug/L	-1	40	
1,3-Dichloropropane	475049673019	25.00	25.59	ug/L	2	30	
Tetrachloroethene	475049673019	25.00	27.38	ug/L	10	30	
Dibromochloromethane	475049673019	25.00	27.24	ug/L	9	30	
1,2-Dibromoethane	475049673019	25.00	25.85	ug/L	3	30	
Chlorobenzene	475049673019	25.00	27.05	ug/L	8	30	
1,1,1,2-Tetrachloroethane	475049673019	25.00	28.06	ug/L	12	30	
Ethylbenzene	475049673019	25.00	27.82	ug/L	11	20	
m,p-Xylenes	475049673019	50.00	57.73	ug/L	15	30	
o-Xylene	475049673019	25.00	28.99	ug/L	16	30	
Styrene	475049673019	25.00	28.69	ug/L	15	30	
Bromoform	475049673019	25.00	28.89	ug/L	16	30	
Isopropylbenzene	475049673019	25.00	28.69	ug/L	15	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	475049673019	25.00	24.01	ug/L	-4	30	
1,2,3-Trichloropropane	475049673019	25.00	24.29	ug/L	-3	30	
Propylbenzene	475049673019	25.00	28.11	ug/L	12	30	
Bromobenzene	475049673019	25.00	27.01	ug/L	8	30	
1,3,5-Trimethylbenzene	475049673019	25.00	28.28	ug/L	13	30	
2-Chlorotoluene	475049673019	25.00	28.05	ug/L	12	30	
4-Chlorotoluene	475049673019	25.00	27.34	ug/L	9	30	
tert-Butylbenzene	475049673019	25.00	29.30	ug/L	17	30	
1,2,4-Trimethylbenzene	475049673019	25.00	27.08	ug/L	8	30	
sec-Butylbenzene	475049673019	25.00	29.30	ug/L	17	30	
para-Isopropyl Toluene	475049673019	25.00	28.08	ug/L	12	30	
1,3-Dichlorobenzene	475049673019	25.00	29.14	ug/L	17	30	
1,4-Dichlorobenzene	475049673019	25.00	26.19	ug/L	5	30	
n-Butylbenzene	475049673019	25.00	27.19	ug/L	9	30	
1,2-Dichlorobenzene	475049673019	25.00	28.01	ug/L	12	30	
1,2-Dibromo-3-Chloropropane	475049673019	25.00	22.38	ug/L	-10	30	
1,2,4-Trichlorobenzene	475049673019	25.00	27.29	ug/L	9	30	
Hexachlorobutadiene	475049673019	25.00	27.44	ug/L	10	30	
Naphthalene	475049673019	25.00	25.12	ug/L	0	30	
1,2,3-Trichlorobenzene	475049673019	25.00	26.72	ug/L	7	30	

475049673017: Analyst: BO Date: 02/06/15 Reviewer: LW Date: 02/09/15
475049673019: Analyst: BO Date: 02/06/15 Reviewer: LW Date: 02/09/15

!=warning +=high bias -=low bias v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266392 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : QC785922 IDF : 1.0
Seqnum : 475171883007.1 File : hdt07 Time : 29-APR-2015 14:00
Cal : 475049673001 Caldate : 03-FEB-2015 Caltype : WATER
Standards: S26759 (20000X), S26876 (20000X), S27022 (20000X), S24978 (20000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7131	0.5373	10.00	7.535	ug/L	-25	30	0.0500	!v- u
Chloromethane	1.0782	0.9252	10.00	8.581	ug/L	-14	30	0.1000	u
Vinyl Chloride	0.8596	0.8276	10.00	9.628	ug/L	-4	20	0.0500	u
Bromomethane	0.4545	0.6509	10.00	14.32	ug/L	**43**	30	0.0500	!v- c+ u ***
Chloroethane	0.4787	0.4224	10.00	8.823	ug/L	-12	30	0.0500	u
Trichlorofluoromethane	0.7977	0.7212	10.00	9.041	ug/L	-10	30	0.0500	u
Acetone	0.1249	0.1538	12.50	15.40	ug/L	23	40	0.0500	u
Freon 113	0.4302	0.3255	12.50	9.456	ug/L	-24	30	0.0500	u
1,1-Dichloroethene	0.4653	0.4187	12.50	11.25	ug/L	-10	20	0.0500	u
Methylene Chloride	0.5732	0.5633	12.50	12.28	ug/L	-2	30	0.0500	u
Carbon Disulfide	1.7211	1.7575	12.50	12.76	ug/L	2	30	0.0500	u
MTBE	1.1185	0.9881	12.50	11.04	ug/L	-12	30	0.0500	u
trans-1,2-Dichloroethene	0.5242	0.5018	12.50	11.97	ug/L	-4	30	0.0500	u
Vinyl Acetate	0.6773	1.1481	12.50	21.19	ug/L	**69**	40	0.0500	c+ u v+ ***
1,1-Dichloroethane	1.0470	1.0026	12.50	11.97	ug/L	-4	30	0.1000	u
2-Butanone	0.1614	0.1837	12.50	14.23	ug/L	14	40	0.0500	u
cis-1,2-Dichloroethene	0.5932	0.5419	12.50	11.42	ug/L	-9	30	0.0500	u
2,2-Dichloropropane	0.6010	0.6746	12.50	14.03	ug/L	12	30	0.0500	u
Chloroform	0.9718	0.9660	12.50	12.43	ug/L	-1	20	0.0500	u
Bromochloromethane	0.2552	0.2401	12.50	11.76	ug/L	-6	30	0.0500	u
1,1,1-Trichloroethane	0.7214	0.7573	12.50	13.12	ug/L	5	30	0.0500	u
1,1-Dichloropropene	0.4529	0.4789	12.50	13.22	ug/L	6	30	0.0500	u
Carbon Tetrachloride	0.2738	0.3722	12.50	15.80	ug/L	26	30	0.0500	u
1,2-Dichloroethane	0.4253	0.4774	12.50	14.03	ug/L	12	30	0.0500	u
Benzene	1.3222	1.3916	12.50	13.16	ug/L	5	30	0.0500	u
Trichloroethene	0.3323	0.3235	12.50	12.17	ug/L	-3	30	0.0500	u
1,2-Dichloropropane	0.3824	0.3374	12.50	11.03	ug/L	-12	20	0.0500	u
Bromodichloromethane	0.4433	0.4578	12.50	12.91	ug/L	3	30	0.0500	u
Dibromomethane	0.2032	0.2041	12.50	12.56	ug/L	0	30	0.0500	u
4-Methyl-2-Pentanone	0.2355	0.2650	12.50	14.07	ug/L	13	40	0.0500	u
cis-1,3-Dichloropropene	0.4847	0.5102	12.50	13.16	ug/L	5	30	0.0500	u
Toluene	0.9391	0.9874	12.50	13.14	ug/L	5	20	0.0500	u
trans-1,3-Dichloropropene	0.4727	0.4767	12.50	12.60	ug/L	1	30	0.0500	u
1,1,2-Trichloroethane	0.1701	0.1654	12.50	12.16	ug/L	-3	30	0.0500	u
2-Hexanone	0.1875	0.2171	12.50	14.47	ug/L	16	40	0.0500	u
1,3-Dichloropropane	0.5085	0.5131	12.50	12.61	ug/L	1	30	0.0500	u
Tetrachloroethene	0.3197	0.3068	12.50	12.00	ug/L	-4	30	0.0500	u
Dibromochloromethane	0.3327	0.3190	12.50	11.99	ug/L	-4	30	0.0500	u
1,2-Dibromoethane	0.2980	0.2862	12.50	12.01	ug/L	-4	30	0.0500	u
Chlorobenzene	0.9866	0.9208	12.50	11.67	ug/L	-7	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3137	0.3027	12.50	12.06	ug/L	-4	30	0.0500	u
Ethylbenzene	1.6058	1.6916	12.50	13.17	ug/L	5	20	0.0500	u
m,p-Xylenes	0.6179	0.6078	25.00	24.59	ug/L	-2	30	0.0500	u
o-Xylene	0.6223	0.5425	12.50	10.90	ug/L	-13	30	0.0500	u
Styrene	0.9992	0.9889	12.50	12.37	ug/L	-1	30	0.0500	u
Bromoform	0.1727	0.1729	12.50	12.52	ug/L	0	30	0.1000	u
Isopropylbenzene	3.0413	2.9390	12.50	12.08	ug/L	-3	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6780	0.6411	12.50	11.82	ug/L	-5	30	0.3000	u
1,2,3-Trichloropropane	0.1571	0.1442	12.50	11.47	ug/L	-8	30	0.0500	u
Propylbenzene	3.6424	3.7856	12.50	12.99	ug/L	4	30	0.0500	u
Bromobenzene	0.8011	0.7435	12.50	11.60	ug/L	-7	30	0.0500	u
1,3,5-Trimethylbenzene	2.4498	2.6183	12.50	13.36	ug/L	7	30	0.0500	u
2-Chlorotoluene	2.5570	2.5919	12.50	12.67	ug/L	1	30	0.0500	u
4-Chlorotoluene	2.3093	2.2943	12.50	12.42	ug/L	-1	30	0.0500	u
tert-Butylbenzene	2.0630	1.9531	12.50	11.83	ug/L	-5	30	0.0500	u
1,2,4-Trimethylbenzene	2.4766	2.5543	12.50	12.89	ug/L	3	30	0.0500	u
sec-Butylbenzene	3.1225	2.9991	12.50	12.01	ug/L	-4	30	0.0500	u
para-Isopropyl Toluene	2.3497	2.2781	12.50	12.12	ug/L	-3	30	0.0500	u
1,3-Dichlorobenzene	1.2949	1.1873	12.50	11.46	ug/L	-8	30	0.0500	u
1,4-Dichlorobenzene	1.3231	1.2918	12.50	12.20	ug/L	-2	30	0.0500	u
n-Butylbenzene	2.1072	2.1943	12.50	13.02	ug/L	4	30	0.0500	u
1,2-Dichlorobenzene	1.2346	1.0726	12.50	10.86	ug/L	-13	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.0962	0.0887	12.50	12.46	ug/L	0	30	0.0500	u
1,2,4-Trichlorobenzene	0.6315	0.5578	12.50	11.04	ug/L	-12	30	0.0500	u
Hexachlorobutadiene	0.2899	0.2635	12.50	11.36	ug/L	-9	30	0.0500	u
Naphthalene	1.1432	0.8516	12.50	9.311	ug/L	-26	30	0.0500	u
1,2,3-Trichlorobenzene	0.5101	0.4890	12.50	11.57	ug/L	-7	30	0.0500	u
Dibromofluoromethane	0.6099	0.5947	50.00	48.75	ug/L	-2	30	0.0500	u
1,2-Dichloroethane-d4	0.3319	0.3737	50.00	56.29	ug/L	13	30	0.0500	u
Toluene-d8	1.3341	1.4363	50.00	53.83	ug/L	8	30	0.0500	u
Bromofluorobenzene	1.1278	1.0867	50.00	48.17	ug/L	-4	30	0.0500	u

ISTD (ICAL hb314)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1315562	1459281	10.92	10.08	10.06	-0.02
1,4-Difluorobenzene	2053874	2103016	2.39	11.27	11.25	-0.02
Chlorobenzene-d5	1684349	1697746	0.80	15.77	15.74	-0.03
1,4-Dichlorobenzene-d4	801159	792973	-1.02	18.61	18.59	-0.02

Analyst: KKM Date: 04/30/15 Reviewer: LW Date: 05/04/15

!=warning +=high bias -=low bias c=CCV u=use v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 475171883

Date : 04/29/15 Reference : hb314
Sequence : MSVOA08 hdt Analyzed : 02/03/15 19:34

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1315562	10.08	2053874	11.27	1684349	15.77	801159	18.61
		LOWER LIMIT	657781	9.58	1026937	10.77	842175	15.27	400580	18.11
		UPPER LIMIT	2631124	10.58	4107748	11.77	3368698	16.27	1602318	19.11
002	IB		992835	10.06	1576328	11.26	1235755	15.75	481368	18.59
006	CCV/BS	QC785922	1431902	10.06	1991369	11.25	1622477	15.74	775821	18.59
007	CCV/BS	QC785922	1459281	10.06	2103016	11.25	1697746	15.74	792973	18.59
008	BSD	QC785923	1486085	10.06	2108411	11.26	1711145	15.75	808742	18.59
010	IB		1403177	10.06	2028272	11.26	1588847	15.75	681932	18.60
011	BLANK	QC785924	1459325	10.07	2049520	11.26	1606991	15.76	702978	18.60
012	SAMPLE	266392-007	1421029	10.07	2022813	11.27	1541504	15.75	692613	18.60
013	SAMPLE	266370-006	1348469	10.07	1983802	11.27	1527524	15.75	664776	18.60
014	SAMPLE	266370-007	1368105	10.07	2023392	11.26	1531516	15.76	675189	18.61
015	SAMPLE	266377-003	1343142	10.07	1943265	11.27	1546971	15.76	659341	18.60
016	SAMPLE	266377-002	1227786	10.07	1761212	11.27	1387867	15.75	597134	18.60
017	SAMPLE	266377-001	1239733	10.07	1806434	11.27	1423193	15.76	604334	18.60
018	SAMPLE	266367-007	1322140	10.07	1941711	11.26	1479211	15.76	632721	18.61
019	SAMPLE	266367-009	1228827	10.07	1769386	11.27	1376394	15.76	584148	18.60
020	SAMPLE	266392-001	1272279	10.07	1881220	11.27	1487574	15.76	620005	18.61
021	SAMPLE	266392-002	1254590	10.07	1848853	11.26	1465060	15.76	605250	18.60
022	SAMPLE	266399-011	1171404	10.07	1719967	11.27	1366164	15.75	565904	18.60
023	SAMPLE	266399-012	1207330	10.07	1775678	11.27	1401893	15.75	583641	18.60

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 475049673

Instrument : MSVOA08 Begun : 02/03/15 11:53
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hb301	TUN	BFB			02/03/15 11:53	1.0	1	
002	hb302	X	IB			02/03/15 12:05	1.0	2	
003	hb303	X	IB			02/03/15 12:38	1.0	2	
004	hb304	X	IB			02/03/15 13:11	1.0	2	
005	hb305	X	IB			02/03/15 14:00	1.0	2	
006	hb306	X	IB			02/03/15 14:35	1.0	2	
007	hb307	IB	CALIB			02/03/15 15:42	1.0	2	
008	hb308	ICAL	.25/.5PPB			02/03/15 16:16	1.0	3 4 5 6 2	
009	hb309	ICAL	0.5/1PPB			02/03/15 16:49	1.0	3 4 5 6 2	
010	hb310	ICAL	2PPB			02/03/15 17:22	1.0	3 4 5 6 2	
011	hb311	ICAL	5PPB			02/03/15 17:55	1.0	3 4 5 6 2	
012	hb312	ICAL	10PPB			02/03/15 18:28	1.0	3 4 5 6 2	
013	hb313	ICAL	20PPB			02/03/15 19:01	1.0	3 4 5 6 2	
014	hb314	ICAL	50PPB			02/03/15 19:34	1.0	3 4 5 6 2	
015	hb315	ICAL	75PPB			02/03/15 20:08	1.0	3 4 5 6 2	
016	hb316	ICAL	100PPB			02/03/15 20:41	1.0	3 4 5 6 2	
017	hb317	ICV	20PPB			02/03/15 21:14	1.0	7 2	
018	hb318	ICV	40PPB			02/03/15 21:47	1.0	8 2	
019	hb319	ICV	25PPB			02/03/15 22:20	1.0	9 10 11 2	
020	hb320	X	IB			02/03/15 22:53	1.0	2	
021	hb321	X	IB			02/03/15 23:26	1.0	2	
022	hb322	X	IB			02/03/15 23:59	1.0	2	

BO 02/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: BO Date: 02/04/15 Reviewer: LW Date: 02/05/15

Standards used: 1=S26000 2=S26525 3=S24977 4=S26318 5=S26396 6=S25156 7=S24978 8=S17234 9=S26221 10=S26249 11=S26569

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 475171883

Instrument : MSVOA08 Begun : 04/29/15 08:43
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hdt01	X	HIGH GAS			04/29/15 08:43	1.0	1	
002	hdt02	IB				04/29/15 09:16	1.0	1	?t
003	hdt03	TUN	BFB			04/29/15 10:35	1.0	2	t
004	hdt04	TUN	BFB			04/29/15 11:05	1.0	2	t
005	hdt05	TUN	BFB			04/29/15 11:55	1.0	2	
006	hdt06	CCV/BS	QC785922	Water	222682	04/29/15 12:45	1.0	3 4 5 6 1	
007	hdt07	CCV/BS	QC785922	Water	222682	04/29/15 14:00	1.0	3 4 5 6 1	
008	hdt08	BSD	QC785923	Water	222682	04/29/15 14:44	1.0	3 4 5 6 1	
009	hdt09	ICAL	A/A			04/29/15 15:17	1.0	7 1	
010	hdt10	IB				04/29/15 15:50	1.0	1	
011	hdt11	BLANK	QC785924	Water	222682	04/29/15 16:24	1.0	1	
012	hdt12	SAMPLE	266392-007	Water	222682	04/29/15 16:57	1.0	1	
013	hdt13	SAMPLE	266370-006	Water	222682	04/29/15 17:30	1.0	1	
014	hdt14	SAMPLE	266370-007	Water	222682	04/29/15 18:04	1.0	1	
015	hdt15	SAMPLE	266377-003	Water	222682	04/29/15 18:37	1.0	1	
016	hdt16	SAMPLE	266377-002	Water	222682	04/29/15 19:10	1.0	1	
017	hdt17	SAMPLE	266377-001	Water	222682	04/29/15 19:44	1.0	1	
018	hdt18	SAMPLE	266367-007	Water	222682	04/29/15 20:17	3.333	1	
019	hdt19	SAMPLE	266367-009	Water	222682	04/29/15 20:50	4.0	1	
020	hdt20	SAMPLE	266392-001	Water	222682	04/29/15 21:23	4.0	1	foamer
021	hdt21	SAMPLE	266392-002	Water	222682	04/29/15 21:56	5.0	1	foamer
022	hdt22	SAMPLE	266399-011	Water	222682	04/29/15 22:29	20.0	1	
023	hdt23	SAMPLE	266399-012	Water	222682	04/29/15 23:03	20.0	1	
024	hdt24	X	IB			04/29/15 23:36	1.0	1	
025	hdt25	X	IB			04/30/15 00:09	1.0	1	

DJA 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

DJA 04/30/15 : Matrix spikes were not performed for this analysis in batch 222682 due to insufficient sample amount.

DJA 04/30/15 : retuned after file 4

Analyst: DJA Date: 04/30/15 Reviewer: LW Date: 04/30/15

Standards used: 1=S26911 2=S26000 3=S26759 4=S26876 5=S27022 6=S24978 7=S26555

Flags used: ?t=missing tune t=tune failure

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): DSH 4/29/15

For Undiluted samples, pH checked (initials/date): ZR 4/30/15

Batch #: 222682

Prep Date: 4/29/15

Instrument: MS8

		Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
2	1	266367-7	B	✓			3	1	3x	OD				
	2	-9	↓	✓			5	1	4x	↓				
2	3	266370-6	B	✓					1x					
	4	-7	↓						1x					
2	5	266371-1	B	✓					1x					
	6	-2	|	✓					|					
	7	-3	↓	✓					↓					
2	8	266392-1	B	✓			6		1x	foamer				
	9	-2	B	✓			7		5x	foamer				
3	10	-7	A	✓					1x	TB				
	11	266399-11	D	✓			9		20x					
	12	-12	D	✓			10		20x					
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													

Laboratory Job Number 266392

ANALYTICAL REPORT

Metals

Matrix: Soil

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #: 266392		Project#:	OD14170810.03
Client: AMEC Environment & Infrastructure		Location:	Former APL Terminal
Field ID:	APLB21(2.5)	Basis:	dry
Lab ID:	266392-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/28/15
Units:	mg/Kg	Received:	04/28/15

Moisture: 8%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.52	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Arsenic	7.4	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Barium	100	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Beryllium	0.31	0.10	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cadmium	1.3	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Chromium	18	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cobalt	9.5	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Copper	21	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Lead	5.9	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Mercury	0.43	0.019	222734	04/30/15	04/30/15	METHOD	EPA 7471A
Molybdenum	0.74	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Nickel	15	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Selenium	1.5	0.52	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Silver	ND	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Thallium	ND	0.52	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Vanadium	38	0.26	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Zinc	87	1.0	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266392	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Former APL Terminal
Field ID:	APLB21(4.5)	Basis:	dry
Lab ID:	266392-005	Sampled:	04/28/15
Matrix:	Soil	Received:	04/28/15
Units:	mg/Kg		

Moisture: 13%

Analyte	Result	RL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.0	0.59	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Arsenic	5.6	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Barium	280	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Beryllium	0.27	0.12	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cadmium	1.2	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Chromium	49	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cobalt	8.4	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Copper	66	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Lead	470	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Mercury	1.2	0.093	5.000	222734	04/30/15	04/30/15	METHOD	EPA 7471A
Molybdenum	0.92	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Nickel	41	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Selenium	0.98	0.59	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Silver	ND	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Thallium	ND	0.59	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Vanadium	38	0.29	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Zinc	240	1.2	1.000	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266392	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Former APL Terminal
Field ID:	APLB21(9.5)	Basis:	dry
Lab ID:	266392-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/28/15
Units:	mg/Kg	Received:	04/28/15

Moisture: 17%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.55	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Arsenic	1.9	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Barium	59	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Beryllium	0.19	0.11	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cadmium	0.35	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Chromium	39	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Cobalt	5.9	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Copper	6.2	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Lead	4.7	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Mercury	ND	0.020	222734	04/30/15	04/30/15	METHOD	EPA 7471A
Molybdenum	ND	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Nickel	28	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Selenium	ND	0.55	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Silver	ND	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Thallium	ND	0.55	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Vanadium	24	0.28	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B
Zinc	17	1.1	222777	05/01/15	05/03/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222734
Lab ID:	QC786116	Prepared:	04/30/15
Matrix:	Soil	Analyzed:	04/30/15
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	222734
Matrix:	Soil	Prepared:	04/30/15
Units:	mg/Kg	Analyzed:	04/30/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786117	0.2083	0.2173	104	80-120		
BSD	QC786118	0.2083	0.2139	103	80-120	2	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	222734
MSS Lab ID:	266420-002	Sampled:	04/29/15
Matrix:	Soil	Received:	04/29/15
Units:	mg/Kg	Prepared:	04/30/15
Basis:	as received	Analyzed:	04/30/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC786119	<0.0009304	0.2232	0.2364	106	69-142		
MSD	QC786120		0.1923	0.2005	104	69-142	2	36

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	as received
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	222734
MSS Lab ID:	266420-002	Sampled:	04/29/15
Lab ID:	QC786121	Received:	04/29/15
Matrix:	Soil	Analyzed:	04/30/15
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	% Diff	Lim
ND	0.01667	ND	0.08333	NC	10

NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786298	Batch#:	222777
Matrix:	Soil	Prepared:	05/01/15
Units:	mg/Kg	Analyzed:	05/03/15

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	222777
Units:	mg/Kg	Prepared:	05/01/15
Diln Fac:	5.000	Analyzed:	05/03/15

Type: BS Lab ID: QC786299

Analyte	Spiked	Result	%REC	Limits
Antimony	50.00	50.14	100	80-120
Arsenic	50.00	52.18	104	80-120
Barium	50.00	51.25	102	80-120
Beryllium	50.00	51.56	103	80-120
Cadmium	50.00	53.57	107	80-120
Chromium	50.00	51.23	102	80-120
Cobalt	50.00	49.03	98	80-120
Copper	50.00	49.27	99	80-120
Lead	50.00	48.35	97	80-120
Molybdenum	50.00	51.32	103	80-120
Nickel	50.00	50.29	101	80-120
Selenium	50.00	50.60	101	80-120
Silver	50.00	48.58	97	80-120
Thallium	50.00	51.01	102	80-120
Vanadium	50.00	53.08	106	80-120
Zinc	50.00	51.42	103	80-120

Type: BSD Lab ID: QC786300

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.00	48.85	98	80-120	3	20
Arsenic	50.00	50.74	101	80-120	3	20
Barium	50.00	50.60	101	80-120	1	20
Beryllium	50.00	50.48	101	80-120	2	20
Cadmium	50.00	52.80	106	80-120	1	20
Chromium	50.00	50.57	101	80-120	1	20
Cobalt	50.00	47.37	95	80-120	3	20
Copper	50.00	48.50	97	80-120	2	20
Lead	50.00	47.80	96	80-120	1	20
Molybdenum	50.00	50.51	101	80-120	2	20
Nickel	50.00	48.02	96	80-120	5	20
Selenium	50.00	48.32	97	80-120	5	20
Silver	50.00	47.82	96	80-120	2	20
Thallium	50.00	49.57	99	80-120	3	20
Vanadium	50.00	52.16	104	80-120	2	20
Zinc	50.00	49.99	100	80-120	3	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	222777
MSS Lab ID:	266383-001	Sampled:	04/25/15
Matrix:	Soil	Received:	04/28/15
Units:	mg/Kg	Prepared:	05/01/15
Basis:	dry	Analyzed:	05/03/15
Diln Fac:	5.000		

Type: MS Moisture: 9%
Lab ID: QC786301

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1711	57.23	12.20	21	15-120
Arsenic	2.796	57.23	58.97	98	69-120
Barium	68.02	57.23	132.9	113	35-154
Beryllium	0.2469	57.23	56.77	99	75-120
Cadmium	0.5721	57.23	58.12	101	71-120
Chromium	37.17	57.23	100.0	110	57-133
Cobalt	7.589	57.23	59.85	91	56-125
Copper	15.01	57.23	70.59	97	54-144
Lead	3.640	57.23	58.05	95	53-125
Molybdenum	0.2948	57.23	52.15	91	66-120
Nickel	38.34	57.23	97.94	104	44-141
Selenium	0.5731	57.23	53.84	93	61-120
Silver	<0.04564	57.23	53.43	93	69-120
Thallium	<0.1607	57.23	54.67	96	59-120
Vanadium	34.31	57.23	94.06	104	52-144
Zinc	33.85	57.23	93.05	103	45-145

Type: MSD Moisture: 9%
Lab ID: QC786302

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	54.95	12.25	22	15-120	4	41
Arsenic	54.95	55.38	96	69-120	2	35
Barium	54.95	126.2	106	35-154	3	36
Beryllium	54.95	55.08	100	75-120	1	20
Cadmium	54.95	55.56	100	71-120	0	25
Chromium	54.95	92.65	101	57-133	5	33
Cobalt	54.95	57.76	91	56-125	0	36
Copper	54.95	69.46	99	54-144	2	38
Lead	54.95	54.69	93	53-125	2	42
Molybdenum	54.95	50.36	91	66-120	1	20
Nickel	54.95	92.37	98	44-141	3	39
Selenium	54.95	52.37	94	61-120	1	33
Silver	54.95	51.02	93	69-120	1	22
Thallium	54.95	51.99	95	59-120	1	27
Vanadium	54.95	100.6	121	52-144	9	29
Zinc	54.95	90.10	102	45-145	1	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Basis:	dry
Type:	Serial Dilution	Diln Fac:	5.000
MSS Lab ID:	266383-001	Batch#:	222777
Lab ID:	QC786303	Sampled:	04/25/15
Matrix:	Soil	Received:	04/28/15
Units:	mg/Kg	Analyzed:	05/03/15

Moisture: 9%

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	ND	0.5723	ND	2.862	NC	10
Arsenic	2.796	0.2862	2.656	1.431	NC	10
Barium	68.02	0.2862	70.12	1.431	3	10
Beryllium	0.2469	0.1145	0.2671 J	0.5723	NC	10
Cadmium	0.5721	0.2862	0.5625 J	1.431	NC	10
Chromium	37.17	0.2862	38.47	1.431	3	10
Cobalt	7.589	0.2862	8.158	1.431	8	10
Copper	15.01	0.2863	14.11	1.431	6	10
Lead	3.640	0.2862	3.811	1.431	NC	10
Molybdenum	0.2948	0.2862	0.3906 J	1.431	NC	10
Nickel	38.34	0.2862	39.69	1.431	4	10
Selenium	0.5731	0.5723	ND	2.862	NC	10
Silver	ND	0.2862	ND	1.431	NC	10
Thallium	ND	0.5723	ND	2.862	NC	10
Vanadium	34.31	0.2862	34.89	1.431	2	10
Zinc	33.85	1.145	34.91	5.723	3	10

J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Basis:	dry
Type:	Post Digest Spike	Diln Fac:	1.000
MSS Lab ID:	266383-001	Batch#:	222777
Lab ID:	QC786304	Sampled:	04/25/15
Matrix:	Soil	Received:	04/28/15
Units:	mg/Kg	Analyzed:	05/03/15

Moisture: 9%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1711	5.723	5.773	101	75-125
Arsenic	2.796	5.723	8.137	93	75-125
Barium	68.02	5.723	72.30	75 NM	75-125
Beryllium	0.2469	5.723	5.764	96	75-125
Cadmium	0.5721	5.723	5.909	93	75-125
Chromium	37.17	5.723	41.90	83 NM	75-125
Cobalt	7.589	5.723	12.41	84	75-125
Copper	15.01	5.723	20.31	93	75-125
Lead	3.640	5.723	8.529	85	75-125
Molybdenum	0.2948	5.723	5.664	94	75-125
Nickel	38.34	5.723	42.63	75 NM	75-125
Selenium	0.5731	5.723	6.237	99	75-125
Silver	<0.04564	5.723	5.355	94	75-125
Thallium	<0.1607	2.862	2.687	94	75-125
Vanadium	34.31	5.723	39.25	86 NM	75-125
Zinc	33.85	5.723	38.29	78 NM	75-125

NM= Not Meaningful: Sample concentration > 4X spike concentration

REPORTING SUMMARY FOR 266392 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
266392-004	MET54	04/30/15 15:55	1.0										+							
266392-004	MET09	05/03/15 17:30	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266392-005	MET54	04/30/15 15:57	1.0																	
266392-005	MET54	04/30/15 16:40	5.0										+							
266392-005	MET09	05/03/15 17:37	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266392-006	MET54	04/30/15 15:58	1.0										+							
266392-006	MET09	05/03/15 17:45	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786116	MET54	04/30/15 15:26	1.0										+							
QC786117	MET54	04/30/15 15:27	1.0										+							
QC786118	MET54	04/30/15 15:28	1.0										+							
QC786119	MET54	04/30/15 15:31	1.0										+							
QC786120	MET54	04/30/15 15:32	1.0										+							
QC786121	MET54	04/30/15 15:33	5.0										+							
QC786298	MET09	05/03/15 13:31	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786299	MET09	05/03/15 13:36	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786300	MET09	05/03/15 13:40	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786301	MET09	05/03/15 13:52	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786302	MET09	05/03/15 14:00	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786303	MET09	05/03/15 14:08	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786303	MET09	05/03/15 14:16	5.0																	
QC786304	MET09	05/03/15 14:36	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95177771

Instrument : MET09 Begun : 05/03/15 10:51
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				05/03/15 10:51	1.0		
002	met09_sn_	ICAL	L1			05/03/15 10:56	1.0	1	
003	met09_sn_	ICAL	L2			05/03/15 11:01	1.0	2	
004	met09_sn_	ICAL	L3			05/03/15 11:05	1.0	3	
005	met09_sn_	ICAL	L4			05/03/15 11:10	1.0	4	
006	met09_sn_	ICAL	L5			05/03/15 11:16	1.0	5	
007	met09_sn_	ICV				05/03/15 11:23	1.0	6	
008	met09_sn_	XCRI				05/03/15 11:31	1.0	7	
009	met09_sn_	CRI				05/03/15 11:43	1.0	7	
010	met09_sn_	ICB				05/03/15 11:49	1.0		
011	met09_sn_	ICSA				05/03/15 11:54	1.0	8	10:AL=510000
012	met09_sn_	ICSAB				05/03/15 12:06	1.0	9	5:AL=500000
013	met09_sn_	BLANK	QC786283	Water	222774	05/03/15 12:14	1.0		
014	met09_sn_	BS	QC786284	Water	222774	05/03/15 12:19	1.0		
015	met09_sn_	BSD	QC786285	Water	222774	05/03/15 12:23	1.0		
016	met09_sn_	MSS	266413-009	Water	222774	05/03/15 12:27	1.0		1:K=280000
017	met09_sn_	MS	QC786286	Water	222774	05/03/15 12:35	1.0		
018	met09_sn_	MSD	QC786287	Water	222774	05/03/15 12:43	1.0		
019	met09_sn_	SAMPLE	266416-001	Water	222774	05/03/15 12:51	1.0		
020	met09_sn_	SAMPLE	266414-022	Water	222774	05/03/15 12:55	1.0		1:NA=260000
021	met09_sn_	SAMPLE	266464-001	Water	222774	05/03/15 12:59	1.0		
022	met09_sn_	SAMPLE	266464-002	Water	222774	05/03/15 13:04	1.0		
023	met09_sn_	CCV				05/03/15 13:08	1.0	10	
024	met09_sn_	CCB				05/03/15 13:16	1.0		
025	met09_sn_	SAMPLE	266464-002	Water	222774	05/03/15 13:21	1.0		
026	met09_sn_	X	RINSE			05/03/15 13:26	1.0		
027	met09_sn_	BLANK	QC786298	Soil	222777	05/03/15 13:31	1.0		
028	met09_sn_	BS	QC786299	Soil	222777	05/03/15 13:36	5.0		
029	met09_sn_	BSD	QC786300	Soil	222777	05/03/15 13:40	5.0		
030	met09_sn_	MSS	266383-001	Soil	222777	05/03/15 13:44	1.0		4:FE=280000
031	met09_sn_	MS	QC786301	Soil	222777	05/03/15 13:52	5.0		
032	met09_sn_	MSD	QC786302	Soil	222777	05/03/15 14:00	5.0		
033	met09_sn_	SER	QC786303	Soil	222777	05/03/15 14:08	5.0		
034	met09_sn_	SER	QC786303	Soil	222777	05/03/15 14:16	5.0		
035	met09_sn_	CCV				05/03/15 14:23	1.0	10	
036	met09_sn_	CCB				05/03/15 14:31	1.0		
037	met09_sn_	PDS	QC786304	Soil	222777	05/03/15 14:36	1.0	11 12 13	1:FE=290000
038	met09_sn_	SAMPLE	266515-001	Soil	222777	05/03/15 14:44	1.0		5:FE=320000
039	met09_sn_	SAMPLE	266515-002	Soil	222777	05/03/15 14:52	1.0		4:FE=350000
040	met09_sn_	SAMPLE	266515-003	Soil	222777	05/03/15 15:00	1.0		4:CA=310000
041	met09_sn_	SAMPLE	266515-001	Soil	222777	05/03/15 15:08	1.0		5:FE=320000
042	met09_sn_	CCV				05/03/15 15:16	1.0	10	
043	met09_sn_	CCB				05/03/15 15:23	1.0		
044	met09_sn_	SAMPLE	266383-002	Soil	222777	05/03/15 15:29	1.0		4:FE=400000
045	met09_sn_	SAMPLE	266383-003	Soil	222777	05/03/15 15:36	1.0		4:FE=320000
046	met09_sn_	SAMPLE	266383-004	Soil	222777	05/03/15 15:44	1.0		4:FE=360000
047	met09_sn_	SAMPLE	266383-005	Soil	222777	05/03/15 15:52	1.0		3:FE=250000
048	met09_sn_	SAMPLE	266385-001	Soil	222777	05/03/15 16:00	1.0		3:FE=360000
049	met09_sn_	SAMPLE	266385-002	Soil	222777	05/03/15 16:08	1.0		3:FE=360000
050	met09_sn_	SAMPLE	266385-003	Soil	222777	05/03/15 16:16	1.0		3:FE=380000
051	met09_sn_	SAMPLE	266385-001	Soil	222777	05/03/15 16:29	1.0		3:FE=360000
052	met09_sn_	SAMPLE	266385-003	Soil	222777	05/03/15 16:37	1.0		3:FE=370000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95177771

Instrument : MET09 Begun : 05/03/15 10:51
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	SAMPLE	266386-001	Soil	222777	05/03/15 16:45	1.0		2:FE=370000
054	met09_sn_	CCV				05/03/15 16:53	1.0	10	
055	met09_sn_	CCB				05/03/15 17:01	1.0		
056	met09_sn_	SAMPLE	266386-002	Soil	222777	05/03/15 17:06	1.0		2:FE=360000
057	met09_sn_	SAMPLE	266386-003	Soil	222777	05/03/15 17:14	1.0		2:FE=370000
058	met09_sn_	SAMPLE	266386-004	Soil	222777	05/03/15 17:22	1.0		2:FE=390000
059	met09_sn_	SAMPLE	266392-004	Soil	222777	05/03/15 17:30	1.0		4:FE=510000
060	met09_sn_	SAMPLE	266392-005	Soil	222777	05/03/15 17:37	1.0		3:FE=390000
061	met09_sn_	SAMPLE	266392-006	Soil	222777	05/03/15 17:45	1.0		2:FE=190000
062	met09_sn_	X	RINSE			05/03/15 17:53	1.0		
063	met09_sn_	BLANK	QC786326	Soil	222785	05/03/15 17:58	1.0		
064	met09_sn_	BS	QC786327	Soil	222785	05/03/15 18:04	5.0		
065	met09_sn_	BSD	QC786328	Soil	222785	05/03/15 18:08	5.0		
066	met09_sn_	CCV				05/03/15 18:12	1.0	10	
067	met09_sn_	CCB				05/03/15 18:20	1.0		
068	met09_sn_	MSS	266402-001	Soil	222785	05/03/15 18:25	1.0		5:FE=360000
069	met09_sn_	MS	QC786329	Soil	222785	05/03/15 18:33	5.0		
070	met09_sn_	MSD	QC786330	Soil	222785	05/03/15 18:41	5.0		
071	met09_sn_	SAMPLE	266402-002	Soil	222785	05/03/15 18:49	1.0		5:FE=320000
072	met09_sn_	SAMPLE	266402-003	Soil	222785	05/03/15 18:57	1.0		5:FE=370000
073	met09_sn_	SAMPLE	266402-004	Soil	222785	05/03/15 19:05	1.0		5:FE=340000
074	met09_sn_	SAMPLE	266402-005	Soil	222785	05/03/15 19:13	1.0		5:FE=390000
075	met09_sn_	SAMPLE	266402-006	Soil	222785	05/03/15 19:21	1.0		5:FE=370000
076	met09_sn_	SAMPLE	266402-007	Soil	222785	05/03/15 19:29	1.0		6:FE=380000
077	met09_sn_	SAMPLE	266402-008	Soil	222785	05/03/15 19:37	1.0		5:FE=280000
078	met09_sn_	CCV				05/03/15 19:45	1.0	10	
079	met09_sn_	CCB				05/03/15 19:52	1.0		
080	met09_sn_	SAMPLE	266402-009	Soil	222785	05/03/15 19:57	1.0		5:FE=340000
081	met09_sn_	SAMPLE	266402-010	Soil	222785	05/03/15 20:05	1.0		5:FE=380000
082	met09_sn_	SAMPLE	266402-011	Soil	222785	05/03/15 20:13	1.0		5:FE=370000
083	met09_sn_	SAMPLE	266402-012	Soil	222785	05/03/15 20:21	1.0		5:FE=310000
084	met09_sn_	SAMPLE	266402-013	Soil	222785	05/03/15 20:29	1.0		5:FE=390000
085	met09_sn_	SAMPLE	266402-014	Soil	222785	05/03/15 20:37	1.0		5:FE=460000
086	met09_sn_	SAMPLE	266402-015	Soil	222785	05/03/15 20:44	1.0		5:FE=450000
087	met09_sn_	SAMPLE	266402-016	Soil	222785	05/03/15 20:52	1.0		7:FE=520000
088	met09_sn_	SAMPLE	266402-017	Soil	222785	05/03/15 21:00	1.0		5:FE=430000
089	met09_sn_	CCV				05/03/15 21:08	1.0	10	
090	met09_sn_	CCB				05/03/15 21:16	1.0		

VQ 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 090.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95177771

Date : 05/03/15 Reference : met09_sn_
Sequence : MET09 05/03/15 Analyzed : 05/03/15 10:56

#	Type	Sample ID	Y A
		ICAL STD	4381939
		LOWER LIMIT	1314582
		UPPER LIMIT	8763878
010	ICB		4589722
011	ICSA		3832108
012	ICSAB		3877551
013	BLANK	QC786283	4682585
014	BS	QC786284	4533117
015	BSD	QC786285	4591208
016	MSS	266413-009	3975101
017	MS	QC786286	4020206
018	MSD	QC786287	4202630
019	SAMPLE	266416-001	4583064
020	SAMPLE	266414-022	4483636
021	SAMPLE	266464-001	4669195
022	SAMPLE	266464-002	4568522
023	CCV		4559952
024	CCB		4725743
025	SAMPLE	266464-002	4575758
027	BLANK	QC786298	4748289
028	BS	QC786299	4570466
029	BSD	QC786300	4593070
030	MSS	266383-001	4521604
031	MS	QC786301	4546999
032	MSD	QC786302	4549483
033	SER	QC786303	4695980
034	SER	QC786303	4625650
035	CCV		4542072
036	CCB		4692972
037	PDS	QC786304	4438664
038	SAMPLE	266515-001	4369573
039	SAMPLE	266515-002	4490848
040	SAMPLE	266515-003	4376996
041	SAMPLE	266515-001	4423266
042	CCV		4603853
043	CCB		4715678
044	SAMPLE	266383-002	4552549
045	SAMPLE	266383-003	4563128
046	SAMPLE	266383-004	4448317
047	SAMPLE	266383-005	4567213
048	SAMPLE	266385-001	4495672
049	SAMPLE	266385-002	4513592
050	SAMPLE	266385-003	4563188
051	SAMPLE	266385-001	4519788
052	SAMPLE	266385-003	4586717
053	SAMPLE	266386-001	4552362
054	CCV		4529829
055	CCB		4653805
056	SAMPLE	266386-002	4704511
057	SAMPLE	266386-003	4452362
058	SAMPLE	266386-004	4499278

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95177771

Date : 05/03/15 Reference : met09_sn_
Sequence : MET09 05/03/15 Analyzed : 05/03/15 10:56

#	Type	Sample ID	Y A
059	SAMPLE	266392-004	4558819
060	SAMPLE	266392-005	4601640
061	SAMPLE	266392-006	4496627
063	BLANK	QC786326	4672499
064	BS	QC786327	4437209
065	BSD	QC786328	4543584
066	CCV		4534953
067	CCB		4705642
068	MSS	266402-001	4471845
069	MS	QC786329	4428647
070	MSD	QC786330	4501990
071	SAMPLE	266402-002	4519084
072	SAMPLE	266402-003	4453127
073	SAMPLE	266402-004	4553929
074	SAMPLE	266402-005	4513345
075	SAMPLE	266402-006	4435419
076	SAMPLE	266402-007	4624995
077	SAMPLE	266402-008	4577718
078	CCV		4533365
079	CCB		4676632
080	SAMPLE	266402-009	4494143
081	SAMPLE	266402-010	4554070
082	SAMPLE	266402-011	4481714
083	SAMPLE	266402-012	4542446
084	SAMPLE	266402-013	4499803
085	SAMPLE	266402-014	4506590
086	SAMPLE	266402-015	4438153
087	SAMPLE	266402-016	4379103
088	SAMPLE	266402-017	4431572
089	CCV		4653964
090	CCB		4686996

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 95177771001
Units : ug/L

Date : 03-MAY-2015 10:51
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95177771002	L1	03-MAY-2015 10:56	S27129
L2	met09_sn_	95177771003	L2	03-MAY-2015 11:01	S27130
L3	met09_sn_	95177771004	L3	03-MAY-2015 11:05	S27131
L4	met09_sn_	95177771005	L4	03-MAY-2015 11:10	S27132
L5	met09_sn_	95177771006	L5	03-MAY-2015 11:16	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	6.1000	5.6170	5.7438	5.8101		LOR0	0.00000	0.17213		5.8177	1.000	0.995	
Arsenic	A	2.4800	2.5740	2.6240	2.6462		LOR0	0.00000	0.37793		2.5811	1.000	0.995	
Barium	A	72.940	68.631	68.592	66.046		LOR0	0.00000	0.01514		69.052	1.000	0.995	
Beryllium	A	6290.9	5716.7	5652.1			LOR0	0.00000	1.77E-4		5886.6	1.000	0.995	
Cadmium	A	82.560	78.209	78.880	74.987		LOR0	0.00000	0.01333		78.659	1.000	0.995	
Chromium	A	161.02	154.40	153.99	151.09		LOR0	0.00000	0.00662		155.13	1.000	0.995	
Cobalt	A	47.060	42.565	44.896	43.677		LOR0	0.00000	0.02289		44.549	1.000	0.995	
Copper	A	418.82	378.36	390.90	389.73		LOR0	0.00000	0.00257		394.45	1.000	0.995	
Lead	A	26.100	22.746	23.276	22.591		LOR0	0.00000	0.04425		23.678	1.000	0.995	
Molybdenum	A	22.820	22.212	22.441	21.920		LOR0	0.00000	0.04561		22.348	1.000	0.995	
Nickel	A	58.600	60.778	62.695	61.357		LOR0	0.00000	0.01629		60.858	1.000	0.995	
Selenium	A	6.4300	5.9880	6.1237	6.2568		LOR0	0.00000	0.15986		6.1996	1.000	0.995	
Silver	A	228.30	220.96	221.22	221.32		LOR0	0.00000	0.00452		222.95	1.000	0.995	
Thallium	A	3.0300	2.9830	3.0000	2.8959		LOR0	0.00000	0.34519		2.9772	1.000	0.995	
Vanadium	A	249.24	224.57	224.85	224.86		LOR0	0.00000	0.00445		230.88	1.000	0.995	
Zinc	A	31.270	31.058	32.285	31.671		LOR0	0.00000	0.03157		31.571	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	5	100.00	-3	1000.0	-1	10000	0		
Arsenic	A	5.0000	-6	100.00	-3	1000.0	-1	10000	0		
Barium	A	5.0000	10	100.00	4	1000.0	4	10000	0		
Beryllium	A	2.0000	11	100.00	1	1000.0	0				
Cadmium	A	5.0000	10	100.00	4	1000.0	5	10000	0		
Chromium	A	5.0000	7	100.00	2	1000.0	2	10000	0		
Cobalt	A	5.0000	8	100.00	-3	1000.0	3	10000	0		
Copper	A	5.0000	7	100.00	-3	1000.0	0	10000	0		
Lead	A	5.0000	15	100.00	1	1000.0	3	10000	0		
Molybdenum	A	5.0000	4	100.00	1	1000.0	2	10000	0		
Nickel	A	5.0000	-5	100.00	-1	1000.0	2	10000	0		
Selenium	A	10.000	3	100.00	-4	1000.0	-2	10000	0		
Silver	A	5.0000	3	20.000	0	200.00	0	2000.0	0		
Thallium	A	10.000	5	100.00	3	1000.0	4	10000	0		
Vanadium	A	5.0000	11	100.00	0	1000.0	0	10000	0		
Zinc	A	20.000	-1	100.00	-2	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

95177771001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 95177771001 Cal Date : 03-MAY-2015

ICV 95177771007 (03-MAY-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4900	ug/L	-2	10	
Arsenic	A	5000	5001	ug/L	0	10	
Barium	A	5000	4940	ug/L	-1	10	
Beryllium	A	500.0	501.4	ug/L	0	10	
Cadmium	A	5000	5076	ug/L	2	10	
Chromium	A	5000	4929	ug/L	-1	10	
Cobalt	A	5000	4894	ug/L	-2	10	
Copper	A	5000	4887	ug/L	-2	10	
Lead	A	5000	4871	ug/L	-3	10	
Molybdenum	A	5000	5062	ug/L	1	10	
Nickel	A	5000	4919	ug/L	-2	10	
Selenium	A	5000	4910	ug/L	-2	10	
Silver	A	1000	979.2	ug/L	-2	10	
Thallium	A	5000	4882	ug/L	-2	10	
Vanadium	A	5000	4966	ug/L	-1	10	
Zinc	A	5000	5051	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771010 File : met09_sn_ Time : 03-MAY-2015 11:49
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	[2.639]	10.00	2.500	ug/L	!ICB
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4589722	4.74

!=warning ICB=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771011 File : met09_sn_ Time : 03-MAY-2015 11:54
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[1.253]	10.00	ug/L	
Arsenic	A	[0.07129]	5.000	ug/L	
Barium	A	[-0.2222]	5.000	ug/L	
Beryllium	A	[-0.3007]	2.000	ug/L	
Cadmium	A	[0.08300]	5.000	ug/L	
Cobalt	A	[0.7285]	5.000	ug/L	
Lead	A	[1.814]	5.000	ug/L	
Molybdenum	A	[1.548]	5.000	ug/L	
Selenium	A	[-5.991]	10.00	ug/L	
Silver	A	[-3.082]	5.000	ug/L	
Thallium	A	[-4.860]	10.00	ug/L	
Zinc	A	[12.69]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18540	ug/L	93
Copper	A	20000	20240	ug/L	101
Manganese	A	20000	17710	ug/L	89
Nickel	A	20000	16620	ug/L	83
Vanadium	A	20000	19540	ug/L	98
Aluminum	R	500000	505100	ug/L	101
Calcium	R	500000	474700	ug/L	95
Iron	R	200000	186000	ug/L	93
Magnesium	R	500000	489900	ug/L	98
Titanium	R	20000	20980	ug/L	105

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	3832108	-12.55

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771012 File : met09_sn_ Time : 03-MAY-2015 12:06
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	510.6	ug/L	2	20	
Arsenic	A	500.0	517.7	ug/L	4	20	
Barium	A	500.0	504.5	ug/L	1	20	
Beryllium	A	500.0	499.8	ug/L	0	20	
Cadmium	A	1000	950.8	ug/L	-5	20	
Chromium	A	500.0	481.6	ug/L	-4	20	
Cobalt	A	500.0	428.5	ug/L	-14	20	
Copper	A	500.0	500.0	ug/L	0	20	
Lead	A	1000	846.5	ug/L	-15	20	
Molybdenum	A	500.0	488.0	ug/L	-2	20	
Nickel	A	1000	864.3	ug/L	-14	20	
Selenium	A	500.0	510.5	ug/L	2	20	
Silver	A	1000	1092	ug/L	9	20	
Thallium	A	500.0	476.0	ug/L	-5	20	
Vanadium	A	500.0	514.7	ug/L	3	20	
Zinc	A	1000	913.8	ug/L	-9	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	3877551	-11.51

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771023 File : met09_sn_ Time : 03-MAY-2015 13:08
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.8177	5.6309	5000	4846	ug/L	-3	10	
Arsenic	A	2.5811	2.6435	5000	4995	ug/L	0	10	
Barium	A	69.052	63.531	5000	4808	ug/L	-4	10	
Beryllium	A	5886.6	5507.3	500.0	487.1	ug/L	-3	10	
Cadmium	A	78.659	74.171	5000	4943	ug/L	-1	10	
Chromium	A	155.13	145.21	5000	4805	ug/L	-4	10	
Cobalt	A	44.549	41.870	5000	4783	ug/L	-4	10	
Copper	A	394.45	372.83	5000	4783	ug/L	-4	10	
Lead	A	23.678	21.244	5000	4701	ug/L	-6	10	
Molybdenum	A	22.348	21.395	5000	4879	ug/L	-2	10	
Nickel	A	60.858	58.911	5000	4800	ug/L	-4	10	
Selenium	A	6.1996	6.0460	5000	4833	ug/L	-3	10	
Silver	A	222.95	210.75	1000	952.2	ug/L	-5	10	
Thallium	A	2.9772	2.7873	5000	4811	ug/L	-4	10	
Vanadium	A	230.88	218.54	5000	4860	ug/L	-3	10	
Zinc	A	31.571	31.086	5000	4907	ug/L	-2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4559952	4.06

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771024 File : met09_sn_ Time : 03-MAY-2015 13:16
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.424]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4725743	7.85

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771035 File : met09_sn_ Time : 03-MAY-2015 14:23
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.8177	5.6736	5000	4883	ug/L	-2	10	
Arsenic	A	2.5811	2.6618	5000	5030	ug/L	1	10	
Barium	A	69.052	64.775	5000	4902	ug/L	-2	10	
Beryllium	A	5886.6	5546.4	500.0	490.6	ug/L	-2	10	
Cadmium	A	78.659	75.518	5000	5033	ug/L	1	10	
Chromium	A	155.13	148.19	5000	4903	ug/L	-2	10	
Cobalt	A	44.549	42.669	5000	4874	ug/L	-3	10	
Copper	A	394.45	375.62	5000	4819	ug/L	-4	10	
Lead	A	23.678	21.714	5000	4804	ug/L	-4	10	
Molybdenum	A	22.348	21.910	5000	4996	ug/L	0	10	
Nickel	A	60.858	60.120	5000	4898	ug/L	-2	10	
Selenium	A	6.1996	6.0926	5000	4870	ug/L	-3	10	
Silver	A	222.95	215.50	1000	973.7	ug/L	-3	10	
Thallium	A	2.9772	2.8000	5000	4833	ug/L	-3	10	
Vanadium	A	230.88	219.72	5000	4886	ug/L	-2	10	
Zinc	A	31.571	31.638	5000	4994	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4542072	3.65

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771036 File : met09_sn_ Time : 03-MAY-2015 14:31
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.291]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4692972	7.10

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771042 File : met09_sn_ Time : 03-MAY-2015 15:16
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.8177	5.6120	5000	4830	ug/L	-3	10	
Arsenic	A	2.5811	2.5813	5000	4878	ug/L	-2	10	
Barium	A	69.052	63.831	5000	4830	ug/L	-3	10	
Beryllium	A	5886.6	5519.0	500.0	488.2	ug/L	-2	10	
Cadmium	A	78.659	74.561	5000	4969	ug/L	-1	10	
Chromium	A	155.13	145.50	5000	4814	ug/L	-4	10	
Cobalt	A	44.549	41.699	5000	4763	ug/L	-5	10	
Copper	A	394.45	372.59	5000	4780	ug/L	-4	10	
Lead	A	23.678	20.863	5000	4616	ug/L	-8	10	
Molybdenum	A	22.348	21.414	5000	4883	ug/L	-2	10	
Nickel	A	60.858	58.644	5000	4778	ug/L	-4	10	
Selenium	A	6.1996	5.9960	5000	4793	ug/L	-4	10	
Silver	A	222.95	210.62	1000	951.7	ug/L	-5	10	
Thallium	A	2.9772	2.7749	5000	4789	ug/L	-4	10	
Vanadium	A	230.88	218.24	5000	4853	ug/L	-3	10	
Zinc	A	31.571	30.834	5000	4867	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4603853	5.06

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771043 File : met09_sn_ Time : 03-MAY-2015 15:23
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4715678	7.62

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771054 File : met09_sn_ Time : 03-MAY-2015 16:53
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.8177	5.6175	5000	4835	ug/L	-3	10	
Arsenic	A	2.5811	2.6312	5000	4972	ug/L	-1	10	
Barium	A	69.052	63.854	5000	4832	ug/L	-3	10	
Beryllium	A	5886.6	5586.8	500.0	494.2	ug/L	-1	10	
Cadmium	A	78.659	74.567	5000	4969	ug/L	-1	10	
Chromium	A	155.13	145.30	5000	4807	ug/L	-4	10	
Cobalt	A	44.549	42.112	5000	4811	ug/L	-4	10	
Copper	A	394.45	375.13	5000	4813	ug/L	-4	10	
Lead	A	23.678	21.445	5000	4745	ug/L	-5	10	
Molybdenum	A	22.348	21.608	5000	4928	ug/L	-1	10	
Nickel	A	60.858	59.286	5000	4830	ug/L	-3	10	
Selenium	A	6.1996	6.0491	5000	4835	ug/L	-3	10	
Silver	A	222.95	212.13	1000	958.5	ug/L	-4	10	
Thallium	A	2.9772	2.7991	5000	4831	ug/L	-3	10	
Vanadium	A	230.88	218.81	5000	4866	ug/L	-3	10	
Zinc	A	31.571	31.262	5000	4935	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4529829	3.37

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771055 File : met09_sn_ Time : 03-MAY-2015 17:01
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4653805	6.20

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771066 File : met09_sn_ Time : 03-MAY-2015 18:12
Cal : 95177771001 Caldate : 03-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.8177	5.6512	5000	4864	ug/L	-3	10	
Arsenic	A	2.5811	2.6335	5000	4976	ug/L	0	10	
Barium	A	69.052	63.956	5000	4840	ug/L	-3	10	
Beryllium	A	5886.6	5499.2	500.0	486.4	ug/L	-3	10	
Cadmium	A	78.659	74.763	5000	4982	ug/L	0	10	
Chromium	A	155.13	145.65	5000	4819	ug/L	-4	10	
Cobalt	A	44.549	42.186	5000	4819	ug/L	-4	10	
Copper	A	394.45	370.57	5000	4754	ug/L	-5	10	
Lead	A	23.678	21.457	5000	4748	ug/L	-5	10	
Molybdenum	A	22.348	21.678	5000	4944	ug/L	-1	10	
Nickel	A	60.858	59.194	5000	4823	ug/L	-4	10	
Selenium	A	6.1996	6.0322	5000	4822	ug/L	-4	10	
Silver	A	222.95	212.77	1000	961.4	ug/L	-4	10	
Thallium	A	2.9772	2.7974	5000	4828	ug/L	-3	10	
Vanadium	A	230.88	217.47	5000	4836	ug/L	-3	10	
Zinc	A	31.571	31.344	5000	4947	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4534953	3.49

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95177771067 File : met09_sn_ Time : 03-MAY-2015 18:20
Cal : 95177771001 Caldate : 03-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	[2.801]	10.00	2.500	ug/L	!CCB
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4381939	4705642	7.39

!=warning CCB=instrument blank

SAMPLE PREPARATION SUMMARY

Batch # : 222777
Started By : RFC
Method : 3050B
Spike #1 ID : S25213
Prep Date : 01-MAY-2015 12:15
Spike #2 ID : S25214
Analysis : ICP
Finished By : RFC
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266383-001		Soil	.96	50	1	52.08						6010	
266383-002		Soil	.97	50	1	51.55						6010	
266383-003		Soil	1.05	50	1	47.62						6010	
266383-004		Soil	1.04	50	1	48.08						6010	
266383-005		Soil	1	50	1	50.0						6010	
266385-001		Soil	.96	50	1	52.08						6010	
266385-002		Soil	1.08	50	1	46.30						6010	
266385-003		Soil	1.09	50	1	45.87						6010	
266386-001		Soil	1.03	50	1	48.54						6010	
266386-002		Soil	.95	50	1	52.63						6010	
266386-003		Soil	1.1	50	1	45.45						6010	
266386-004		Soil	.95	50	1	52.63						6010	
266392-004		Soil	1.04	50	1	48.08						6010	
266392-005		Soil	.98	50	1	51.02						6010	
266392-006		Soil	1.09	50	1	45.87						6010	
266515-001		Soil	1.03	50	1	48.54						6010	
266515-002		Soil	1.05	50	1	47.62						6010	
266515-003		Soil	1.06	50	1	47.17						6010	
QC786298	BLANK	Soil	1	50	1	50.0							
QC786299	BS	Soil	1	50	1	50.0		.5	.5				
QC786300	BSD	Soil	1	50	1	50.0		.5	.5				
QC786301	MS	Soil	.96	50	1	52.08		.5	.5				
QC786302	MSD	Soil	1	50	1	50.0		.5	.5				
QC786303	SER	Soil	.96	50	1	52.08							
QC786304	PDS	Soil	.96	50	1	52.08							

Analyst: VQ Date: 05/03/15 Reviewer: PRW Date: 05/04/15

Soil Digestion for ICP & ICP-MS

Curtis & Tompkins, Ltd.

BK3675

Page 64

LIMS Batch #: 222777
Date Digested: 5/1/15
Digested by: RFC

Scale Used: ☑ Metals Prep ☐ _____

Digestion Method: ☑ EPA 3050b ☐ _____

Lvl.	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
	BLANK		Ø	50	Y	✓	QC786298
	BS		Ø	50		✓	-299
	BSD		Ø	50		✓	-300
	MS	C	0.96	50		✓	-301
5	MSD	C	1.00	50		✓	-302
III	266383-001	C	0.96	50		✓	MSS
	-002	C	0.97	50		✓	
	-003	C	1.05	50		✓	
	-004	C	1.04	50		✓	
10	-005	C	1.00	50		✓	
	266385-001	B	0.96	50		✓	
	-002	B	1.08	50		✓	
	-003	B	1.09	50		✓	
	266386-001	B	1.03	50		✓	
15	-002	B	0.95	50		✓	
	-003	B	1.10	50		✓	
	-004	C	0.95	50		✓	
	266392-004	B	1.04	50		✓	
	-005	A	0.98	50		✓	
20	-006	A	1.09	50		✓	
	266515-001	A	1.03	50		✓	
	-002	A	1.05	50		✓	
	-003	A	1.06	50		✓	
				50			
				50			

	Reagent ID or LIMS #	Initials / D
Digestion tubes, lot#	SCP205023	RFC 5/1/15
0.50 mL of spike solution (Std1) was added to all spikes	S25213	
0.50 mL of spike solution (Std2) was added to all spikes	S25214	
Digestion Temperature (°C), Block and Probe Location	94° C11	
Digestion begun at (time)	12:15	
1:1 HNO3	JTB88969	
concentrated HNO3	JTB102053	
3mL 30% hydrogen peroxide	JTB97854	
concentrated HCl	JTB97264	
Digestion ended at (time)	15:45	
☑ filtered	WHAT 9613213	
Relinquished to ICP group	ICP	

5/1/15
Digestion Chemist / Date

Continued from page Ø
Continued on page _____

Reviewed Online / See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075173717

Instrument : MET54
Method : EPA 7470A
Begun : 04/30/15 15:17
SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met54	ICALBLK				04/30/15 15:17	1.0		
002	met54	ICAL	ICAL1			04/30/15 15:18	1.0	1	
003	met54	ICAL	ICAL2			04/30/15 15:19	1.0	1	
004	met54	ICAL	ICAL3			04/30/15 15:20	1.0	1	
005	met54	ICAL	ICAL4			04/30/15 15:22	1.0	1	
006	met54	ICAL	ICAL5			04/30/15 15:23	1.0	1	
007	met54	ICV				04/30/15 15:24	1.0	2	
008	met54	ICB				04/30/15 15:25	1.0		
009	met54	BLANK	QC786116	Soil	222734	04/30/15 15:26	1.0		
010	met54	BS	QC786117	Soil	222734	04/30/15 15:27	1.0		
011	met54	BSD	QC786118	Soil	222734	04/30/15 15:28	1.0		
012	met54	MSS	266420-002	Soil	222734	04/30/15 15:29	1.0		
013	met54	MS	QC786119	Soil	222734	04/30/15 15:31	1.0		
014	met54	MSD	QC786120	Soil	222734	04/30/15 15:32	1.0		
015	met54	SER	QC786121	Soil	222734	04/30/15 15:33	5.0		
016	met54	SAMPLE	266284-010	Soil	222734	04/30/15 15:34	1.0		
017	met54	SAMPLE	266380-001	Soil	222734	04/30/15 15:35	1.0		
018	met54	SAMPLE	266380-002	Soil	222734	04/30/15 15:36	1.0		
019	met54	CCV				04/30/15 15:37	1.0	3	
020	met54	CCB				04/30/15 15:39	1.0		
021	met54	SAMPLE	266380-003	Soil	222734	04/30/15 15:40	1.0		
022	met54	SAMPLE	266380-004	Soil	222734	04/30/15 15:41	1.0		
023	met54	SAMPLE	266381-001	Soil	222734	04/30/15 15:42	1.0		
024	met54	SAMPLE	266381-002	Soil	222734	04/30/15 15:43	1.0		
025	met54	SAMPLE	266383-001	Soil	222734	04/30/15 15:44	1.0		
026	met54	SAMPLE	266383-002	Soil	222734	04/30/15 15:45	1.0		
027	met54	SAMPLE	266383-003	Soil	222734	04/30/15 15:46	1.0		
028	met54	SAMPLE	266383-004	Soil	222734	04/30/15 15:48	1.0		
029	met54	SAMPLE	266383-005	Soil	222734	04/30/15 15:49	1.0		
030	met54	SAMPLE	266385-001	Soil	222734	04/30/15 15:50	1.0		
031	met54	CCV				04/30/15 15:51	1.0	3	
032	met54	CCB				04/30/15 15:52	1.0		
033	met54	SAMPLE	266385-002	Soil	222734	04/30/15 15:53	1.0		
034	met54	SAMPLE	266385-003	Soil	222734	04/30/15 15:54	1.0		
035	met54	SAMPLE	266392-004	Soil	222734	04/30/15 15:55	1.0		
036	met54	SAMPLE	266392-005	Soil	222734	04/30/15 15:57	1.0		1:HG=12
037	met54	SAMPLE	266392-006	Soil	222734	04/30/15 15:58	1.0		
038	met54	X	RINSE			04/30/15 15:59	1.0		
039	met54	BLANK	QC786122	Soil	222735	04/30/15 16:00	1.0		
040	met54	BS	QC786123	Soil	222735	04/30/15 16:01	1.0		
041	met54	BSD	QC786124	Soil	222735	04/30/15 16:03	1.0		
042	met54	MSS	266386-001	Soil	222735	04/30/15 16:04	1.0		
043	met54	CCV				04/30/15 16:05	1.0	3	
044	met54	CCB				04/30/15 16:06	1.0		
045	met54	MS	QC786125	Soil	222735	04/30/15 16:07	1.0		
046	met54	MSD	QC786126	Soil	222735	04/30/15 16:08	1.0		
047	met54	SER	QC786127	Soil	222735	04/30/15 16:09	5.0		
048	met54	SAMPLE	266368-001	Soil	222735	04/30/15 16:10	1.0		
049	met54	SAMPLE	266368-002	Soil	222735	04/30/15 16:12	1.0		
050	met54	SAMPLE	266368-003	Soil	222735	04/30/15 16:13	1.0		
051	met54	SAMPLE	266368-004	Soil	222735	04/30/15 16:14	1.0		
052	met54	SAMPLE	266368-005	Soil	222735	04/30/15 16:15	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075173717

Instrument : MET54 Begun : 04/30/15 15:17
Method : EPA 7470A SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met54	SAMPLE	266368-006	Soil	222735	04/30/15 16:16	1.0		
054	met54	SAMPLE	266368-007	Soil	222735	04/30/15 16:17	1.0		
055	met54	CCV				04/30/15 16:18	1.0	3	
056	met54	CCB				04/30/15 16:19	1.0		
057	met54	SAMPLE	266368-008	Soil	222735	04/30/15 16:21	1.0		
058	met54	SAMPLE	266368-009	Soil	222735	04/30/15 16:22	1.0		
059	met54	SAMPLE	266368-010	Soil	222735	04/30/15 16:23	1.0		
060	met54	SAMPLE	266368-011	Soil	222735	04/30/15 16:24	1.0		
061	met54	SAMPLE	266368-012	Soil	222735	04/30/15 16:25	1.0		
062	met54	SAMPLE	266368-013	Soil	222735	04/30/15 16:26	1.0		
063	met54	SAMPLE	266368-014	Soil	222735	04/30/15 16:27	1.0		
064	met54	SAMPLE	266368-015	Soil	222735	04/30/15 16:28	1.0		
065	met54	SAMPLE	266368-016	Soil	222735	04/30/15 16:30	1.0		
066	met54	SAMPLE	266386-002	Soil	222735	04/30/15 16:31	1.0		
067	met54	XCCV				04/30/15 16:32	1.0	3	
068	met54	CCV				04/30/15 16:35	1.0	3	
069	met54	CCB				04/30/15 16:36	1.0		
070	met54	SAMPLE	266386-003	Soil	222735	04/30/15 16:37	1.0		
071	met54	SAMPLE	266386-004	Soil	222735	04/30/15 16:39	1.0		
072	met54	SAMPLE	266392-005	Soil	222734	04/30/15 16:40	5.0		
073	met54	CCV				04/30/15 16:41	1.0	3	
074	met54	CCB				04/30/15 16:42	1.0		

ARD 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 74.

Standards used: 1=S27168 2=S27170 3=S27171

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 METALS Soil: EPA 7470A

Inst : MET54
Calnum : 1075173717001
Units : ug/L

Date : 30-APR-2015 15:17
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met54	1075173717002	ICAL1	30-APR-2015 15:18	S27168 (500X)
L2	met54	1075173717003	ICAL2	30-APR-2015 15:19	S27168 (200X)
L3	met54	1075173717004	ICAL3	30-APR-2015 15:20	S27168 (50X)
L4	met54	1075173717005	ICAL4	30-APR-2015 15:22	S27168 (20X)
L5	met54	1075173717006	ICAL5	30-APR-2015 15:23	S27168 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0100	0.0104	0.0106	0.0103	0.0098	LIN0	-0.0591	101.374		0.0102	0.999	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	**-28**	0.5000	-6	2.0000	4	5.0000	3	10.000	-1

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 METALS Soil
EPA 7470A

Inst : MET54
Calnum : 1075173717001 Cal Date : 30-APR-2015

ICV 1075173717007 (30-APR-2015) stds: S27170

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	5.233	ug/L	5	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717008 File : met54 Time : 30-APR-2015 15:25
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717019 File : met54 Time : 30-APR-2015 15:37
Cal : 1075173717001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0102	0.0108	5.000	5.395	ug/L	8	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717020 File : met54 Time : 30-APR-2015 15:39
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717031 File : met54 Time : 30-APR-2015 15:51
Cal : 1075173717001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0102	0.0105	5.000	5.243	ug/L	5	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717032 File : met54 Time : 30-APR-2015 15:52
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717043 File : met54 Time : 30-APR-2015 16:05
Cal : 1075173717001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0102	0.0108	5.000	5.415	ug/L	8	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717044 File : met54 Time : 30-APR-2015 16:06
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717068 File : met54 Time : 30-APR-2015 16:35
Cal : 1075173717001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0102	0.0105	5.000	5.283	ug/L	6	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717069 File : met54 Time : 30-APR-2015 16:36
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717073 File : met54 Time : 30-APR-2015 16:41
Cal : 1075173717001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0102	0.0106	5.000	5.314	ug/L	6	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173717074 File : met54 Time : 30-APR-2015 16:42
Cal : 1075173717001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 222734
Started By : ARD
Method : METHOD
Spike #1 ID : S27168

Prep Date : 30-APR-2015 12:40

Analysis : HG
Finished By : ARD
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266284-010		Soil	.56	50	1	89.29						T22/HG	
266380-001		Soil	.59	50	1	84.75						T22/HG	
266380-002		Soil	.58	50	1	86.21						T22/HG	
266380-003		Soil	.59	50	1	84.75						T22/HG	
266380-004		Soil	.6	50	1	83.33						T22/HG	
266381-001		Soil	.6	50	1	83.33						T22/HG	
266381-002		Soil	.6	50	1	83.33						T22/HG	
266383-001		Soil	.64	50	1	78.13						T22/HG	
266383-002		Soil	.6	50	1	83.33						T22/HG	
266383-003		Soil	.58	50	1	86.21						T22/HG	
266383-004		Soil	.59	50	1	84.75						T22/HG	
266383-005		Soil	.57	50	1	87.72						T22/HG	
266385-001		Soil	.65	50	1	76.92						T22/HG	
266385-002		Soil	.59	50	1	84.75						T22/HG	
266385-003		Soil	.64	50	1	78.13						T22/HG	
266392-004		Soil	.56	50	1	89.29						T22/HG	
266392-005		Soil	.62	50	1	80.65						T22/HG	
266392-006		Soil	.61	50	1	81.97						T22/HG	
266420-002		Soil	.6	50	1	83.33						T22/HG	
QC786116	BLANK	Soil	.6	50	1	83.33							
QC786117	BS	Soil	.6	50	1	83.33		1.25					
QC786118	BSD	Soil	.6	50	1	83.33		1.25					
QC786119	MS	Soil	.56	50	1	89.29		1.25					
QC786120	MSD	Soil	.65	50	1	76.92		1.25					
QC786121	SER	Soil	.6	50	1	83.33							

Analyst: ARD Date: 04/30/15 Reviewer: PRW Date: 04/30/15

Soil Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 227734
Date Digested: 4/30/15

Scale Used: ☒ Metals Prep ☐ _____

Digestion Method: ☒ EPA 7471A ☐ _____

BK 3672
Page 39

	Sample #	container ID	Sample Weight (g)	Final Volume (mL)	Filtered? (y/n)	Comments
	Blank		Ø	☒50 ☐___	Y	QC786116
	BS →		Ø	☒50 ☐___	↓	↓ 117
	BSD →		Ø	☒50 ☐___	↓	↓ 118
	MSS 266420-002	B	0.60	☒50 ☐___		
5	MS ↓ →	↓	0.56	☒50 ☐___		
	MSD ↓ →	↓	0.65	☒50 ☐___		
	266284-010	F	0.56	☒50 ☐___		
	266380-001	A	0.59	☒50 ☐___		~~wet clay~~ ARD 4/30/15
	↓ -002	↓	0.58	☒50 ☐___		
10	↓ -003	↓	0.59	☒50 ☐___		wet clay
	↓ -004	↓	0.60	☒50 ☐___		
	266381-001	A	0.60	☒50 ☐___		
	↓ -002	↓	0.60	☒50 ☐___		
	266383-001	B	0.64	☒50 ☐___		
15	↓ -002	↓	0.60	☒50 ☐___		
	↓ -003	↓	0.58	☒50 ☐___		
	↓ -004	↓	0.59	☒50 ☐___		
	↓ -005	↓	0.57	☒50 ☐___		
	266385-001	B	0.65	☒50 ☐___		
20	↓ -002	↓	0.59	☒50 ☐___		
	↓ -003	↓	0.64	☒50 ☐___		
	266392-004	B	0.56	☒50 ☐___		
	↓ -005	↓	0.62	☒50 ☐___		
	↓ -006	↓	0.61	☒50 ☐___	↓	
				☐50 ☐___		

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tubes, Lot #	EK 140812	ARD 4/30/15
1.25 mL of spike standard was added to all spikes	S27168★	↓
☒ CAL digested with this batch — ICAL Source LIMS S#	~~S27116~~ ARD 4/30/15 S27169	
ICV / CCV LIMS S#	S27170 / S27171	
Digestion Temperature (°C), Block and Probe Location	96° / B42	
Digestion Started at (time)	12:40	
Aqua Regia Acids (HNO3+ HCl)	~~JTB 042015~~ ARD 4/30/15 042015 JTB 102015 HNO3 JTB 97264 HCl	
5% $KMnO_4$	FS-148300-042615	
NaCl.hydroxylamine hydrochloride	040915	
Stannous Chloride	FS 147491-042615	
Digestion Completd at (time)	13:10	
☒ filtered thru' 0.45 um syringe filter (lot #)	4322504	↓

4/30/15
Prep Chemist / Date

Continued from page Ø
Continued on page _____

Reviewed Online / See LIMS

Laboratory Job Number 266392

ANALYTICAL REPORT

Metals

Matrix: Filtrate

Curtis & Tompkins, Ltd.

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB21GW	Sampled:	04/28/15
Lab ID:	266392-003	Received:	04/28/15
Matrix:	Filtrate	Prepared:	04/30/15
Units:	ug/L		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Antimony	ND	10	1.000	222747	04/30/15	EPA 6010B
Arsenic	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Barium	1,400	5.0	1.000	222747	04/30/15	EPA 6010B
Beryllium	ND	2.0	1.000	222747	04/30/15	EPA 6010B
Cadmium	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Chromium	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Cobalt	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Copper	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Lead	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Mercury	ND	0.20	1.000	222724	04/30/15	EPA 7470A
Molybdenum	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Nickel	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Selenium	ND	10	1.000	222747	04/30/15	EPA 6010B
Silver	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Thallium	ND	1.0	10.00	222747	05/04/15	EPA 6020
Vanadium	ND	5.0	1.000	222747	04/30/15	EPA 6010B
Zinc	ND	20	1.000	222747	04/30/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222724
Lab ID:	QC786079	Prepared:	04/30/15
Matrix:	Water	Analyzed:	04/30/15
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222724
Matrix:	Water	Prepared:	04/30/15
Units:	ug/L	Analyzed:	04/30/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786080	2.500	2.527	101	80-120		
BSD	QC786081	2.500	2.546	102	80-120	1	24

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222724
Field ID:	ZZZZZZZZZZ	Sampled:	04/29/15
MSS Lab ID:	266468-001	Received:	04/29/15
Matrix:	Water	Prepared:	04/30/15
Units:	ug/L	Analyzed:	04/30/15
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC786082	<0.02080	2.500	2.517	101	60-130		
MSD	QC786083		2.500	2.546	102	60-130	1	34

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Units:	ug/L
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	222724
MSS Lab ID:	266468-001	Sampled:	04/29/15
Lab ID:	QC786084	Received:	04/29/15
Matrix:	Water	Analyzed:	04/30/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
ND	0.2000	ND	1.000	NC	10

NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Type:	BLANK	Units:	ug/L
Lab ID:	QC786173	Batch#:	222747
Matrix:	Filtrate	Prepared:	04/30/15

Analyte	Result	RL	Diln Fac	Analyzed	Analysis
Antimony	ND	10	1.000	04/30/15	EPA 6010B
Arsenic	ND	5.0	1.000	04/30/15	EPA 6010B
Barium	ND	5.0	1.000	04/30/15	EPA 6010B
Beryllium	ND	2.0	1.000	04/30/15	EPA 6010B
Cadmium	ND	5.0	1.000	04/30/15	EPA 6010B
Chromium	ND	5.0	1.000	04/30/15	EPA 6010B
Cobalt	ND	5.0	1.000	04/30/15	EPA 6010B
Copper	ND	5.0	1.000	04/30/15	EPA 6010B
Lead	ND	5.0	1.000	04/30/15	EPA 6010B
Molybdenum	ND	5.0	1.000	04/30/15	EPA 6010B
Nickel	ND	5.0	1.000	04/30/15	EPA 6010B
Selenium	ND	10	1.000	04/30/15	EPA 6010B
Silver	ND	5.0	1.000	04/30/15	EPA 6010B
Thallium	ND	1.0	5.000	05/04/15	EPA 6020
Vanadium	ND	5.0	1.000	04/30/15	EPA 6010B
Zinc	ND	20	1.000	04/30/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Type:	BLANK	Units:	ug/L
Lab ID:	QC786174	Batch#:	222747
Matrix:	Filtrate	Prepared:	04/30/15

Analyte	Result	RL	Diln Fac	Analyzed	Analysis
Antimony	ND	10	1.000	04/30/15	EPA 6010B
Arsenic	ND	5.0	1.000	04/30/15	EPA 6010B
Barium	ND	5.0	1.000	04/30/15	EPA 6010B
Beryllium	ND	2.0	1.000	04/30/15	EPA 6010B
Cadmium	ND	5.0	1.000	04/30/15	EPA 6010B
Chromium	ND	5.0	1.000	04/30/15	EPA 6010B
Cobalt	ND	5.0	1.000	04/30/15	EPA 6010B
Copper	ND	5.0	1.000	04/30/15	EPA 6010B
Lead	ND	5.0	1.000	04/30/15	EPA 6010B
Molybdenum	ND	5.0	1.000	04/30/15	EPA 6010B
Nickel	ND	5.0	1.000	04/30/15	EPA 6010B
Selenium	ND	10	1.000	04/30/15	EPA 6010B
Silver	ND	5.0	1.000	04/30/15	EPA 6010B
Thallium	ND	1.0	5.000	05/04/15	EPA 6020
Vanadium	ND	5.0	1.000	04/30/15	EPA 6010B
Zinc	ND	20	1.000	04/30/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Matrix:	Filtrate	Batch#:	222747
Units:	ug/L	Prepared:	04/30/15

Type: BS Lab ID: QC786175

Analyte	Spiked	Result	%REC	Limits	Dil'n Fac	Analyzed	Analysis
Antimony	100.0	109.5	110	79-120	1.000	04/30/15	EPA 6010B
Arsenic	100.0	101.4	101	80-120	1.000	04/30/15	EPA 6010B
Barium	100.0	103.5	104	80-120	1.000	04/30/15	EPA 6010B
Beryllium	100.0	105.0	105	80-120	1.000	04/30/15	EPA 6010B
Cadmium	100.0	110.4	110	80-120	1.000	04/30/15	EPA 6010B
Chromium	100.0	101.6	102	80-120	1.000	04/30/15	EPA 6010B
Cobalt	100.0	100.1	100	80-120	1.000	04/30/15	EPA 6010B
Copper	100.0	100.7	101	80-120	1.000	04/30/15	EPA 6010B
Lead	100.0	96.97	97	80-120	1.000	04/30/15	EPA 6010B
Molybdenum	100.0	100.5	100	80-120	1.000	04/30/15	EPA 6010B
Nickel	100.0	102.7	103	80-120	1.000	04/30/15	EPA 6010B
Selenium	100.0	105.4	105	80-120	1.000	04/30/15	EPA 6010B
Silver	100.0	105.6	106	77-120	1.000	04/30/15	EPA 6010B
Thallium	50.00	48.43	97	80-120	5.000	05/04/15	EPA 6020
Vanadium	100.0	102.0	102	80-120	1.000	04/30/15	EPA 6010B
Zinc	100.0	107.0	107	80-120	1.000	04/30/15	EPA 6010B

Type: BSD Lab ID: QC786176

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Dil'n Fac	Analyzed	Analysis
Antimony	100.0	106.3	106	79-120	3	20	1.000	04/30/15	EPA 6010B
Arsenic	100.0	100.4	100	80-120	1	20	1.000	04/30/15	EPA 6010B
Barium	100.0	104.1	104	80-120	1	20	1.000	04/30/15	EPA 6010B
Beryllium	100.0	104.2	104	80-120	1	20	1.000	04/30/15	EPA 6010B
Cadmium	100.0	108.8	109	80-120	1	20	1.000	04/30/15	EPA 6010B
Chromium	100.0	101.3	101	80-120	0	20	1.000	04/30/15	EPA 6010B
Cobalt	100.0	100.1	100	80-120	0	20	1.000	04/30/15	EPA 6010B
Copper	100.0	100.4	100	80-120	0	20	1.000	04/30/15	EPA 6010B
Lead	100.0	96.86	97	80-120	0	20	1.000	04/30/15	EPA 6010B
Molybdenum	100.0	103.0	103	80-120	2	20	1.000	04/30/15	EPA 6010B
Nickel	100.0	102.4	102	80-120	0	20	1.000	04/30/15	EPA 6010B
Selenium	100.0	103.9	104	80-120	1	20	1.000	04/30/15	EPA 6010B
Silver	100.0	101.4	101	77-120	4	20	1.000	04/30/15	EPA 6010B
Thallium	50.00	48.17	96	80-120	1	20	5.000	05/04/15	EPA 6020
Vanadium	100.0	102.2	102	80-120	0	20	1.000	04/30/15	EPA 6010B
Zinc	100.0	106.3	106	80-120	1	20	1.000	04/30/15	EPA 6010B

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB21GW	Batch#:	222747
MSS Lab ID:	266392-003	Sampled:	04/28/15
Matrix:	Filtrate	Received:	04/28/15
Units:	ug/L	Prepared:	04/30/15

Type: MS Lab ID: QC786177

Analyte	MSS Result	Spiked	Result	%REC	Limits	Dil'n Fac	Analyzed	Analysis
Antimony	<1.120	100.0	97.10	97	74-120	1.000	04/30/15	EPA 6010B
Arsenic	<1.028	100.0	106.1	106	80-127	1.000	04/30/15	EPA 6010B
Barium	1,380	100.0	1,445	66 NM	80-120	1.000	04/30/15	EPA 6010B
Beryllium	0.1452	100.0	106.2	106	80-120	1.000	04/30/15	EPA 6010B
Cadmium	<0.2453	100.0	101.1	101	80-120	1.000	04/30/15	EPA 6010B
Chromium	<0.1906	100.0	102.7	103	80-120	1.000	04/30/15	EPA 6010B
Cobalt	1.267	100.0	95.00	94	80-120	1.000	04/30/15	EPA 6010B
Copper	<1.171	100.0	104.1	104	80-120	1.000	04/30/15	EPA 6010B
Lead	<0.4401	100.0	76.94	77	67-120	1.000	04/30/15	EPA 6010B
Molybdenum	3.768	100.0	107.6	104	80-120	1.000	04/30/15	EPA 6010B
Nickel	1.177	100.0	94.49	93	80-120	1.000	04/30/15	EPA 6010B
Selenium	6.700	100.0	145.7	139 *	73-132	1.000	04/30/15	EPA 6010B
Silver	1.839	100.0	92.96	91	67-120	1.000	04/30/15	EPA 6010B
Thallium	<0.06602	50.00	52.31	105	80-120	10.00	05/04/15	EPA 6020
Vanadium	2.525	100.0	110.2	108	80-120	1.000	04/30/15	EPA 6010B
Zinc	6.753	100.0	111.4	105	80-122	1.000	04/30/15	EPA 6010B

Type: MSD Lab ID: QC786178

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Dil'n Fac	Analyzed	Analysis
Antimony	100.0	96.33	96	74-120	1	24	1.000	04/30/15	EPA 6010B
Arsenic	100.0	104.8	105	80-127	1	25	1.000	04/30/15	EPA 6010B
Barium	100.0	1,440	61 NM	80-120	0	20	1.000	04/30/15	EPA 6010B
Beryllium	100.0	104.9	105	80-120	1	20	1.000	04/30/15	EPA 6010B
Cadmium	100.0	99.12	99	80-120	2	20	1.000	04/30/15	EPA 6010B
Chromium	100.0	101.3	101	80-120	1	20	1.000	04/30/15	EPA 6010B
Cobalt	100.0	93.74	92	80-120	1	20	1.000	04/30/15	EPA 6010B
Copper	100.0	102.9	103	80-120	1	20	1.000	04/30/15	EPA 6010B
Lead	100.0	75.11	75	67-120	2	23	1.000	04/30/15	EPA 6010B
Molybdenum	100.0	106.7	103	80-120	1	20	1.000	04/30/15	EPA 6010B
Nickel	100.0	92.87	92	80-120	2	20	1.000	04/30/15	EPA 6010B
Selenium	100.0	135.7	129	73-132	7	30	1.000	04/30/15	EPA 6010B
Silver	100.0	93.26	91	67-120	0	22	1.000	04/30/15	EPA 6010B
Thallium	50.00	52.39	105	80-120	0	20	10.00	05/04/15	EPA 6020
Vanadium	100.0	109.0	106	80-120	1	20	1.000	04/30/15	EPA 6010B
Zinc	100.0	107.9	101	80-122	3	20	1.000	04/30/15	EPA 6010B

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB21GW	Units:	ug/L
Type:	Serial Dilution	Batch#:	222747
MSS Lab ID:	266392-003	Sampled:	04/28/15
Lab ID:	QC786179	Received:	04/28/15
Matrix:	Filtrate		

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim	Diln Fac	Analyzed	Analysis
Antimony	ND	10.00	ND	50.00	NC	10	5.000	04/30/15	EPA 6010B
Arsenic	ND	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Barium	1,380	5.000	1,405	25.00	2	10	5.000	04/30/15	EPA 6010B
Beryllium	0.1452	2.000	ND	10.00	NC	10	5.000	04/30/15	EPA 6010B
Cadmium	ND	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Chromium	ND	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Cobalt	1.267	5.000	1.984 J	25.00	NC	10	5.000	04/30/15	EPA 6010B
Copper	ND	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Lead	ND	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Molybdenum	3.768	5.000	9.988 J	25.00	NC	10	5.000	04/30/15	EPA 6010B
Nickel	1.177	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Selenium	6.700	10.00	ND	50.00	NC	10	5.000	04/30/15	EPA 6010B
Silver	1.839	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Thallium	ND	1.000	ND	2.500	NC	10	50.00	05/04/15	EPA 6020
Vanadium	2.525	5.000	ND	25.00	NC	10	5.000	04/30/15	EPA 6010B
Zinc	6.753	20.00	32.35 J	100.0	NC	10	5.000	04/30/15	EPA 6010B

J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB21GW	Units:	ug/L
Type:	Post Digest Spike	Batch#:	222747
MSS Lab ID:	266392-003	Sampled:	04/28/15
Lab ID:	QC786180	Received:	04/28/15
Matrix:	Filtrate		

Analyte	MSS Result	Spiked	Result	%REC	Limits	Diln Fac	Analyzed	Analysis
Antimony	<1.120	100.0	91.92	92	75-125	1.000	04/30/15	EPA 6010B
Arsenic	<1.028	100.0	102.8	103	75-125	1.000	04/30/15	EPA 6010B
Barium	1,380	100.0	1,398	18 NM	75-125	1.000	04/30/15	EPA 6010B
Beryllium	0.1452	100.0	105.2	105	75-125	1.000	04/30/15	EPA 6010B
Cadmium	<0.2453	100.0	98.17	98	75-125	1.000	04/30/15	EPA 6010B
Chromium	<0.1906	100.0	99.87	100	75-125	1.000	04/30/15	EPA 6010B
Cobalt	1.267	100.0	92.87	92	75-125	1.000	04/30/15	EPA 6010B
Copper	<1.171	100.0	100.9	101	75-125	1.000	04/30/15	EPA 6010B
Lead	<0.4401	100.0	74.38	74 *	75-125	1.000	04/30/15	EPA 6010B
Molybdenum	3.768	100.0	105.9	102	75-125	1.000	04/30/15	EPA 6010B
Nickel	1.177	100.0	91.90	91	75-125	1.000	04/30/15	EPA 6010B
Selenium	6.700	100.0	148.6	142 *	75-125	1.000	04/30/15	EPA 6010B
Silver	1.839	100.0	97.67	96	75-125	1.000	04/30/15	EPA 6010B
Thallium	<0.06602	250.0	256.5	103	75-125	10.00	05/04/15	EPA 6020
Vanadium	2.525	100.0	105.9	103	75-125	1.000	04/30/15	EPA 6010B
Zinc	6.753	100.0	107.3	101	75-125	1.000	04/30/15	EPA 6010B

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration

REPORTING SUMMARY FOR 266392 METALS Filtrate
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
266392-003	MET54	04/30/15 17:12	1.0										+							
266392-003	MET09	04/30/15 22:40	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
266392-003	MET09	05/01/15 16:11	1.0																	
266392-003	MET16	05/04/15 13:13	10.0															+		
QC786079	MET54	04/30/15 16:54	1.0										+							
QC786080	MET54	04/30/15 16:55	1.0										+							
QC786081	MET54	04/30/15 16:56	1.0										+							
QC786082	MET54	04/30/15 17:00	1.0										+							
QC786083	MET54	04/30/15 17:01	1.0										+							
QC786084	MET54	04/30/15 17:02	5.0										+							
QC786173	MET09	04/30/15 22:08	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786173	MET16	05/04/15 12:47	5.0															+		
QC786174	MET09	04/30/15 22:26	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786174	MET16	05/04/15 12:54	5.0															+		
QC786175	MET09	04/30/15 22:31	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786175	MET16	05/04/15 13:00	5.0															+		
QC786176	MET09	04/30/15 22:35	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786176	MET16	05/04/15 13:06	5.0															+		
QC786177	MET09	04/30/15 22:48	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
QC786177	MET16	05/04/15 13:19	10.0															+		
QC786178	MET09	04/30/15 22:56	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
QC786178	MET16	05/04/15 13:25	10.0															+		
QC786179	MET09	04/30/15 23:04	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
QC786179	MET16	05/04/15 13:32	50.0															+		
QC786180	MET09	04/30/15 23:08	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
QC786180	MET16	05/04/15 13:38	10.0															+		

ICP & ICPMS Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95173111

Instrument : MET09 Begun : 04/30/15 05:11
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				04/30/15 05:11	1.0		
002	met09_sn_	ICAL	L1			04/30/15 05:16	1.0	1	
003	met09_sn_	ICAL	L2			04/30/15 05:21	1.0	2	
004	met09_sn_	ICAL	L3			04/30/15 05:26	1.0	3	
005	met09_sn_	ICAL	L4			04/30/15 05:30	1.0	4	
006	met09_sn_	ICAL	L5			04/30/15 05:37	1.0	5	
007	met09_sn_	XICV				04/30/15 05:44	1.0	6	
008	met09_sn_	ICV				04/30/15 05:59	1.0	6	
009	met09_sn_	CRI				04/30/15 06:37	1.0	7	
010	met09_sn_	ICB				04/30/15 07:11	1.0		
011	met09_sn_	ICSA				04/30/15 07:17	1.0	8	10:AL=510000
012	met09_sn_	ICSAB				04/30/15 08:46	1.0	9	5:AL=520000
013	met09_sn_	SAMPLE	266420-001	Water	222685	04/30/15 10:21	10.0		
014	met09_sn_	CCV				04/30/15 10:25	1.0	10	
015	met09_sn_	CCB				04/30/15 10:32	1.0		
016	met09_sn_	SAMPLE	266420-001	Water	222685	04/30/15 10:37	10.0		
017	met09_sn_	X	RINSE			04/30/15 10:41	1.0		
018	met09_sn_	SAMPLE	266420-001	Water	222685	04/30/15 10:45	1.0		5:FE=340000
019	met09_sn_	SAMPLE	266342-001	Water	222685	04/30/15 10:53	1.0		4:FE=370000
020	met09_sn_	SAMPLE	266420-001	Water	222685	04/30/15 11:01	1.0		5:FE=340000
021	met09_sn_	CCV				04/30/15 11:09	1.0	10	
022	met09_sn_	CCB				04/30/15 11:16	1.0		
023	met09_sn_	SAMPLE	266333-026	Soil	222680	04/30/15 11:25	1.0		4:FE=510000
024	met09_sn_	SAMPLE	266351-013	Soil	222680	04/30/15 11:33	1.0		5:FE=440000
025	met09_sn_	SAMPLE	266351-014	Soil	222680	04/30/15 11:40	1.0		5:FE=490000
026	met09_sn_	SAMPLE	266380-002	Soil	222680	04/30/15 11:48	1.0		4:FE=310000
027	met09_sn_	CCV				04/30/15 11:56	1.0	10	
028	met09_sn_	CCB				04/30/15 12:03	1.0		
029	met09_sn_	BLANK	QC785938	Water	222686	04/30/15 13:29	1.0		
030	met09_sn_	BS	QC785939	Water	222686	04/30/15 13:34	1.0		
031	met09_sn_	BSD	QC785940	Water	222686	04/30/15 13:38	1.0		
032	met09_sn_	MSS	266379-001	Water	222686	04/30/15 13:43	1.0		
033	met09_sn_	MS	QC785941	Water	222686	04/30/15 13:50	1.0		
034	met09_sn_	MSD	QC785942	Water	222686	04/30/15 13:58	1.0		
035	met09_sn_	SAMPLE	266343-010	Water	222686	04/30/15 14:02	1.0		1:NA=250000
036	met09_sn_	X	RINSE			04/30/15 14:07	1.0		
037	met09_sn_	BLANK	QC786033	WET Leachate	222711	04/30/15 14:11	10.0		1:NA=180000
038	met09_sn_	BS	QC786034	WET Leachate	222711	04/30/15 14:16	1.0		
039	met09_sn_	CCV				04/30/15 14:20	1.0	10	
040	met09_sn_	CCB				04/30/15 14:28	1.0		
041	met09_sn_	BSD	QC786035	WET Leachate	222711	04/30/15 14:34	1.0		
042	met09_sn_	MSS	266361-001	WET Leachate	222711	04/30/15 14:38	10.0		1:NA=160000
043	met09_sn_	MS	QC786036	WET Leachate	222711	04/30/15 14:42	10.0		
044	met09_sn_	MSD	QC786037	WET Leachate	222711	04/30/15 14:46	10.0		
045	met09_sn_	SER	QC786038	WET Leachate	222711	04/30/15 14:51	50.0		
046	met09_sn_	PDS	QC786039	WET Leachate	222711	04/30/15 14:55	10.0	11 12 13	1:NA=170000
047	met09_sn_	SAMPLE	266361-002	WET Leachate	222711	04/30/15 14:59	10.0		1:NA=160000
048	met09_sn_	SAMPLE	266361-003	WET Leachate	222711	04/30/15 15:04	10.0		1:NA=180000
049	met09_sn_	SAMPLE	266361-004	WET Leachate	222711	04/30/15 15:08	10.0		1:NA=140000
050	met09_sn_	SAMPLE	266361-005	WET Leachate	222711	04/30/15 15:12	10.0		1:NA=160000
051	met09_sn_	CCV				04/30/15 15:17	1.0	10	
052	met09_sn_	CCB				04/30/15 15:25	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95173111

Instrument : MET09 Begun : 04/30/15 05:11
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	SAMPLE	266361-006	WET Leachate	222711	04/30/15 15:30	10.0		1:NA=160000
054	met09_sn_	SAMPLE	266361-007	WET Leachate	222711	04/30/15 15:34	10.0		1:NA=150000
055	met09_sn_	SAMPLE	266365-001	WET Leachate	222711	04/30/15 15:39	10.0		1:NA=170000
056	met09_sn_	SAMPLE	266365-002	WET Leachate	222711	04/30/15 15:44	10.0		1:NA=160000
057	met09_sn_	SAMPLE	266365-003	WET Leachate	222711	04/30/15 15:49	10.0		1:NA=160000
058	met09_sn_	SAMPLE	266365-004	WET Leachate	222711	04/30/15 15:54	10.0		1:NA=160000
059	met09_sn_	SAMPLE	266365-005	WET Leachate	222711	04/30/15 15:58	10.0		1:NA=150000
060	met09_sn_	SAMPLE	266365-006	WET Leachate	222711	04/30/15 16:02	10.0		1:NA=160000
061	met09_sn_	SAMPLE	266365-007	WET Leachate	222711	04/30/15 16:07	10.0		1:NA=150000
062	met09_sn_	SAMPLE	266363-001	WET Leachate	222711	04/30/15 16:11	10.0		
063	met09_sn_	CCV				04/30/15 16:15	1.0	10	
064	met09_sn_	CCB				04/30/15 16:22	1.0		
065	met09_sn_	SAMPLE	266363-002	WET Leachate	222711	04/30/15 16:28	10.0		1:NA=160000
066	met09_sn_	CCV				04/30/15 16:32	1.0	10	
067	met09_sn_	CCB				04/30/15 16:39	1.0		
068	met09_sn_	BLANK	QC786092	Soil	222728	04/30/15 18:07	1.0		
069	met09_sn_	BS	QC786093	Soil	222728	04/30/15 18:12	5.0		
070	met09_sn_	BSD	QC786094	Soil	222728	04/30/15 18:16	5.0		
071	met09_sn_	MSS	266381-001	Soil	222728	04/30/15 18:21	1.0		4:FE=300000
072	met09_sn_	MS	QC786095	Soil	222728	04/30/15 18:28	5.0		
073	met09_sn_	MSD	QC786096	Soil	222728	04/30/15 18:36	5.0		
074	met09_sn_	SER	QC786097	Soil	222728	04/30/15 18:44	5.0		
075	met09_sn_	PDS	QC786098	Soil	222728	04/30/15 18:52	1.0	11 12 13	1:FE=300000
076	met09_sn_	SAMPLE	266381-002	Soil	222728	04/30/15 19:00	1.0		3:FE=290000
077	met09_sn_	SAMPLE	266368-001	Soil	222728	04/30/15 19:08	1.0		5:FE=420000
078	met09_sn_	CCV				04/30/15 19:15	1.0	10	
079	met09_sn_	CCB				04/30/15 19:23	1.0		
080	met09_sn_	SAMPLE	266368-002	Soil	222728	04/30/15 19:29	1.0		5:FE=270000
081	met09_sn_	SAMPLE	266368-003	Soil	222728	04/30/15 19:37	1.0		5:FE=380000
082	met09_sn_	SAMPLE	266368-004	Soil	222728	04/30/15 19:44	1.0		5:FE=440000
083	met09_sn_	SAMPLE	266368-005	Soil	222728	04/30/15 19:52	1.0		5:FE=380000
084	met09_sn_	SAMPLE	266368-006	Soil	222728	04/30/15 20:00	1.0		5:FE=370000
085	met09_sn_	SAMPLE	266368-007	Soil	222728	04/30/15 20:08	1.0		5:AL=470000
086	met09_sn_	SAMPLE	266368-008	Soil	222728	04/30/15 20:16	1.0		5:FE=320000
087	met09_sn_	SAMPLE	266368-009	Soil	222728	04/30/15 20:24	1.0		4:FE=450000
088	met09_sn_	SAMPLE	266368-010	Soil	222728	04/30/15 20:32	1.0		5:AL=380000
089	met09_sn_	SAMPLE	266368-011	Soil	222728	04/30/15 20:40	1.0		7:FE=450000
090	met09_sn_	CCV				04/30/15 20:48	1.0	10	
091	met09_sn_	CCB				04/30/15 20:55	1.0		
092	met09_sn_	SAMPLE	266368-012	Soil	222728	04/30/15 21:00	1.0		4:FE=430000
093	met09_sn_	SAMPLE	266368-013	Soil	222728	04/30/15 21:08	1.0		5:FE=410000
094	met09_sn_	SAMPLE	266368-014	Soil	222728	04/30/15 21:16	1.0		4:FE=400000
095	met09_sn_	SAMPLE	266368-015	Soil	222728	04/30/15 21:24	1.0		7:FE=500000
096	met09_sn_	SAMPLE	266368-016	Soil	222728	04/30/15 21:32	1.0		5:FE=360000
097	met09_sn_	SAMPLE	266368-001	Soil	222728	04/30/15 21:40	1.0		5:FE=420000
098	met09_sn_	SAMPLE	266368-002	Soil	222728	04/30/15 21:48	1.0		5:FE=270000
099	met09_sn_	SAMPLE	266368-003	Soil	222728	04/30/15 21:55	1.0		5:FE=380000
100	met09_sn_	X	RINSE			04/30/15 22:03	1.0		
101	met09_sn_	BLANK	QC786173	Filtrate	222747	04/30/15 22:08	1.0		
102	met09_sn_	CCV				04/30/15 22:14	1.0	10	
103	met09_sn_	CCB				04/30/15 22:21	1.0		
104	met09_sn_	BLANK	QC786174	Filtrate	222747	04/30/15 22:26	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95173111

Instrument : MET09 Begun : 04/30/15 05:11
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_	BS	QC786175	Filtrate	222747	04/30/15 22:31	1.0		
106	met09_sn_	BSD	QC786176	Filtrate	222747	04/30/15 22:35	1.0		
107	met09_sn_	MSS	266392-003	Filtrate	222747	04/30/15 22:40	1.0		3:MG=220000
108	met09_sn_	MS	QC786177	Filtrate	222747	04/30/15 22:48	1.0		
109	met09_sn_	MSD	QC786178	Filtrate	222747	04/30/15 22:56	1.0		
110	met09_sn_	SER	QC786179	Filtrate	222747	04/30/15 23:04	5.0		
111	met09_sn_	PDS	QC786180	Filtrate	222747	04/30/15 23:08	1.0	11 12 13	
112	met09_sn_	SAMPLE	266371-002	Filtrate	222747	04/30/15 23:16	1.0		
113	met09_sn_	SAMPLE	266371-003	Filtrate	222747	04/30/15 23:21	1.0		
114	met09_sn_	CCV				04/30/15 23:26	1.0	10	
115	met09_sn_	XCCB				04/30/15 23:33	1.0		
116	met09_sn_	CCB				04/30/15 23:37	1.0		
117	met09_sn_	SAMPLE	266371-004	Filtrate	222747	04/30/15 23:43	1.0		1:CA=120000
118	met09_sn_	SAMPLE	266371-005	Filtrate	222747	04/30/15 23:48	1.0		
119	met09_sn_	SAMPLE	266371-006	Filtrate	222747	04/30/15 23:56	1.0		
120	met09_sn_	SAMPLE	266371-007	Filtrate	222747	05/01/15 00:04	1.0		4:CA=550000
121	met09_sn_	SAMPLE	266371-008	Filtrate	222747	05/01/15 00:09	1.0		
122	met09_sn_	SAMPLE	266371-009	Filtrate	222747	05/01/15 00:14	1.0		1:MN=10000
123	met09_sn_	SAMPLE	266371-010	Filtrate	222747	05/01/15 00:21	1.0		2:CA=140000
124	met09_sn_	SAMPLE	266371-011	Filtrate	222747	05/01/15 00:26	1.0		3:CA=120000
125	met09_sn_	SAMPLE	266371-012	Filtrate	222747	05/01/15 00:30	1.0		
126	met09_sn_	CCV				05/01/15 00:35	1.0	10	
127	met09_sn_	XCCB				05/01/15 00:42	1.0		
128	met09_sn_	CCB				05/01/15 00:47	1.0		

NCD 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 40.

CRT 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 41 through 128.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S26929 9=S26930 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95173111

Date : 04/30/15 Reference : met09_sn_
Sequence : MET09 04/30/15 Analyzed : 04/30/15 05:16

#	Type	Sample ID	Y A
		ICAL STD	4433709
		LOWER LIMIT	1330113
		UPPER LIMIT	8867418
010	ICB		4408550
011	ICSA		3809017
012	ICSAB		3749814
013	SAMPLE	266420-001	4332207
014	CCV		4352277
015	CCB		4488703
016	SAMPLE	266420-001	4431781
018	SAMPLE	266420-001	4084939
019	SAMPLE	266342-001	4079851
020	SAMPLE	266420-001	4160549
021	CCV		4320770
022	CCB		4452481
023	SAMPLE	266333-026	4327148
024	SAMPLE	266351-013	4307529
025	SAMPLE	266351-014	4381496
026	SAMPLE	266380-002	4236750
027	CCV		4341103
028	CCB		4559098
029	BLANK	QC785938	4459260
030	BS	QC785939	4406860
031	BSD	QC785940	4476253
032	MSS	266379-001	4104143
033	MS	QC785941	4167572
034	MSD	QC785942	4129209
035	SAMPLE	266343-010	4262900
037	BLANK	QC786033	4288914
038	BS	QC786034	4353429
039	CCV		4327244
040	CCB		4321082
041	BSD	QC786035	4413341
042	MSS	266361-001	4298258
043	MS	QC786036	4293428
044	MSD	QC786037	4304035
045	SER	QC786038	4387213
046	PDS	QC786039	4276626
047	SAMPLE	266361-002	4311365
048	SAMPLE	266361-003	4301860
049	SAMPLE	266361-004	4217549
050	SAMPLE	266361-005	4295053
051	CCV		4357378
052	CCB		4436022
053	SAMPLE	266361-006	4240174
054	SAMPLE	266361-007	4273111
055	SAMPLE	266365-001	4271506
056	SAMPLE	266365-002	4156393
057	SAMPLE	266365-003	4271509
058	SAMPLE	266365-004	4250500
059	SAMPLE	266365-005	4271812

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95173111

Date : 04/30/15 Reference : met09_sn_
Sequence : MET09 04/30/15 Analyzed : 04/30/15 05:16

#	Type	Sample ID	Y A
060	SAMPLE	266365-006	4178113
061	SAMPLE	266365-007	4230961
063	CCV		4243201
064	CCB		4415557
065	SAMPLE	266363-002	4258650
066	CCV		4262742
067	CCB		4373620
068	BLANK	QC786092	4385444
069	BS	QC786093	4304784
070	BSD	QC786094	4271776
071	MSS	266381-001	4256640
072	MS	QC786095	4225112
073	MSD	QC786096	4178252
074	SER	QC786097	4280656
075	PDS	QC786098	4231322
076	SAMPLE	266381-002	4185442
077	SAMPLE	266368-001	4281220
078	CCV		4302928
079	CCB		4365991
080	SAMPLE	266368-002	4294135
081	SAMPLE	266368-003	4273230
082	SAMPLE	266368-004	4267235
083	SAMPLE	266368-005	4322045
084	SAMPLE	266368-006	4274279
085	SAMPLE	266368-007	4289712
086	SAMPLE	266368-008	4245636
087	SAMPLE	266368-009	4316935
088	SAMPLE	266368-010	4365280
089	SAMPLE	266368-011	4234149
090	CCV		4298443
091	CCB		4451074
092	SAMPLE	266368-012	4241547
093	SAMPLE	266368-013	4238546
094	SAMPLE	266368-014	4286110
095	SAMPLE	266368-015	4082908
096	SAMPLE	266368-016	4331445
097	SAMPLE	266368-001	4246065
098	SAMPLE	266368-002	4288495
099	SAMPLE	266368-003	4282807
101	BLANK	QC786173	4437778
102	CCV		4280830
103	CCB		4407235
104	BLANK	QC786174	4470534
105	BS	QC786175	4391081
106	BSD	QC786176	4348311
107	MSS	266392-003	3722590
108	MS	QC786177	3729763
109	MSD	QC786178	3724551
110	SER	QC786179	4117384
111	PDS	QC786180	3781826
112	SAMPLE	266371-002	4434794
113	SAMPLE	266371-003	4420147

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95173111

Date : 04/30/15 Reference : met09_sn_
Sequence : MET09 04/30/15 Analyzed : 04/30/15 05:16

#	Type	Sample ID	Y A
114	CCV		4288076
116	CCB		4383392
117	SAMPLE	266371-004	4228898
118	SAMPLE	266371-005	4342241
119	SAMPLE	266371-006	4331721
120	SAMPLE	266371-007	3866400
121	SAMPLE	266371-008	4340194
122	SAMPLE	266371-009	4328119
123	SAMPLE	266371-010	4257603
124	SAMPLE	266371-011	4250790
125	SAMPLE	266371-012	4311160
126	CCV		4336351
128	CCB		4398964

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 METALS Filtrate: EPA 6010B

Inst : MET09
Calnum : 95173111001
Units : ug/L

Date : 30-APR-2015 05:11
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95173111002	L1	30-APR-2015 05:16	S27129
L2	met09_sn_	95173111003	L2	30-APR-2015 05:21	S27130
L3	met09_sn_	95173111004	L3	30-APR-2015 05:26	S27131
L4	met09_sn_	95173111005	L4	30-APR-2015 05:30	S27132
L5	met09_sn_	95173111006	L5	30-APR-2015 05:37	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	7.0800	6.0240	5.9155	5.9188		LOR0	0.00000	0.16895		6.2346	1.000	0.995	
Arsenic	A	3.0800	2.6310	2.6472	2.6730		LOR0	0.00000	0.37415		2.7578	1.000	0.995	
Barium	A	71.820	71.234	69.970	67.971		LOR0	0.00000	0.01471		70.249	1.000	0.995	
Beryllium	A	6125.0	5982.2	5851.8			LOR0	0.00000	1.71E-4		5986.3	1.000	0.995	
Cadmium	A	82.520	81.849	81.152	77.689		LOR0	0.00000	0.01287		80.802	1.000	0.995	
Chromium	A	157.22	156.87	154.19	152.74		LOR0	0.00000	0.00655		155.26	1.000	0.995	
Cobalt	A	44.280	44.163	45.489	44.655		LOR0	0.00000	0.02239		44.647	1.000	0.995	
Copper	A	414.88	392.13	396.88	397.74		LOR0	0.00000	0.00251		400.41	1.000	0.995	
Lead	A	21.220	23.748	23.914	23.441		LOR0	0.00000	0.04265		23.081	1.000	0.995	
Molybdenum	A	23.760	23.609	23.245	22.977		LOR0	0.00000	0.04352		23.398	1.000	0.995	
Nickel	A	63.520	62.677	63.756	62.609		LOR0	0.00000	0.01597		63.141	1.000	0.995	
Selenium	A	4.7200	6.3470	6.4098	6.5061		LOR0	0.00000	0.15373		5.9957	1.000	0.995	
Silver	A	222.96	223.54	221.89	223.73		LOR0	0.00000	0.00447		223.03	1.000	0.995	
Thallium	A	3.6700	3.1830	3.1441	3.0330		LOR0	0.00000	0.32959		3.2575	1.000	0.995	
Vanadium	A	232.04	228.60	225.99	227.42		LOR0	0.00000	0.00440		228.51	1.000	0.995	
Zinc	A	33.340	33.583	33.380	33.041		LOR0	0.00000	0.03026		33.336	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	20	100.00	2	1000.0	0	10000	0		
Arsenic	A	5.0000	15	100.00	-2	1000.0	-1	10000	0		
Barium	A	5.0000	6	100.00	5	1000.0	3	10000	0		
Beryllium	A	2.0000	5	100.00	2	1000.0	0				
Cadmium	A	5.0000	6	100.00	5	1000.0	4	10000	0		
Chromium	A	5.0000	3	100.00	3	1000.0	1	10000	0		
Cobalt	A	5.0000	-1	100.00	-1	1000.0	2	10000	0		
Copper	A	5.0000	4	100.00	-1	1000.0	0	10000	0		
Lead	A	5.0000	-9	100.00	1	1000.0	2	10000	0		
Molybdenum	A	5.0000	3	100.00	3	1000.0	1	10000	0		
Nickel	A	5.0000	1	100.00	0	1000.0	2	10000	0		
Selenium	A	10.000	**-27**	100.00	-2	1000.0	-1	10000	0		
Silver	A	5.0000	0	20.000	0	200.00	-1	2000.0	0		
Thallium	A	10.000	**21**	100.00	5	1000.0	4	10000	0		
Vanadium	A	5.0000	2	100.00	1	1000.0	-1	10000	0		
Zinc	A	20.000	1	100.00	2	1000.0	1	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

95173111001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09
Calnum : 95173111001 Cal Date : 30-APR-2015

ICV 95173111008 (30-APR-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	5078	ug/L	2	10	
Arsenic	A	5000	5075	ug/L	1	10	
Barium	A	5000	5029	ug/L	1	10	
Beryllium	A	500.0	512.3	ug/L	2	10	
Cadmium	A	5000	5153	ug/L	3	10	
Chromium	A	5000	5014	ug/L	0	10	
Cobalt	A	5000	4958	ug/L	-1	10	
Copper	A	5000	5035	ug/L	1	10	
Lead	A	5000	4783	ug/L	-4	10	
Molybdenum	A	5000	5104	ug/L	2	10	
Nickel	A	5000	4989	ug/L	0	10	
Selenium	A	5000	4929	ug/L	-1	10	
Silver	A	1000	1004	ug/L	0	10	
Thallium	A	5000	4946	ug/L	-1	10	
Vanadium	A	5000	5050	ug/L	1	10	
Zinc	A	5000	5060	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111010 File : met09_sn_ Time : 30-APR-2015 07:11
Cal : 95173111001 Caldate : 30-APR-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4408550	-0.57

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111011 File : met09_sn_ Time : 30-APR-2015 07:17
Cal : 95173111001 Caldate : 30-APR-2015
Standards: S26929

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-8.323]	10.00	ug/L	
Arsenic	A	[-3.649]	5.000	ug/L	
Barium	A	[-0.6170]	5.000	ug/L	
Beryllium	A	[-0.2323]	2.000	ug/L	
Cadmium	A	[-0.2043]	5.000	ug/L	
Cobalt	A	[0.4820]	5.000	ug/L	
Lead	A	[4.771]	5.000	ug/L	
Molybdenum	A	[1.621]	5.000	ug/L	
Selenium	A	[6.623]	10.00	ug/L	
Silver	A	[-4.265]	5.000	ug/L	
Thallium	A	[7.792]	10.00	ug/L	
Zinc	A	[1.844]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18590	ug/L	93
Copper	A	20000	20050	ug/L	100
Manganese	A	20000	17510	ug/L	88
Nickel	A	20000	16660	ug/L	83
Vanadium	A	20000	19570	ug/L	98
Aluminum	R	500000	512200	ug/L	102
Calcium	R	500000	474100	ug/L	95
Iron	R	200000	183500	ug/L	92
Magnesium	R	500000	483400	ug/L	97
Titanium	R	20000	20510	ug/L	103

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	3809017	-14.09

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111012 File : met09_sn_ Time : 30-APR-2015 08:46
Cal : 95173111001 Caldate : 30-APR-2015
Standards: S26930

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	518.3	ug/L	4	20	
Arsenic	A	500.0	526.0	ug/L	5	20	
Barium	A	500.0	504.9	ug/L	1	20	
Beryllium	A	500.0	500.5	ug/L	0	20	
Cadmium	A	1000	945.5	ug/L	-5	20	
Chromium	A	500.0	488.3	ug/L	-2	20	
Cobalt	A	500.0	434.7	ug/L	-13	20	
Copper	A	500.0	511.0	ug/L	2	20	
Lead	A	1000	858.3	ug/L	-14	20	
Molybdenum	A	500.0	491.2	ug/L	-2	20	
Nickel	A	1000	878.6	ug/L	-12	20	
Selenium	A	500.0	524.8	ug/L	5	20	
Silver	A	1000	1115	ug/L	12	20	
Thallium	A	500.0	477.1	ug/L	-5	20	
Vanadium	A	500.0	519.5	ug/L	4	20	
Zinc	A	1000	923.7	ug/L	-8	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	3749814	-15.42

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111090 File : met09_sn_ Time : 30-APR-2015 20:48
Cal : 95173111001 Caldate : 30-APR-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	6.2346	5.7982	5000	4898	ug/L	-2	10	
Arsenic	A	2.7578	2.6419	5000	4942	ug/L	-1	10	
Barium	A	70.249	67.600	5000	4971	ug/L	-1	10	
Beryllium	A	5986.3	5907.5	500.0	504.6	ug/L	1	10	
Cadmium	A	80.802	79.528	5000	5116	ug/L	2	10	
Chromium	A	155.26	150.89	5000	4939	ug/L	-1	10	
Cobalt	A	44.647	43.824	5000	4897	ug/L	-2	10	
Copper	A	400.41	391.56	5000	4922	ug/L	-2	10	
Lead	A	23.081	22.259	5000	4747	ug/L	-5	10	
Molybdenum	A	23.398	23.205	5000	5049	ug/L	1	10	
Nickel	A	63.141	61.743	5000	4930	ug/L	-1	10	
Selenium	A	5.9957	6.3642	5000	4892	ug/L	-2	10	
Silver	A	223.03	218.63	1000	977.3	ug/L	-2	10	
Thallium	A	3.2575	2.9364	5000	4839	ug/L	-3	10	
Vanadium	A	228.51	225.97	5000	4968	ug/L	-1	10	
Zinc	A	33.336	33.329	5000	5043	ug/L	1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4298443	-3.05

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111091 File : met09_sn_ Time : 30-APR-2015 20:55
Cal : 95173111001 Caldate : 30-APR-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.388]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4451074	0.39

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111102 File : met09_sn_ Time : 30-APR-2015 22:14
Cal : 95173111001 Caldate : 30-APR-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	6.2346	5.9835	5000	5055	ug/L	1	10	
Arsenic	A	2.7578	2.7051	5000	5061	ug/L	1	10	
Barium	A	70.249	67.534	5000	4966	ug/L	-1	10	
Beryllium	A	5986.3	5869.8	500.0	501.4	ug/L	0	10	
Cadmium	A	80.802	79.288	5000	5101	ug/L	2	10	
Chromium	A	155.26	151.06	5000	4944	ug/L	-1	10	
Cobalt	A	44.647	43.809	5000	4895	ug/L	-2	10	
Copper	A	400.41	391.20	5000	4918	ug/L	-2	10	
Lead	A	23.081	22.523	5000	4803	ug/L	-4	10	
Molybdenum	A	23.398	23.037	5000	5013	ug/L	0	10	
Nickel	A	63.141	61.764	5000	4932	ug/L	-1	10	
Selenium	A	5.9957	6.4471	5000	4955	ug/L	-1	10	
Silver	A	223.03	218.71	1000	977.7	ug/L	-2	10	
Thallium	A	3.2575	2.9760	5000	4904	ug/L	-2	10	
Vanadium	A	228.51	226.16	5000	4973	ug/L	-1	10	
Zinc	A	33.336	33.133	5000	5013	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4280830	-3.45

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111103 File : met09_sn_ Time : 30-APR-2015 22:21
Cal : 95173111001 Caldate : 30-APR-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	[2.524]	10.00	2.500	ug/L	!CCB
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.493]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4407235	-0.60

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111114 File : met09_sn_ Time : 30-APR-2015 23:26
Cal : 95173111001 Caldate : 30-APR-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	6.2346	5.9947	5000	5064	ug/L	1	10	
Arsenic	A	2.7578	2.6932	5000	5038	ug/L	1	10	
Barium	A	70.249	67.519	5000	4965	ug/L	-1	10	
Beryllium	A	5986.3	5858.3	500.0	500.4	ug/L	0	10	
Cadmium	A	80.802	79.364	5000	5106	ug/L	2	10	
Chromium	A	155.26	150.89	5000	4939	ug/L	-1	10	
Cobalt	A	44.647	43.865	5000	4902	ug/L	-2	10	
Copper	A	400.41	392.44	5000	4933	ug/L	-1	10	
Lead	A	23.081	22.385	5000	4774	ug/L	-5	10	
Molybdenum	A	23.398	23.087	5000	5023	ug/L	0	10	
Nickel	A	63.141	61.708	5000	4927	ug/L	-1	10	
Selenium	A	5.9957	6.4588	5000	4964	ug/L	-1	10	
Silver	A	223.03	219.10	1000	979.4	ug/L	-2	10	
Thallium	A	3.2575	2.9718	5000	4897	ug/L	-2	10	
Vanadium	A	228.51	226.20	5000	4973	ug/L	-1	10	
Zinc	A	33.336	33.184	5000	5021	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4288076	-3.28

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95173111116 File : met09_sn_ Time : 30-APR-2015 23:37
Cal : 95173111001 Caldate : 30-APR-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4433709	4383392	-1.13

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 895179001

Instrument : MET16
Method : EPA 6020
Begun : 05/04/15 07:21
SOP Version : icpms_rv10

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	15e04h00001	X	RINSE				05/04/15 07:21	1.0	1	
002	15e04h00002	TUN					05/04/15 07:28	1.0	2	
003	15e04h00003	X	RINSE				05/04/15 07:33	1.0	1	
004	15e04h00004	ICALBLK	CALBLANK				05/04/15 07:39	1.0	1	
005	15e04h00005	ICAL					05/04/15 07:45	1.0	3 1	
006	15e04h00006	ICAL					05/04/15 07:52	1.0	4 1	
007	15e04h00007	ICAL					05/04/15 07:58	1.0	5 1	
008	15e04h00008	ICAL					05/04/15 08:04	1.0	6 1	
009	15e04h00009	ICAL					05/04/15 08:11	1.0	7 1	
010	15e04h00010	ICAL					05/04/15 08:17	1.0	8 1	
011	15e04h00011	X	RINSE				05/04/15 08:23	1.0	1	
012	15e04h00012	ICV					05/04/15 08:30	1.0	9 1	
013	15e04h00013	XCRI					05/04/15 08:36	1.0	10 1	
014	15e04h00014	XCRI					05/04/15 08:43	1.0	10 1	
015	15e04h00015	XICB					05/04/15 08:49	1.0	1	
016	15e04h00016	XICB					05/04/15 08:57	1.0	1	
017	15e04h00017	ICB					05/04/15 09:04	1.0	1	
018	15e04h00018	CRI					05/04/15 09:13	1.0	10 1	
019	15e04h00019	ICSA					05/04/15 09:20	1.0	11 1	8:CA=320000
020	15e04h00020	ICSAB					05/04/15 09:26	1.0	12 1	11:CA=330000
021	15e04h00021	X	RINSE				05/04/15 09:33	1.0	1	
022	15e04h00022	X	RINSE				05/04/15 09:40	1.0	1	
023	15e04h00023	X	RINSE				05/04/15 09:46	1.0	1	
024	15e04h00024	X	RINSE				05/04/15 09:53	1.0	1	
025	15e04h00025	X	RINSE				05/04/15 09:59	1.0	1	
026	15e04h00026	BLANK	QC786154	F	Air	222742	05/04/15 10:06	100.0	1	
027	15e04h00027	X	RINSE				05/04/15 10:12	1.0	1	
028	15e04h00028	BS	QC786155	F	Air	222742	05/04/15 10:18	100.0	1	
029	15e04h00029	X	RINSE				05/04/15 10:25	1.0	1	
030	15e04h00030	BSD	QC786156	F	Air	222742	05/04/15 10:31	100.0	1	
031	15e04h00031	X	RINSE				05/04/15 10:38	1.0	1	
032	15e04h00032	MSS	266219-001	F	Air	222742	05/04/15 10:44	100.0	1	
033	15e04h00033	X	RINSE				05/04/15 10:51	1.0	1	
034	15e04h00034	SDUP	QC786157	F	Air	222742	05/04/15 10:57	100.0	1	
035	15e04h00035	X	RINSE				05/04/15 11:03	1.0	1	
036	15e04h00036	SSPIKE	QC786158	F	Air	222742	05/04/15 11:10	100.0	13 14 15 1	
037	15e04h00037	X	RINSE				05/04/15 11:16	1.0	1	
038	15e04h00038	SAMPLE	266219-002	F	Air	222742	05/04/15 11:23	100.0	1	
039	15e04h00039	X	RINSE				05/04/15 11:29	1.0	1	
040	15e04h00040	SAMPLE	266219-003	F	Air	222742	05/04/15 11:35	100.0	1	
041	15e04h00041	X	RINSE				05/04/15 11:42	1.0	1	
042	15e04h00042	SAMPLE	266219-004	F	Air	222742	05/04/15 11:48	100.0	1	
043	15e04h00043	X	RINSE				05/04/15 11:55	1.0	1	
044	15e04h00044	CCV					05/04/15 12:01	1.0	16 1	
045	15e04h00045	X	XCCB				05/04/15 12:08	1.0	1	
046	15e04h00046	CCB					05/04/15 12:14	1.0	1	
047	15e04h00047	ICSA					05/04/15 12:21	1.0	11 1	8:CA=320000
048	15e04h00048	ICSAB					05/04/15 12:27	1.0	12 1	11:CA=330000
049	15e04h00049	X	RINSE				05/04/15 12:34	1.0	1	
050	15e04h00050	X	RINSE				05/04/15 12:41	1.0	1	
051	15e04h00051	BLANK	QC786173		Filtrate	222747	05/04/15 12:47	5.0	1	
052	15e04h00052	BLANK	QC786174		Filtrate	222747	05/04/15 12:54	5.0	1	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 895179001

Instrument : MET16 Begun : 05/04/15 07:21
Method : EPA 6020 SOP Version : icpms_rv10

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	15e04h00053	BS	QC786175		Filtrate	222747	05/04/15 13:00	5.0	1	
054	15e04h00054	BSD	QC786176		Filtrate	222747	05/04/15 13:06	5.0	1	
055	15e04h00055	MSS	266392-003		Filtrate	222747	05/04/15 13:13	10.0	1	2:NA=190000
056	15e04h00056	MS	QC786177		Filtrate	222747	05/04/15 13:19	10.0	1	2:NA=180000
057	15e04h00057	MSD	QC786178		Filtrate	222747	05/04/15 13:25	10.0	1	
058	15e04h00058	SER	QC786179		Filtrate	222747	05/04/15 13:32	50.0	1	
059	15e04h00059	PDS	QC786180		Filtrate	222747	05/04/15 13:38	10.0	13 14 15 1	1:NA=170000
060	15e04h00060	CCV					05/04/15 13:44	1.0	16 1	
061	15e04h00061	X	XCCB				05/04/15 13:51	1.0	1	
062	15e04h00062	CCB					05/04/15 13:57	1.0	1	
063	15e04h00063	ICSA					05/04/15 14:04	1.0	11 1	8:CA=320000
064	15e04h00064	ICSAB					05/04/15 14:11	1.0	12 1	11:CA=330000
065	15e04h00065	X	RINSE				05/04/15 14:17	1.0	1	
066	15e04h00066	X	RINSE				05/04/15 14:24	1.0	1	
067	15e04h00067	X	RINSE				05/04/15 14:30	1.0	1	
068	15e04h00068	X	RINSE				05/04/15 16:19	1.0	1	
069	15e04h00069	X	RINSE				05/04/15 16:25	1.0	1	
070	15e04h00070	X	RINSE				05/04/15 16:32	1.0	1	
071	15e04h00071	X	RINSE				05/04/15 16:38	1.0	1	
072	15e04h00072	X	RINSE				05/04/15 16:45	1.0	1	
073	15e04h00073	CCV					05/04/15 16:51	1.0	16 1	
074	15e04h00074	X	XCCB				05/04/15 16:58	1.0	1	
075	15e04h00075	CCB					05/04/15 17:04	1.0	1	
076	15e04h00076	ICSA					05/04/15 17:11	1.0	11 1	8:CA=320000
077	15e04h00077	ICSAB					05/04/15 17:17	1.0	12 1	11:CA=330000
078	15e04h00078	X	RINSE				05/04/15 17:23	1.0	1	
079	15e04h00079	X	RINSE				05/04/15 17:30	1.0	1	
080	15e04h00080	X	RINSE				05/04/15 17:36	1.0	1	
081	15e04h00081	X	RINSE				05/04/15 17:43	1.0	1	
082	15e04h00082	X	RINSE				05/04/15 17:49	1.0	1	
083	15e04h00083	X	RINSE				05/04/15 17:56	1.0	1	
084	15e04h00084	X	RINSE				05/04/15 18:02	1.0	1	
085	15e04h00085	X	RINSE				05/04/15 18:09	1.0	1	

CRT 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 64.

NT 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 65 through 85.

Standards used: 1=S26751 2=S26750 3=S27043 4=S27044 5=S27045 6=S27046 7=S27041 8=S27042 9=S26725 10=S27165 11=S26727 12=S26728 13=S26229 14=S26230 15=S26912 16=S26726

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 895179001

Date : 05/04/15 Reference : 15e04h00004
Sequence : MET16 15e04h00 Analyzed : 05/04/15 07:39

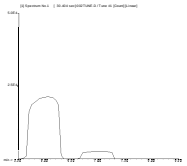
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	211180	220697	7245	78025	18562	4011	410191	835483	346976	916354
		LOWER LIMIT	63354	66209	2174	23408	5569	1203	123057	250645	104093	274906
		UPPER LIMIT	253416	264836	8694	93630	22274	4813	492229	1002580	416371	1099625
017	ICB		221919	239999	8002	86478	20597	4426	449125	889851	382817	989026
019	ICSA		180546	212851	8052	95413 *	17426	3933	343167	649840	317962	845185
020	ICSAB		159427	180733	6319	72416	16176	3356	305486	591127	284837	762269
026	BLANK	QC786154	163752	219948	7970	103069 *	16511	3376	337993	710930	284024	769829
028	BS	QC786155	166909	204388	7290	86196	16429	3398	342931	720903	287663	778109
030	BSD	QC786156	167901	210111	7248	84446	15956	3404	351276	742342	293338	800574
032	MSS	266219-001	170822	215880	6865	81005	15496	3328	349224	740428	292473	795580
034	SDUP	QC786157	173328	227655	7597	91030	16013	3446	349964	744699	291933	796969
036	SSPIKE	QC786158	182264	236517	7235	83484	16121	3522	366623	755298	313899	845772
038	SAMPLE	266219-002	205009	247017	7677	83795	17699	4025	407879	843342	342060	916710
040	SAMPLE	266219-003	192560	230927	7388	83082	17023	3725	386255	808466	322400	872571
042	SAMPLE	266219-004	197451	228879	7084	84350	17230	3730	394326	819592	330409	889453
044	CCV		208457	223774	7618	82153	18576	4078	411817	820282	354950	947228
046	CCB		215875	221547	7578	78910	19357	4194	433131	881616	364487	969323
047	ICSA		173511	199519	7480	89534	17010	3697	327766	630386	302890	815244
048	ICSAB		150484	172455	6191	69877	15314	3252	290438	566242	268837	726715
051	BLANK	QC786173	163718	174400	6020	64881	15696	3323	334214	690185	283486	758306
052	BLANK	QC786174	168971	181824	6026	64992	15440	3319	345842	711006	293688	781609
053	BS	QC786175	165453	179591	6272	68568	15886	3340	335663	694351	284646	767380
054	BSD	QC786176	167057	178589	5799	60212	15142	3194	340830	701921	289487	778086
055	MSS	266392-003	165916	187296	6141	63343	14887	3286	332614	645997	293580	780532
056	MS	QC786177	168902	194310	6401	66999	15546	3399	337910	645527	299616	782039
057	MSD	QC786178	169422	193771	6651	64577	15119	3361	339870	644571	301805	782107
058	SER	QC786179	172206	191010	6618	75119	16814	3530	347324	689532	299904	790792
059	PDS	QC786180	167864	199326	6844	69779	15130	3349	334030	636330	297938	777663
060	CCV		171480	197542	6688	67320	16066	3471	346316	686647	302679	793317
062	CCB		171735	184687	6256	65605	16372	3545	357418	721311	304359	795340
063	ICSA		143560	176804	6457	73520	13643	3213	285945	541580	265805	701609
064	ICSAB		124478	153108	5492	58968	12893	2867	254092	490698	236253	631890
073	CCV		127492	153502	5824	63034	12946	2796	264141	538294	228769	609031
075	CCB		140530	156160	5479	55110	13326	2923	300050	609559	252983	662507
076	ICSA		115056	144814	5536	62309	11669	2769	231260	439881	215970	566745
077	ICSAB		101881	126139	4796	50601	11148	2492	208109	400294	193831	512834

MET16 QC Tune Report

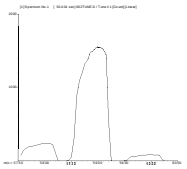
Data File: C:\ICPCHEM\1\DATA\15E04h00.B\002TUNE.D
Date Acquired: May 4 2015 07:28 am
Acq. Method: TN6020F.M
Operator:
Sample Name: tun,s26750
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020F.M

RSD (%)

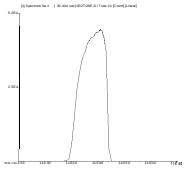
Element	Rep1	Rep2	Rep3	Rep4	Rep5	Actual	Required	Flag
7 Li	14509	14713	14595	14506	14742	1.47	5.00	
59 Co	8511	8697	8700	8683	8681	1.48	5.00	
115 In	240117	241142	239743	239158	239786	0.22	5.00	
205 Tl	33299	33601	33476	33458	33314	1.70	5.00	



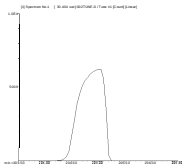
7 Li
Mass Calib.
Actual: 7.05
Required: 6.90 - 7.10
Flag:
Peak Width @ 5%
Actual: 0.60
Required: 0.75
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width @ 5%
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width @ 5%
Actual: 0.60
Required: 0.75
Flag:



205 Tl
Mass Calib.
Actual: 204.95
Required: 204.90 - 205.10
Flag:
Peak Width @ 5%
Actual: 0.60
Required: 0.75
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 METALS Filtrate: EPA 6020

Inst : MET16 Reviewer : ---
Calnum : 895179001001 Date : 04-MAY-2015 07:39
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	15e04h00005	895179001005		04-MAY-2015 07:45	S27043, S26751
L2	15e04h00006	895179001006		04-MAY-2015 07:52	S27044, S26751
L3	15e04h00007	895179001007		04-MAY-2015 07:58	S27045, S26751
L4	15e04h00008	895179001008		04-MAY-2015 08:04	S27046, S26751
L5	15e04h00009	895179001009		04-MAY-2015 08:11	S27041, S26751
L6	15e04h00010	895179001010		04-MAY-2015 08:17	S27042, S26751

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Thallium	A	0.0069	0.0065	0.0062	0.0063	0.0066	0.0066	BLNK	-0.0079	152.057		0.0065	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Thallium	A	0.0500	-11	0.2500	-4	0.5000	-7	5.0000	-4	50.000	0	100.00	0

NT 05/05/15 : Unusual recoveries in Cal 1.

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16
Calnum : 895179001001 Cal Date : 04-MAY-2015

ICV 895179001012 (15e04h00012 04-MAY-2015) stds: S26725, S26751

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Thallium	A	50.00	48.61	ug/L	-3	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001017 File : 15e04h00017 Time : 04-MAY-2015 09:04
Cal : 895179001001 Caldate : 04-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Thallium	A	ND	0.05000	0.02500	ug/L	

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	221919	5.09
Scandium	A	220697	239999	8.75
Scandium	E	7245	8002	10.45
Scandium	H	78025	86478	10.83
Germanium	H	18562	20597	10.96
Germanium	E	4011	4426	10.35
Indium	A	410191	449125	9.49
Bismuth	A	835483	889851	6.51
Yttrium	A	346976	382817	10.33
Terbium	A	916354	989026	7.93

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001044 File : 15e04h00044 Time : 04-MAY-2015 12:01
Cal : 895179001001 Caldate : 04-MAY-2015
Standards: S26726, S26751

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Thallium	A	0.0065	0.0065	50.00	49.06	ug/L	-2	10	

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	208457	-1.29
Scandium	A	220697	223774	1.39
Scandium	E	7245	7618	5.15
Scandium	H	78025	82153	5.29
Germanium	H	18562	18576	0.08
Germanium	E	4011	4078	1.67
Indium	A	410191	411817	0.40
Bismuth	A	835483	820282	-1.82
Yttrium	A	346976	354950	2.30
Terbium	A	916354	947228	3.37

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001046 File : 15e04h00046 Time : 04-MAY-2015 12:14
Cal : 895179001001 Caldate : 04-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Thallium	A	ND	0.05000	0.02500	ug/L	

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	215875	2.22
Scandium	A	220697	221547	0.39
Scandium	E	7245	7578	4.60
Scandium	H	78025	78910	1.13
Germanium	H	18562	19357	4.28
Germanium	E	4011	4194	4.56
Indium	A	410191	433131	5.59
Bismuth	A	835483	881616	5.52
Yttrium	A	346976	364487	5.05
Terbium	A	916354	969323	5.78

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001047 File : 15e04h00047 Time : 04-MAY-2015 12:21
Cal : 895179001001 Caldate : 04-MAY-2015
Standards: S26727, S26751

Analyte	Ch	Quant	IQL	Units	Flags
Thallium	A	[0.01580]	0.05000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	106000	ug/L	106
Calcium	A	300000	323000	ug/L	108
Magnesium	A	100000	103900	ug/L	104
Molybdenum	A	2000	2109	ug/L	105
Potassium	A	100000	105000	ug/L	105
Sodium	E	250000	238100	ug/L	95
Phosphorus	E	100000	89910	ug/L	90
Iron	H	250000	212200	ug/L	85

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	173511	-17.84
Scandium	A	220697	199519	-9.60
Scandium	E	7245	7480	3.24
Scandium	H	78025	89534	14.75
Germanium	H	18562	17010	-8.36
Germanium	E	4011	3697	-7.83
Indium	A	410191	327766	-20.09
Bismuth	A	835483	630386	-24.55
Yttrium	A	346976	302890	-12.71
Terbium	A	916354	815244	-11.03

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001060 File : 15e04h00060 Time : 04-MAY-2015 13:44
Cal : 895179001001 Caldate : 04-MAY-2015
Standards: S26726, S26751

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Thallium	A	0.0065	0.0065	50.00	49.14	ug/L	-2	10	

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	171480	-18.80
Scandium	A	220697	197542	-10.49
Scandium	E	7245	6688	-7.69
Scandium	H	78025	67320	-13.72
Germanium	H	18562	16066	-13.45
Germanium	E	4011	3471	-13.46
Indium	A	410191	346316	-15.57
Bismuth	A	835483	686647	-17.81
Yttrium	A	346976	302679	-12.77
Terbium	A	916354	793317	-13.43

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001062 File : 15e04h00062 Time : 04-MAY-2015 13:57
Cal : 895179001001 Caldate : 04-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Thallium	A	ND	0.05000	0.02500	ug/L	

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	171735	-18.68
Scandium	A	220697	184687	-16.32
Scandium	E	7245	6256	-13.65
Scandium	H	78025	65605	-15.92
Germanium	H	18562	16372	-11.80
Germanium	E	4011	3545	-11.62
Indium	A	410191	357418	-12.87
Bismuth	A	835483	721311	-13.67
Yttrium	A	346976	304359	-12.28
Terbium	A	916354	795340	-13.21

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266392 METALS Filtrate
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 895179001063 File : 15e04h00063 Time : 04-MAY-2015 14:04
Cal : 895179001001 Caldate : 04-MAY-2015
Standards: S26727, S26751

Analyte	Ch	Quant	IQL	Units	Flags
Thallium	A	[0.01720]	0.05000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	103800	ug/L	104
Calcium	A	300000	317300	ug/L	106
Magnesium	A	100000	100400	ug/L	100
Molybdenum	A	2000	2096	ug/L	105
Potassium	A	100000	104900	ug/L	105
Sodium	E	250000	238200	ug/L	95
Phosphorus	E	100000	95460	ug/L	95
Iron	H	250000	217900	ug/L	87

ISTD (ICALBLK 15e04h00004)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	211180	143560	-32.02
Scandium	A	220697	176804	-19.89
Scandium	E	7245	6457	-10.88
Scandium	H	78025	73520	-5.77
Germanium	H	18562	13643	-26.50
Germanium	E	4011	3213	-19.90
Indium	A	410191	285945	-30.29
Bismuth	A	835483	541580	-35.18
Yttrium	A	346976	265805	-23.39
Terbium	A	916354	701609	-23.43

SAMPLE PREPARATION SUMMARY

Batch # : 222747 Analysis : ICP
Started By : RFC Prep Date : 30-APR-2015 15:48 Finished By : RFC
Method : METHOD Units : mL
Spike #1 ID : S26229 Spike #2 ID : S26230 Spike #3 ID : S26912

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266371-002		Filtrate	50	50	1	1.0						6010	
266371-003		Filtrate	50	50	1	1.0						6010	
266371-004		Filtrate	50	50	1	1.0						6010	
266371-005		Filtrate	50	50	1	1.0						6010	
266371-006		Filtrate	50	50	1	1.0						6010	
266371-007		Filtrate	50	50	1	1.0						6010	
266371-008		Filtrate	50	50	1	1.0						6010	
266371-009		Filtrate	50	50	1	1.0						6010	
266371-010		Filtrate	50	50	1	1.0						6010	
266371-011		Filtrate	50	50	1	1.0						6010	
266371-012		Filtrate	50	50	1	1.0						6010	
266392-003		Filtrate	50	50	1	1.0						6010	
QC786173	BLANK	Filtrate	50	50	1	1.0							
QC786174	BLANK	Filtrate	50	50	1	1.0							
QC786175	BS	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786176	BSD	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786177	MS	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786178	MSD	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786179	SER	Filtrate	50	50	1	1.0							
QC786180	PDS	Filtrate	50	50	1	1.0							

Analyst: NCD Date: 05/01/15 Reviewer: PRW Date: 05/04/15

Water Digestion for ICP Curtis & Tompkins, Ltd.

LIMS Batch #: 222747
Digested by: RFC
Date Digested: 4/30/15

Digestion Method
☐ EPA 3010a for ICP
☐ EPA 200.7
☑ FILTRATE

BK3689
Page 1

Lvl.	Sample #	Container ID	Volume Sample(mL)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
	BLANK 4/27/15		☐ 50 ☐___	☐ 50 ☐___	N	✓	QC78561 QC786173
	MB		☐ 50 ☐___	☐ 50 ☐___		✓	-174
	BS		☐ 50 ☐___	☐ 50 ☐___		✓	-175
	BSD		☐ 50 ☐___	☐ 50 ☐___		✓	-176
5	MS		☐ 50 ☐___	☐ 50 ☐___		✓	-177
	MSD		☐ 50 ☐___	☐ 50 ☐___		✓	-178
II	266371-002	D	☐ 50 ☐___	☐ 50 ☐___		✓	
	-003		☐ 50 ☐___	☐ 50 ☐___		✓	
	-004		☐ 50 ☐___	☐ 50 ☐___		✓	
10	-005		☐ 50 ☐___	☐ 50 ☐___		✓	
	-006		☐ 50 ☐___	☐ 50 ☐___		✓	
	-007		☐ 50 ☐___	☐ 50 ☐___		✓	
	-008		☐ 50 ☐___	☐ 50 ☐___		✓	
	-009		☐ 50 ☐___	☐ 50 ☐___		✓	
15	-010		☐ 50 ☐___	☐ 50 ☐___		✓	
	-011		☐ 50 ☐___	☐ 50 ☐___		✓	
	-012		☐ 50 ☐___	☐ 50 ☐___		✓	
III	266392-003	A	☐ 50 ☐___	☐ 50 ☐___		✓	VERIFIED pH <2 MSS
			☐ 50 ☐___	☐ 50 ☐___			
20			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			

	Reagent ID or LIMS #	Initials / Date
Digestion tubes, lot #	ACCUFLOW	RFC 4/30/15
0.50 mL of spike solution (Std1) was added to all spikes	S26229	
0.50 mL of spike solution (Std2) was added to all spikes	S26230	
0.50 mL of spike solution (Std3) was added to all spikes	S26912	
Digestion Temperature (°C), Block and Probe Location		
Digestion begun at (time)		
☑ Conc. HNO3 or ☐ 1:1 HNO3	JTB 102053	
☑ Conc. HCl or ☐ 1:1 HCl	JTB 97264	
digestion ended at (time)		
☐ filtered thru' Whatman # 541		
Relinquished to ICP group	ICP	

4/30/15
Prep Chemist / Date

Continued from page 8.
Continued on page _____.

Reviewed Online / See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075173803

Instrument : MET54
Method : EPA 7470A

Begun : 04/30/15 16:43
SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met54	ICALBLK				04/30/15 16:43	1.0		
002	met54	ICAL	ICAL1			04/30/15 16:45	1.0	1	
003	met54	ICAL	ICAL2			04/30/15 16:46	1.0	1	
004	met54	ICAL	ICAL3			04/30/15 16:47	1.0	1	
005	met54	ICAL	ICAL4			04/30/15 16:48	1.0	1	
006	met54	ICAL	ICAL5			04/30/15 16:49	1.0	1	
007	met54	ICV				04/30/15 16:50	1.0	2	
008	met54	ICB				04/30/15 16:51	1.0		
009	met54	SAMPLE	266420-001	Water	222724	04/30/15 16:52	2.0		1:HG=11
010	met54	BLANK	QC786079	Water	222724	04/30/15 16:54	1.0		
011	met54	BS	QC786080	Water	222724	04/30/15 16:55	1.0		
012	met54	BSD	QC786081	Water	222724	04/30/15 16:56	1.0		
013	met54	MSS	266468-001	Water	222724	04/30/15 16:57	1.0		
014	met54	SAMPLE	266420-001	Water	222724	04/30/15 16:58	10.0		
015	met54	MS	QC786082	Water	222724	04/30/15 17:00	1.0		
016	met54	MSD	QC786083	Water	222724	04/30/15 17:01	1.0		
017	met54	SER	QC786084	Water	222724	04/30/15 17:02	5.0		
018	met54	SAMPLE	266377-001	Water	222724	04/30/15 17:03	1.0		
019	met54	CCV				04/30/15 17:04	1.0	3	
020	met54	CCB				04/30/15 17:05	1.0		
021	met54	SAMPLE	266377-002	Water	222724	04/30/15 17:06	1.0		
022	met54	SAMPLE	266377-003	Water	222724	04/30/15 17:07	1.0		
023	met54	SAMPLE	266379-001	Water	222724	04/30/15 17:09	1.0		
024	met54	SAMPLE	266382-001	Water	222724	04/30/15 17:10	1.0		
025	met54	SAMPLE	266382-002	Water	222724	04/30/15 17:11	1.0		
026	met54	SAMPLE	266392-003	Filtrate	222724	04/30/15 17:12	1.0		
027	met54	SAMPLE	266410-004	Water	222724	04/30/15 17:13	1.0		
028	met54	SAMPLE	266410-005	Water	222724	04/30/15 17:14	1.0		
029	met54	SAMPLE	266413-009	Water	222724	04/30/15 17:15	1.0		
030	met54	SAMPLE	266414-022	Water	222724	04/30/15 17:16	1.0		
031	met54	CCV				04/30/15 17:18	1.0	3	
032	met54	CCB				04/30/15 17:19	1.0		
033	met54	SAMPLE	266416-001	Water	222724	04/30/15 17:20	1.0		
034	met54	SAMPLE	266420-001	Water	222724	04/30/15 17:21	2.0		1:HG=10
035	met54	SAMPLE	266464-001	Water	222724	04/30/15 17:22	1.0		
036	met54	SAMPLE	266464-002	Water	222724	04/30/15 17:24	1.0		
037	met54	SAMPLE	266420-001	Water	222724	04/30/15 17:25	10.0		
038	met54	CCV				04/30/15 17:26	1.0	3	
039	met54	CCB				04/30/15 17:27	1.0		
040	met54	SAMPLE	266464-001	Water	222724	04/30/15 17:32	1.0		
041	met54	CCV				04/30/15 17:33	1.0	3	
042	met54	CCB				04/30/15 17:35	1.0		

ARD 04/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S27168 2=S27170 3=S27171

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266392 METALS Filtrate: EPA 7470A

Inst : MET54
Calnum : 1075173803001
Units : ug/L

Date : 30-APR-2015 16:43
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met54	1075173803002	ICAL1	30-APR-2015 16:45	S27168 (500X)
L2	met54	1075173803003	ICAL2	30-APR-2015 16:46	S27168 (200X)
L3	met54	1075173803004	ICAL3	30-APR-2015 16:47	S27168 (50X)
L4	met54	1075173803005	ICAL4	30-APR-2015 16:48	S27168 (20X)
L5	met54	1075173803006	ICAL5	30-APR-2015 16:49	S27168 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0100	0.0102	0.0106	0.0104	0.0104	LIN0	-0.0024	96.1682		0.0103	1.000	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	-5	0.5000	-2	2.0000	2	5.0000	0	10.000	0

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54
Calnum : 1075173803001 Cal Date : 30-APR-2015

ICV 1075173803007 (30-APR-2015) stds: S27170

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	5.085	ug/L	2	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173803008 File : met54 Time : 30-APR-2015 16:51
Cal : 1075173803001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173803019 File : met54 Time : 30-APR-2015 17:04
Cal : 1075173803001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0103	0.0108	5.000	5.200	ug/L	4	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173803020 File : met54 Time : 30-APR-2015 17:05
Cal : 1075173803001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173803031 File : met54 Time : 30-APR-2015 17:18
Cal : 1075173803001 Caldate : 30-APR-2015
Standards: S27171

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0103	0.0107	5.000	5.143	ug/L	3	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266392 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075173803032 File : met54 Time : 30-APR-2015 17:19
Cal : 1075173803001 Caldate : 30-APR-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 222724
Started By : ARD
Method : METHOD
Spike #1 ID : S27168

Prep Date : 30-APR-2015 11:40

Analysis : HG-200
Finished By : ARD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266377-001		Water	50	50	1	1.0						T22/HG	
266377-002		Water	50	50	1	1.0						T22/HG	
266377-003		Water	50	50	1	1.0						T22/HG	
266379-001		Water	50	50	1	1.0						245.1-HG	
266382-001		Water	50	50	1	1.0						RCRA/HG	
266382-002		Water	50	50	1	1.0						RCRA/HG	
266392-003		Filtrate	50	50	1	1.0						T22/HG	
266410-004		Water	50	50	1	1.0						TAL/HG	
266410-005		Water	50	50	1	1.0						TAL/HG	
266413-009		Water	50	50	1	1.0						245.1-HG	
266414-022		Water	50	50	1	1.0						245.1-HG	
266416-001		Water	50	50	1	1.0						T22/HG-200	
266420-001		Water	50	50	1	1.0						T22/HG	
266464-001		Water	50	50	1	1.0						T22/HG-200	
266464-002		Water	50	50	1	1.0						T22/HG-200	
266468-001		Water	50	50	1	1.0						TAL/HG	
QC786079	BLANK	Water	50	50	1	1.0							
QC786080	BS	Water	50	50	1	1.0		1.25					
QC786081	BSD	Water	50	50	1	1.0		1.25					
QC786082	MS	Water	50	50	1	1.0		1.25					
QC786083	MSD	Water	50	50	1	1.0		1.25					
QC786084	SER	Water	50	50	1	1.0							

Analyst: ARD Date: 04/30/15 Reviewer: PRW Date: 04/30/15

Water Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 222724
Date Digested: 4/30/15

Digestion Method
☒ EPA 7470A/ EPA 245.1
☐ _____

BK3651
Page 87

	Sample #	container ID	Volume Sample (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
	Blank		☒50 ☐___	☒50 ☐___	N	QC786079
	BS ★		☒50 ☐___	☒50 ☐___		↓ 080
	BSD ★		☒50 ☐___	☒50 ☐___		081
	MSS 266468-001	A	☒50 ☐___	☒50 ☐___		
5	MS ★	↓	☒50 ☐___	☒50 ☐___		
	MSD ★	↓	☒50 ☐___	☒50 ☐___		
	266377-001	G	☒50 ☐___	☒50 ☐___		
	↓ -002	↓	☒50 ☐___	☒50 ☐___		
	↓ -003	↓	☒50 ☐___	☒50 ☐___		
10	266379-001	A	☒50 ☐___	☒50 ☐___		
	266382-001	A	☒50 ☐___	☒50 ☐___		
	↓ -002	↓	☒50 ☐___	☒50 ☐___		
	266392-~~003~~ ARD 4/30/15 -003	A	☒50 ☐___	☒50 ☐___		pH<2
	266410-004	E	☒50 ☐___	☒50 ☐___		
15	↓ -005	↓	☒50 ☐___	☒50 ☐___		
	266413-009	A	☒50 ☐___	☒50 ☐___		
	266414-022	A	☒50 ☐___	☒50 ☐___		COMP -001 -004 @ 20 mL/
	266416-001	I	☒50 ☐___	☒50 ☐___		~~aq~~ ARD 4/30/15 dity
	266420-061	D	☒50 ☐___	☒50 ☐___		pH<2; verified <24 hrs as is RUSH DIRTY!
20	266464-001	H	☒50 ☐___	☒50 ☐___		pH<2, verified <24 hrs as is RUSH ARD 4/30/15
	↓ -002	↓	☒50 ☐___	☒50 ☐___	↓	
			☐ 50 ☐___	☐ 50 ☐___		
			☐ 50 ☐___	☐ 50 ☐___		
			☐ 50 ☐___	☐ 50 ☐___		
			☐ 50 ☐___	☐ 50 ☐___		

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tube Lot #	EK 140812	ARD 4/30/15
1.25 mL of spike solution was added to all spikes	S27168 ★	
☒ CAL digested with this batch — ICAL Source LIMS S#	S27169	
ICV / CCV LIMS S#	S27170 / S27171	
Digestion Temperature (°C), Block and Probe Location	94° A42	
Digestion Started at (time)	11:40	
concentrated H_2SO_4	BDH - 20141202 18	
concentrated HNO_3	JTB - 102063	
5% $KMnO_4$	FS - 148300-042615	
5% $K_2S_2O_8$	FS - 149087-042615	
NaCl.hydroxylamine hydrochloride	040915	
Stannous Chloride	FS 147491 - 042615	
Digestion Completed at (time)	14:40	
☐ filtered thru' 0.45 um syringe filter (lot #)		

4/30/15
Prep Chemist / Date

Continued from page ∅

Continued on page _____

Reviewed Online / See LIMS

Laboratory Job Number 266392

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Batch#:	222673
Matrix:	Soil	Sampled:	04/28/15
Units:	%	Received:	04/28/15
Diln Fac:	1.000	Analyzed:	04/28/15

Field ID	Lab ID	Result	RL
APLB21(2.5)	266392-004	8	1
APLB21(4.5)	266392-005	13	1
APLB21(8.5)	266392-006	17	1

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Moisture

Lab #:	266392	Location:	Former APL Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	APLB21(8.5)	Diln Fac:	1.000
Type:	SDUP	Batch#:	222673
MSS Lab ID:	266392-006	Sampled:	04/28/15
Lab ID:	QC785894	Received:	04/28/15
Matrix:	Soil	Analyzed:	04/28/15

MSS Result	Result	RL	RPD	Lim
16.95	16.65	1.000	2	26

RL= Reporting Limit
RPD= Relative Percent Difference

Percent Moisture Summary Report

Batch: 222673
Date: 04/28/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266391-001	11.3571	16.4784	15.7871	87	13
266391-002	11.2406	17.5402	17.0840	93	7
266391-003	11.4540	16.6369	15.8731	85	15
266391-004	11.1991	16.5511	15.8090	86	14
266391-005	11.3083	16.4424	15.4556	81	19
266391-006	11.2995	16.6431	15.5254	79	21
266391-007	11.1426	16.7094	15.2691	74	26
266391-008	11.0163	16.5704	15.1870	75	25
266392-004	11.3157	16.9779	16.5511	92	8
266392-005	11.2571	17.3362	16.5654	87	13
266392-006	11.3564	17.5489	16.4993	83	17
QC785894	11.1999	18.2191	17.0506	83	17
of 266392-006			RPD:	0.4%	1.8%

Moisture LOG

Curtis & Tompkins, Ltd.

LIMS Batch #: 222673
Date: 4-28-15

Page: 85
Benchbook#: **BK 3643**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	56	11.3593	Ø	11.[illegible] 3591	
266391-001 A	37	11.3571	16.4784	15.7871	
-002	58	11.2406	17.5402	17.0840	
-003	19	11.4540	16.6369	15.8731	
-004	85	11.1991	16.5511	15.8090	
-005	17	11.3083	16.4424	15.4556	
-006	95	11.2995	16.6431	15.5254	
-007	1	11.1426	16.7094	15.2691	
-008	73	11.0163	16.5704	15.1870	
266392-004	57	11.3157	16.9779	16.5511	
-005	51	11.2571	17.3362	16.5654	
-006	94	11.3564	17.5489	16.4993	
Dup -006	18	11.1999	18.2191	17.0506	

4-29-15

Date/ Time IN: 4-28-15 2300
Temp (C) IN: 105
Date/ Time OUT: 4-29-15 1750
Temp (C) OUT: 105

4-28-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST			SET #
~~4-05-15~~ SL		0.2000	100.0000	
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827

Continued on Page

Read and Understood By

Signed Date Signed Date


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266511
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Former APC Terminal
Petaluma, CA 94954	Level : II

Sample ID	Lab ID	Sample ID	Lab ID
RB43015	266511-001	APLB-16(2.5)	266511-017
APLB-11(GW)	266511-002	APLB-16(4.5)	266511-018
DUP4/30/15	266511-003	APLB-16(7.6)	266511-019
TB4/30/15	266511-004	APLB-17(2)	266511-020
APLB-15(GW)	266511-005	APLB-17(6)	266511-021
APLB-16(GW)	266511-006	APLB-17(6.5)	266511-022
APLB-17(GW)	266511-007	APLB-19(2)	266511-023
APLB-19(GW)	266511-008	APLB-19(4.5)	266511-024
APLB-18(GW)	266511-009	APLB-19(8.5)	266511-025
APLB-12(GW)	266511-010	APLB-18(2)	266511-026
APLB-11(2)	266511-011	APLB-18(4.5)	266511-027
APLB-11(4.3)	266511-012	APLB-18(7.5)	266511-028
APLB-11(5)	266511-013	APLB-12(1.5)	266511-029
APLB-15(2.5)	266511-014	APLB-12(4.5)	266511-030
APLB-15(4.5)	266511-015	APLB-12(7.8)	266511-031
APLB-15(8)	266511-016		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 05/11/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266511**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APC Terminal**
Request Date:	**04/30/15**
Samples Received:	**04/30/15**

This data package contains sample and QC results for twenty one soil samples and ten water samples, requested for the above referenced project on 04/30/15. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Soil:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
Matrix spikes QC786655,QC786656 (batch 222867) were not reported because the parent sample required a dilution that would have diluted out the spikes. High surrogate recovery was observed for o-terphenyl in APLB-19(2) (lab # 266511-023); no target analytes were detected in the sample. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:
Many samples were diluted due to foaming. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:
Matrix spikes were not performed for this analysis in batch 222821 due to insufficient sample amount. Matrix spikes were not performed for this analysis in batch 222827 because of clock limitations; 5030 rushes were added to a 5035 batch. Low recovery was observed for chlorobenzene in the MS for batch 222861; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits. High surrogate recovery was observed for 1,2-dichloroethane-d4 in APLB-11(2) (lab # 266511-011). No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Water:
No analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Soil:
Low recoveries were observed for 1,4-dichlorobenzene and 1,2,4-trichlorobenzene in the MS/MSD of APLB-17(2) (lab # 266511-020); the

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266511**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APC Terminal**
Request Date:	**04/30/15**
Samples Received:	**04/30/15**

Semivolatile Organics by GC/MS (EPA 8270C) Soil:
LCS was within limits. High RPD was observed for 1,4-dichlorobenzene; this analyte was not detected at or above the RL in the associated samples. A number of samples were diluted due to the dark and viscous nature of the sample extracts. APLB-18(4.5) (lab # 266511-027) was diluted due to the viscous nature of the sample extract. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A) Soil:
Low recovery was observed for chromium in the MS for batch 222876; the parent sample was not a project sample, and the BS/BSD were within limits. High recoveries were observed for a number of analytes in the MS/MSD for batch 222876; the BS/BSD were within limits. High RPD was observed for chromium and copper; the RPD was acceptable in the BS/BSD. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A) Filtrate:
High recoveries were observed for selenium in the MS/MSD of APLB-14(GW) (lab # 266525-022); the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

266511

CHAIN OF CUSTODY FORM

Seq. No. 3180

Lab: C&T

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Steve Korbay

amec

Job Number: 0D14170810.03

Name/Location: Former APL Terminal Port of Oakland

Project Manager: _____ Recorder: _____ (Signature Required)

	MATRIX			# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED					
	Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL				YR	MO	DAY	TIME		DEPTH	8260B	8270C SVOC's	TITLE 22 METALS	TPH gas 8015M	TPHD M.O.	CAM 17 metals
1	X			3			6			RB430/15	15	04	30	0720			X	X		X	X	
2	X			3			6			APLB-11(GW)	15	04	30	0843			X	X		X	X	
3	X			3			6			DUP4/30/15	15	04	30	0900			X	X		X	X	
4	X						6			TB4/30/15	15	04	30	0955			X			X		
5	X			3			6			APLB-15(GW)	15	04	30	1055			X	X		X		
6	X			3			6			APLB-16(GW)	15	04	30	1203			X	X		X		
7	X			3			6			APLB-17(GW)	15	04	30	1326			X	X		X		
8	X			3			6			APLB-19(GW)	15	04	30	1416			X	X		X		
9	X			3			6			APLB-18(GW)	15	04	30	1526			X	X		X		
10	X			2						APLB-12(GW)	15	04	30	1653			X	X			X	

ADDITIONAL INFORMATION

REPORT TO: Majid Hamid

PO#:

TAT:

Comments: Field Filtered (Y)N Cam 17 metals

CHAIN OF CUSTODY RECORD

Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
	Gillette	AMEC	4/30/15 1258
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
		C&T	4/30/15 1758
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Cooler w/ ice

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

266511

CHAIN OF CUSTODY FORM

amec

Seq. No. 3179

Lab: CBJ

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Bill Kirk / Steve Hensley

Job Number: 0D14170210.03

Name/Location: Port of Oakland - former APL

Project Manager: Mary Jo Haasch

Recorder: (Signature Required)

MATRIX			# CONTAINERS					SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED				
Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL	Jars		YR	MO	DAY	TIME		DEPTH	8260 B	8270 C	TITLE 22 METALS	TPH diesel 8015 M	TPHS
11	X		1				6	APLB-11 (2.)	15	04	30	0753			X	X		X	X
12	X		1				6	APLB-11 (4.3)	15	04	30	0810			X	X		X	X
13	X		1				6	APLB-11 (6.)	15	04	30	0813			X	X		X	X
14	X		1				6	APLB-15 (2.5)	15	04	30	1008			X	X		X	X
15	X		1				6	APLB-15 (4.5)	15	04	30	1015			X	X		X	X
16	X		1				6	APLB-15 (9.0)	15	04	30	1020			X	X		X	X
17	X		1				6	APLB-16 (2.5)	15	04	30	0958			X	X		X	X
18	X		1				6	APLB-16 (4.5)	15	04	30	1102			X	X		X	X
19	X		1				6	APLB-16 (8.6)	15	04	30	1108			X	X		X	X
20	X		1				6	APLB-17 (2.)	15	04	30	1217			X	X		X	X

ADDITIONAL INFORMATION

REPORT TO: Mary Jo Haasch

PO#:

TAT:

Comments: Field Filtered Y/N

CHAIN OF CUSTODY RECORD

Bill Kirk		AMEC	4/30/10 1338
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
	MDO	JT	4/30/10 1708
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment:

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

Seq. No. 3178

Lab: C.S.T

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

266511

CHAIN OF CUSTODY FORM

3 of 4

amec

Samplers: Bill Felk Steve Kaldy

Job Number: 0D14170810.03

Name/Location: Part Of Oakland - Former APL

Project Manager: Mary Jo Hensler

Recorder: (Signature Required)

| MATRIX | | | # CONTAINERS | | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | | |

266511

CHAIN OF CUSTODY FORM

Seq. No. 3175

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Bill Fecko

amec

Job Number: 09417.0810.03

Name/Location: Port of Oakland for APL terminal

Project Manager: MaryJo Haegler

Recorder: (Signature Required)

	MATRIX			# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED				
	Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL	Ice			YR	MO	DAY	TIME		DEPTH	8260	8270	TITLE 22 METALS	TPH d/mo ext	Cam 17 metals
29	X			1						APL B-12 (1.5)	15	04	30	1614						X	X
30	X			1						APL B-12 (4.5)	15	04	30	1618						X	X
31	X			1						APL B-12 (8.8)	15	04	30	1621						X	X

ADDITIONAL INFORMATION

REPORT TO: MaryJo Haegler

PO#:

TAT:

Comments: Field Filtered Y/N

CHAIN OF CUSTODY RECORD

Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
	Bill Fecko	Amec	4/30/15 1758
	MD	CT	5/1/15 1111
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Courier

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 266511 Date Received 4/30/15 Number of coolers 4
Client AMEC Project Former APL Terminal Port of Oakland

Date Opened 4/30 By (print) SL (sign)
Date Logged in 4/30 By (print) BL (sign)

1. Did cooler come with a shipping slip (airbill, etc)_____ YES (NO)
Shipping info_____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many _____ Name_____ Date_____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received?_____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form)___ (YES) NO
6. Indicate the packing in cooler: (if other, describe)_____

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)_____

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present?_____ (YES) NO
If YES, what time were they transferred to freezer? 2310
9. Did all bottles arrive unbroken/unopened?_____ (YES) NO
10. Are there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? _____ YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? BL YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called?_____ By_____ Date:_____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 10, 9/12

Subject: RE: Revisions to some Sample Number Depth Designations
From: "Feller, William J." <william.feller@amecfw.com>
Date: 5/5/2015 7:56 AM
To: "Feller, William J." <william.feller@amecfw.com>, Will Rice <will.rice@ctberk.com>
CC: "Heassler, Mary Jo" <maryjo.heassler@amecfw.com>, "Carroll, Zachary T" <zachary.carroll@amecfw.com>

Will, here are COC corrections to the 19 sample depth changes.

Thank you,

Bill

From: Feller, William J.
Sent: Monday, May 04, 2015 9:36 AM
To: 'Will Rice'
Cc: Heassler, Mary Jo; Carroll, Zachary T
Subject: Revisions to some Sample Number Depth Designations

Hello Will,

Please change the following sample number depth designations for the Port of Oakland APL project for all of your reporting.

4/27/15 Samples Starting with APLB-
5(6.5) to 5(6)
6(6.5) to 6(5.5)
7(7.5) to 7(6.5)
8(6.5) to 8(5.5)
9(9) to 9(8)
10(9.5) to 10(8.5)

4/28/15 Sample Starting with APLB-
21(9.5) to 1(8.5)

4/30/15 Samples Starting with APLB-
11(6) to 11(5)
12(8.8) to 12(7.8)
15(9.5) to 15(8)
16(8.6) to 16(7.6)
17(6) to 17(5)
17(7.5) to 17(6.5)
18(8.5) to 18(7.5)
19(9.5) to 19(8.5)

5/1/15 Samples Starting with APLB-
1(9.4) to 1(8.4)
13(9) to 13(8)
14(9.4) to 14(8.4)
20(9.5) to 20(8.5)

Sorry for the inconvenience.

Thank you,

Bill Feller
Senior Geology Professional
Amec Foster Wheeler plc

1670 Corporate Circle: Suite 101
Petaluma, CA 94954

D +01 (707) 793-3891
M +01 (707) 239-2066
E william.feller@amecfw.com

amec foster wheeler

This message is the property of Amec Foster Wheeler plc and/or its subsidiaries and/or affiliates and is intended only for the named recipient(s). Its contents (including any attachments) may be confidential, legally privileged or otherwise protected from disclosure by law. Unauthorised use, copying, distribution or disclosure of any of it may be unlawful and is strictly prohibited. We assume no responsibility to persons other than the intended named recipient(s) and do not accept liability for any errors or omissions which are a result of email transmission. If you have received this message in error, please notify us immediately by reply email to the sender and confirm that the original message and any attachments and copies have been destroyed and deleted from your system. This disclaimer applies to any and all messages originating from us and set out above. For Canada and the United States: If you believe this is an unsolicited email and do not wish to receive future commercial electronic messages from us, please click unsubscribe@amecfw.com and include "Unsubscribe" in the subject line.

Please click http://amecfw.com/email-disclaimer for notices and company information in relation to emails originating in the UK, Italy or France.

Attachments:

AMEC_Port_COC_Depth Corrections.pdf 880 KB

Curtis & Tompkins, Ltd.

Detections Summary for 266511

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Former APC Terminal

Client Sample ID : RB43015 Laboratory Sample ID : 266511-001

No Detections

Client Sample ID : APLB-11(GW) Laboratory Sample ID : 266511-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	520	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
MTBE	2.6		2.0	ug/L	As Recd	4.000	EPA 8260B	EPA 5030B

Client Sample ID : DUP4/30/15 Laboratory Sample ID : 266511-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	590	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
MTBE	2.6		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B

Client Sample ID : TB4/30/15 Laboratory Sample ID : 266511-004

No Detections

Client Sample ID : APLB-15(GW) Laboratory Sample ID : 266511-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	900	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	530		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-16(GW) Laboratory Sample ID : 266511-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	640		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-17(GW) Laboratory Sample ID : 266511-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	910	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	630		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-19(GW) Laboratory Sample ID : 266511-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	950	Y,Z	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	1,600		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,100		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Chlorobenzene	540		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B

Client Sample ID : APLB-18(GW) Laboratory Sample ID : 266511-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1,100	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,100		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : APLB-12(GW) Laboratory Sample ID : 266511-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1,400	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	2,300		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Barium	540		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Chromium	9.6		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Molybdenum	8.9		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD

Client Sample ID : APLB-11(2) Laboratory Sample ID : 266511-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	170	Y	55	mg/Kg	Dry	50.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	930		270	mg/Kg	Dry	50.00	EPA 8015B	EPA 3550B
Acetone	48		21	ug/Kg	Dry	0.9653	EPA 8260B	EPA 5035

Client Sample ID : APLB-11(4.3) Laboratory Sample ID : 266511-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.9	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	12		5.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Phenanthrene	170		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Fluoranthene	310		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Pyrene	260		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Benzo(a)anthracene	170		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Chrysene	170		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Benzo(b)fluoranthene	150		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Benzo(a)pyrene	100		75	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-11(5) Laboratory Sample ID : 266511-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.6	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	6.3		6.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	59		17	ug/Kg	Dry	0.7102	EPA 8260B	EPA 5035

Client Sample ID : APLB-15(2.5) Laboratory Sample ID : 266511-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	50	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	210		5.5	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	20		17	ug/Kg	Dry	0.7740	EPA 8260B	EPA 5035
Naphthalene	94		73	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
2-Methylnaphthalene	120		73	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Fluoranthene	110		73	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Pyrene	110		73	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Chrysene	74		73	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-15(4.5) Laboratory Sample ID : 266511-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5,800	Y	120	mg/Kg	Dry	100.0	EPA 8015B	EPA 3550B
Motor Oil C24-C36	14,000		580	mg/Kg	Dry	100.0	EPA 8015B	EPA 3550B
Acetone	97		20	ug/Kg	Dry	0.8757	EPA 8260B	EPA 5035
2-Butanone	15		10	ug/Kg	Dry	0.8757	EPA 8260B	EPA 5035

Client Sample ID : APLB-15(8) Laboratory Sample ID : 266511-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	200		8.4	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	120		26	ug/Kg	Dry	0.7716	EPA 8260B	EPA 5035
2-Butanone	22		13	ug/Kg	Dry	0.7716	EPA 8260B	EPA 5035

Client Sample ID : APLB-16(2.5) Laboratory Sample ID : 266511-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	27	Y	3.4	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	160		17	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Acetone	33		18	ug/Kg	Dry	0.8065	EPA 8260B	EPA 5035

Client Sample ID : APLB-16(4.5) Laboratory Sample ID : 266511-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.1	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	6.5		5.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	27		20	ug/Kg	Dry	0.8913	EPA 8260B	EPA 5035

Client Sample ID : APLB-16(7.6) Laboratory Sample ID : 266511-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.9	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	55		6.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	54		21	ug/Kg	Dry	0.8834	EPA 8260B	EPA 5035

Client Sample ID : APLB-17(2) Laboratory Sample ID : 266511-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.5	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	14		5.5	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	23		19	ug/Kg	Dry	0.8532	EPA 8260B	EPA 5035

Client Sample ID : APLB-17(6) Laboratory Sample ID : 266511-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	25	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	140		5.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Acetone	51		17	ug/Kg	Dry	0.7452	EPA 8260B	EPA 5035
2-Butanone	9.8		8.7	ug/Kg	Dry	0.7452	EPA 8260B	EPA 5035

Client Sample ID : APLB-17(6.5) Laboratory Sample ID : 266511-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	24	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	100		6.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-19(2) Laboratory Sample ID : 266511-023

No Detections

Client Sample ID : APLB-19(4.5) Laboratory Sample ID : 266511-024

No Detections

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-19(8.5) Laboratory Sample ID : 266511-025

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	530	Y	6.1	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	1,600		31	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Acetone	54		22	ug/Kg	Dry	0.8803	EPA 8260B	EPA 5035

Client Sample ID : APLB-18(2) Laboratory Sample ID : 266511-026

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.6	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	45		5.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-18(4.5) Laboratory Sample ID : 266511-027

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	13	Y	3.7	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	270		18	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B

Client Sample ID : APLB-18(7.5) Laboratory Sample ID : 266511-028

No Detections

Client Sample ID : APLB-12(1.5) Laboratory Sample ID : 266511-029

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	54	Y	11	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	1,000		54	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
Arsenic	4.4		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	85		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.30		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.71		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	26		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.3		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	22		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	34		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.20		0.019	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.50		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	25		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Selenium	0.76		0.50	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	65		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-12(4.5) Laboratory Sample ID : 266511-030

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	61	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	56		5.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	0.84		0.51	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	3.5		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.39		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.4		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	8.5		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	21		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.3		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.31		0.018	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.42		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	12		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Selenium	1.7		0.51	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	100		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-12(7.8) Laboratory Sample ID : 266511-031

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.7		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	36		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.12		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	3.2		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	3.3		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	2.0		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.018	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Nickel	16		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	16		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	11		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Batch#:	222891		

Field ID: RB43015 Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/05/15
Lab ID: 266511-001

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	117	80-132

Field ID: APLB-11(GW) Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/05/15
Lab ID: 266511-002

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	118	80-132

Field ID: DUP4/30/15 Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/05/15
Lab ID: 266511-003

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	80-132

Field ID: TB4/30/15 Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/05/15
Lab ID: 266511-004

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	118	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Batch#:	222891		

Field ID: APLB-15(GW) Diln Fac: 100.0
Type: SAMPLE Analyzed: 05/06/15
Lab ID: 266511-005

Analyte	Result	RL
Gasoline C7-C12	ND	5,000

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

Field ID: APLB-16(GW) Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/06/15
Lab ID: 266511-006

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	80-132

Field ID: APLB-17(GW) Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/06/15
Lab ID: 266511-007

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	80-132

Field ID: APLB-19(GW) Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/06/15
Lab ID: 266511-008

Analyte	Result	RL
Gasoline C7-C12	950 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Batch#:	222891		

Field ID:	APLB-18(GW)	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	05/06/15
Lab ID:	266511-009		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	80-132

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786765	Analyzed:	05/05/15

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786766	Batch#:	222891
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	935.5	94	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	80-132

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222891
MSS Lab ID:	266501-001	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type: MS Lab ID: QC786767

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	15.46	2,000	2,106	105	76-120

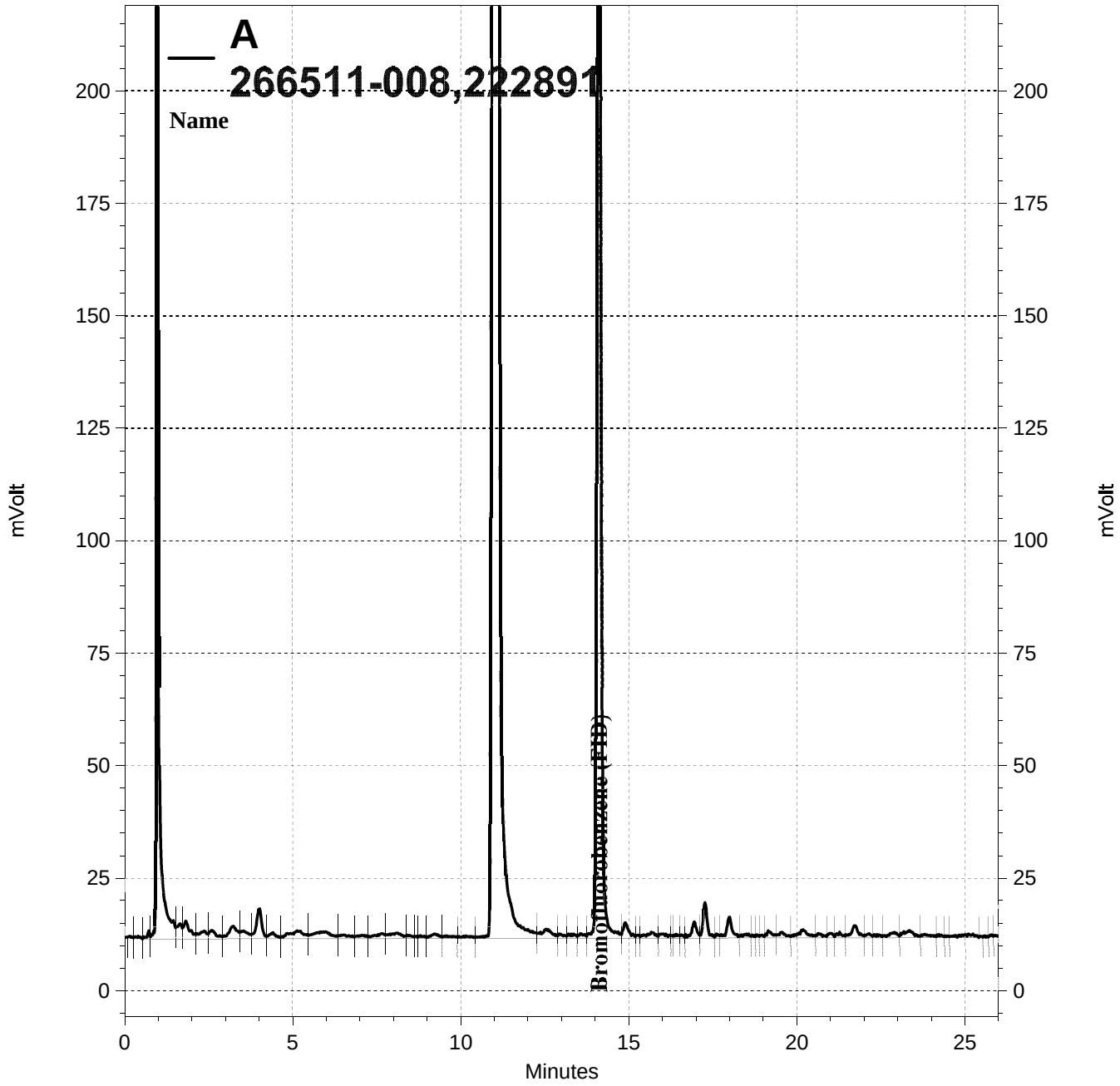
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	131	80-132

Type: MSD Lab ID: QC786768

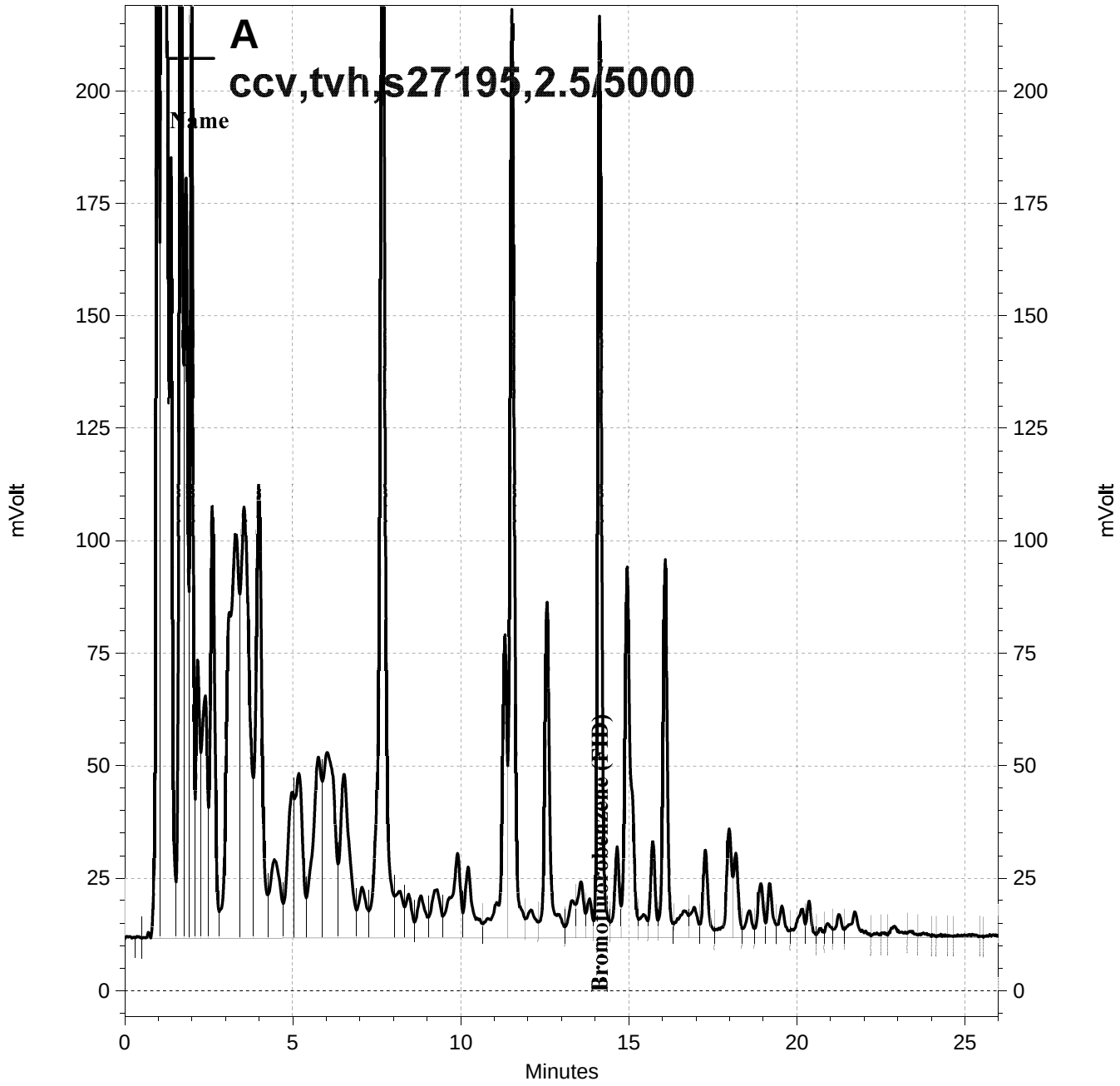
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,003	99	76-120	5	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

RPD= Relative Percent Difference



\\Lims\gdrive\ezchrom\Projects\GC04\Data\125-028, A


A
ccv,tvh,s27195,2.5/5000
Name
Bromofluorobenzene (SIB)
mVolt
mVolt
Minutes
0
5
10
15
20
25
0
25
50
75
100
125
150
175
200
\\Lims\gdrive\ezchrom\Projects\GC04\Data\125-002, A

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	04/30/15
Basis:	dry	Received:	04/30/15

Field ID:	APLB-11(2)	Moisture:	8%
Type:	SAMPLE	Batch#:	222912
Lab ID:	266511-011	Analyzed:	05/07/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.18

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	78-138

Field ID:	APLB-11(4.3)	Moisture:	11%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-012	Analyzed:	05/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	78-138

Field ID:	APLB-11(5)	Moisture:	18%
Type:	SAMPLE	Batch#:	222912
Lab ID:	266511-013	Analyzed:	05/07/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Field ID:	APLB-15(2.5)	Moisture:	9%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-014	Analyzed:	05/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.16

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	04/30/15
Basis:	dry	Received:	04/30/15

Field ID:	APLB-15(4.5)	Moisture:	14%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-015	Analyzed:	05/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	78-138

Field ID:	APLB-15(8)	Moisture:	40%
Type:	SAMPLE	Batch#:	222912
Lab ID:	266511-016	Analyzed:	05/07/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.29

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	78-138

Field ID:	APLB-16(2.5)	Moisture:	12%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-017	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Field ID:	APLB-16(4.5)	Moisture:	11%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-018	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	04/30/15
Basis:	dry	Received:	04/30/15

Field ID:	APLB-16(7.6)	Moisture:	17%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-019	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	78-138

Field ID:	APLB-17(2)	Moisture:	10%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-020	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.18

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	78-138

Field ID:	APLB-17(6)	Moisture:	14%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-021	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	78-138

Field ID:	APLB-17(6.5)	Moisture:	18%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-022	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	78	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	04/30/15
Basis:	dry	Received:	04/30/15

Field ID:	APLB-19(2)	Moisture:	10%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-023	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.16

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	78-138

Field ID:	APLB-19(4.5)	Moisture:	3%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-024	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	78-138

Field ID:	APLB-19(8.5)	Moisture:	19%
Type:	SAMPLE	Batch#:	222912
Lab ID:	266511-025	Analyzed:	05/07/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	78-138

Field ID:	APLB-18(2)	Moisture:	12%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-026	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	04/30/15
Basis:	dry	Received:	04/30/15

Field ID:	APLB-18(4.5)	Moisture:	18%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-027	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.22

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Field ID:	APLB-18(7.5)	Moisture:	12%
Type:	SAMPLE	Batch#:	222811
Lab ID:	266511-028	Analyzed:	05/04/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Type:	BLANK	Batch#:	222811
Lab ID:	QC786442	Analyzed:	05/03/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	78-138

Type:	BLANK	Batch#:	222912
Lab ID:	QC786836	Analyzed:	05/06/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	222811
Units:	mg/Kg	Analyzed:	05/03/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786440

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8995	90	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	78-138

Type: BSD Lab ID: QC786441

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1.000	0.9710	97	80-121	8	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	78-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786835	Batch#:	222912
Matrix:	Soil	Analyzed:	05/06/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8999	90	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	78-138

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	266480-001	Batch#:	222912
Matrix:	Soil	Sampled:	04/28/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/06/15

Type: MS Moisture: 15%
Lab ID: QC786837

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.5677	12.00	9.054	71	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	78-138

Type: MSD Moisture: 15%
Lab ID: QC786838

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	11.10	8.706	73	50-120	4	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	78-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Diln Fac:	1.000		

Field ID:	RB43015	Batch#:	222792
Type:	SAMPLE	Prepared:	05/01/15
Lab ID:	266511-001	Analyzed:	05/04/15

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	91	67-136

Field ID:	APLB-11(GW)	Batch#:	222792
Type:	SAMPLE	Prepared:	05/01/15
Lab ID:	266511-002	Analyzed:	05/04/15

Analyte	Result	RL
Diesel C10-C24	520 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	85	67-136

Field ID:	DUP4/30/15	Batch#:	222792
Type:	SAMPLE	Prepared:	05/01/15
Lab ID:	266511-003	Analyzed:	05/04/15

Analyte	Result	RL
Diesel C10-C24	590 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	81	67-136

Field ID:	APLB-15(GW)	Batch#:	222792
Type:	SAMPLE	Prepared:	05/01/15
Lab ID:	266511-005	Analyzed:	05/04/15

Analyte	Result	RL
Diesel C10-C24	900 Y	50
Motor Oil C24-C36	530	300

Surrogate	%REC	Limits
o-Terphenyl	80	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Diln Fac:	1.000		

Field ID: APLB-16(GW) Batch#: 222792
Type: SAMPLE Prepared: 05/01/15
Lab ID: 266511-006 Analyzed: 05/04/15

Analyte	Result	RL
Diesel C10-C24	2,000	50
Motor Oil C24-C36	640	300

Surrogate	%REC	Limits
o-Terphenyl	91	67-136

Field ID: APLB-17(GW) Batch#: 222792
Type: SAMPLE Prepared: 05/01/15
Lab ID: 266511-007 Analyzed: 05/04/15

Analyte	Result	RL
Diesel C10-C24	910 Y	50
Motor Oil C24-C36	630	300

Surrogate	%REC	Limits
o-Terphenyl	81	67-136

Field ID: APLB-19(GW) Batch#: 222839
Type: SAMPLE Prepared: 05/04/15
Lab ID: 266511-008 Analyzed: 05/06/15

Analyte	Result	RL
Diesel C10-C24	1,600	50
Motor Oil C24-C36	1,100	300

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

Field ID: APLB-18(GW) Batch#: 222839
Type: SAMPLE Prepared: 05/04/15
Lab ID: 266511-009 Analyzed: 05/06/15

Analyte	Result	RL
Diesel C10-C24	1,100 Y	50
Motor Oil C24-C36	1,100	300

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/30/15
Units:	ug/L	Received:	04/30/15
Diln Fac:	1.000		

Field ID:	APLB-12(GW)	Batch#:	222839
Type:	SAMPLE	Prepared:	05/04/15
Lab ID:	266511-010	Analyzed:	05/05/15

Analyte	Result	RL
Diesel C10-C24	1,400 Y	50
Motor Oil C24-C36	2,300	300

Surrogate	%REC	Limits
o-Terphenyl	68	67-136

Type:	BLANK	Prepared:	05/01/15
Lab ID:	QC786356	Analyzed:	05/04/15
Batch#:	222792		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	97	67-136

Type:	BLANK	Prepared:	05/04/15
Lab ID:	QC786549	Analyzed:	05/06/15
Batch#:	222839		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	100	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786357	Batch#:	222792
Matrix:	Water	Prepared:	05/01/15
Units:	ug/L	Analyzed:	05/04/15

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,977	79	60-121

Surrogate	%REC	Limits
o-Terphenyl	80	67-136

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222792
MSS Lab ID:	266508-003	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/01/15
Diln Fac:	1.000	Analyzed:	05/04/15

Type: MS Lab ID: QC786358

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1,466	2,500	4,062	104	55-122

Surrogate	%REC	Limits
o-Terphenyl	101	67-136

Type: MSD Lab ID: QC786359

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	3,451	79	55-122	16	53

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222839
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Type: BS
Lab ID: QC786550
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,992	80	60-121

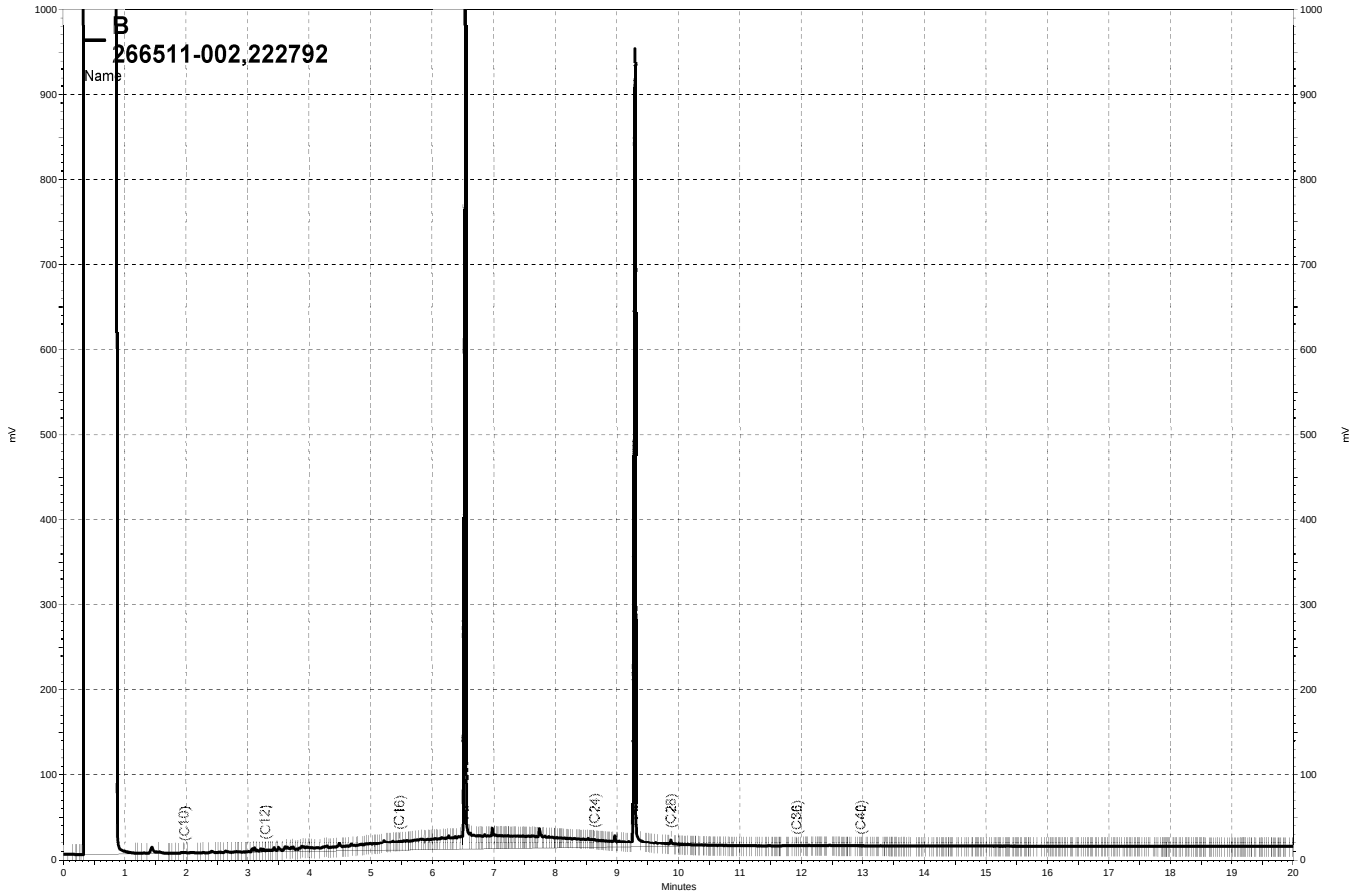
Surrogate	%REC	Limits
o-Terphenyl	85	67-136

Type: BSD
Lab ID: QC786551
Cleanup Method: EPA 3630C

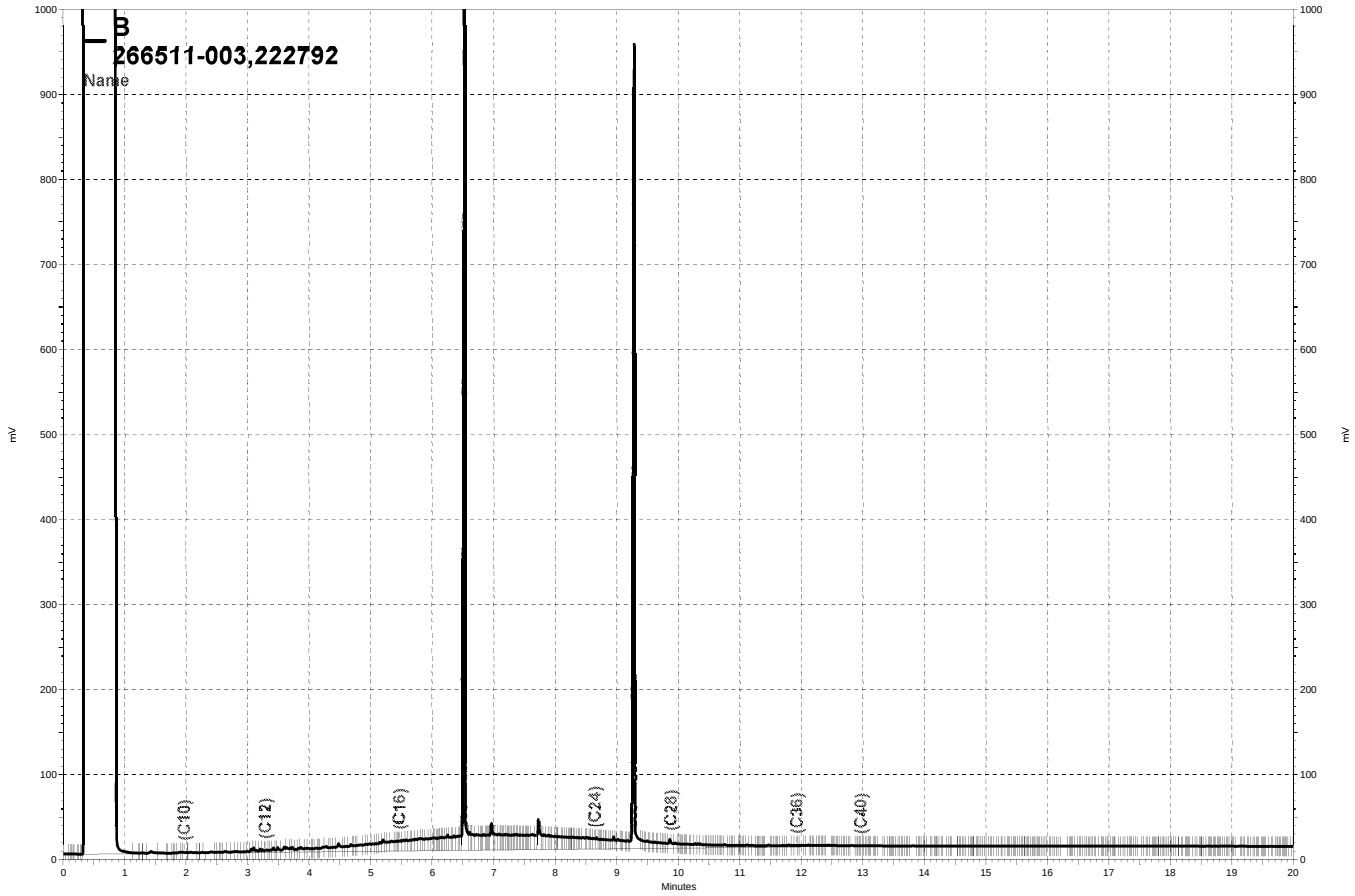
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,819	73	60-121	9	32

Surrogate	%REC	Limits
o-Terphenyl	76	67-136

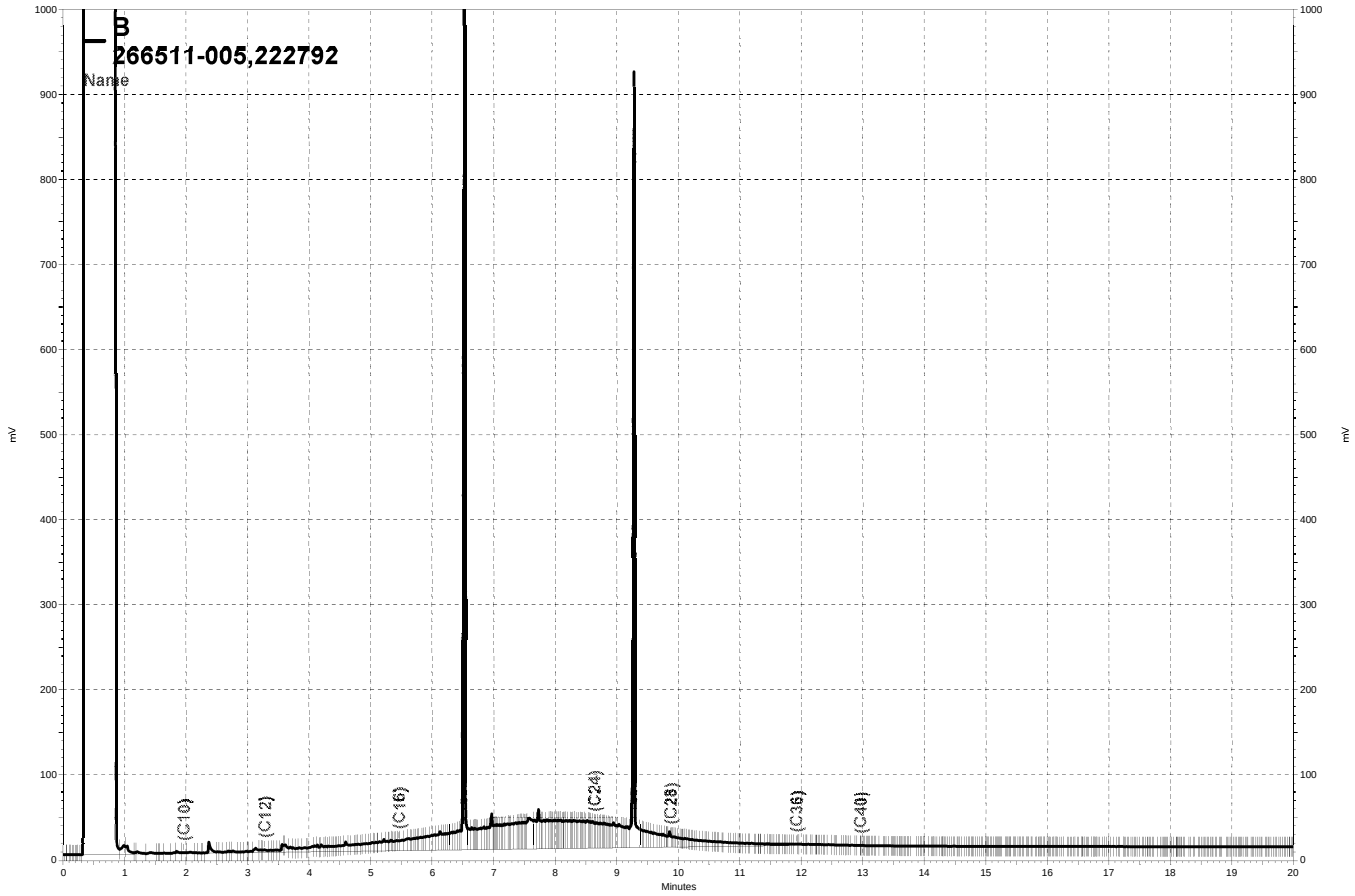
RPD= Relative Percent Difference



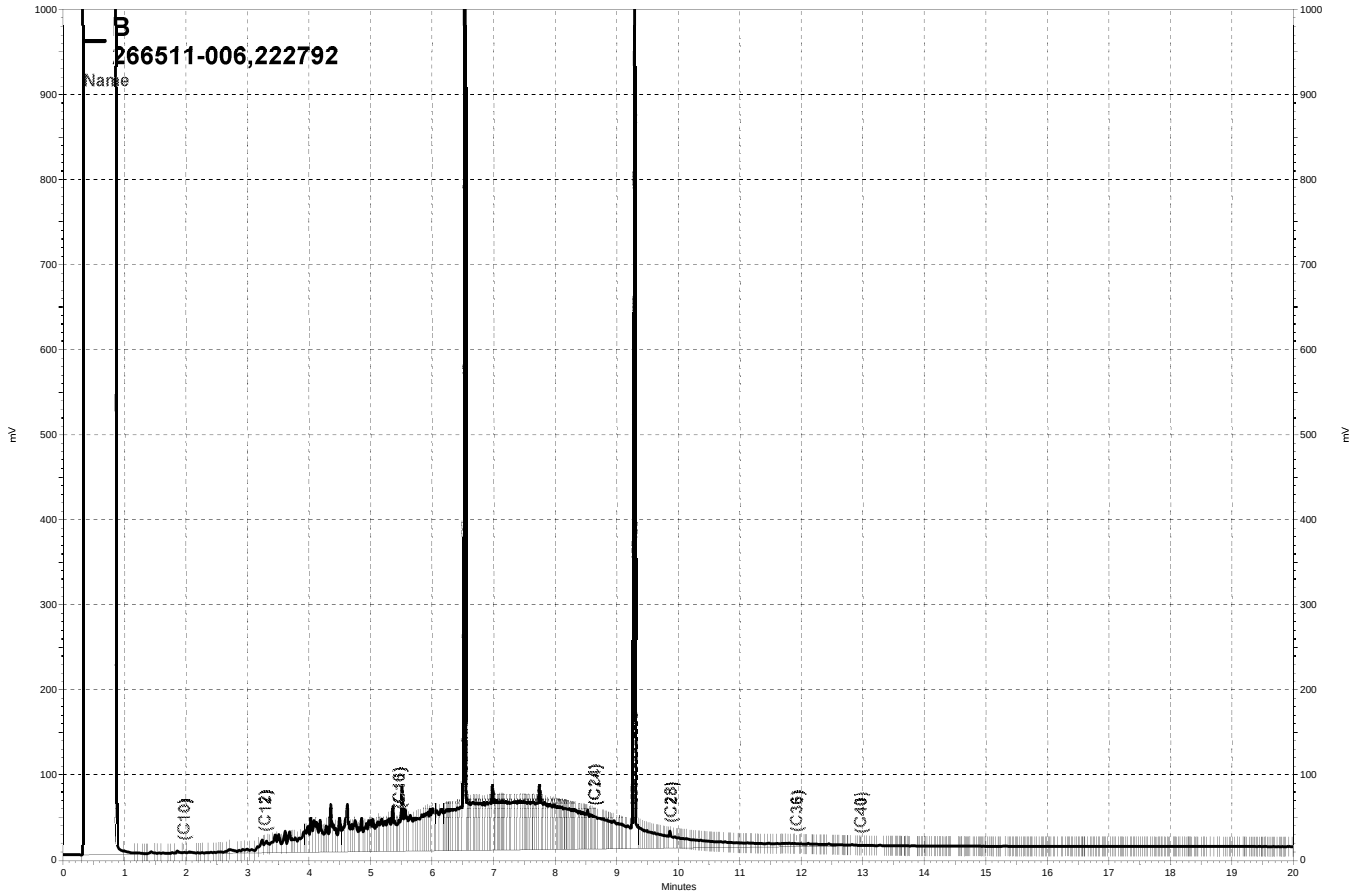
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\124b019, B



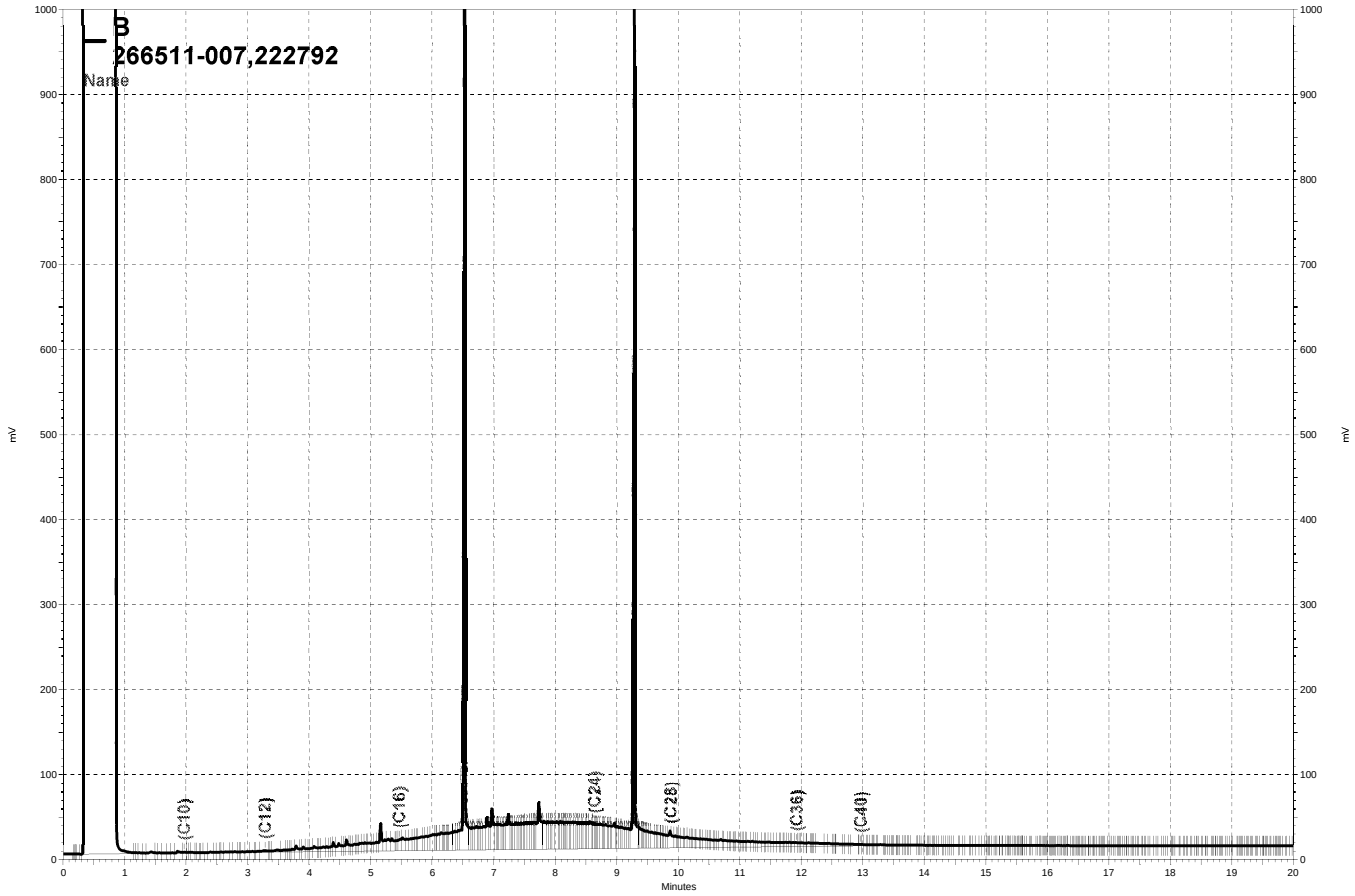
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\124b020, B



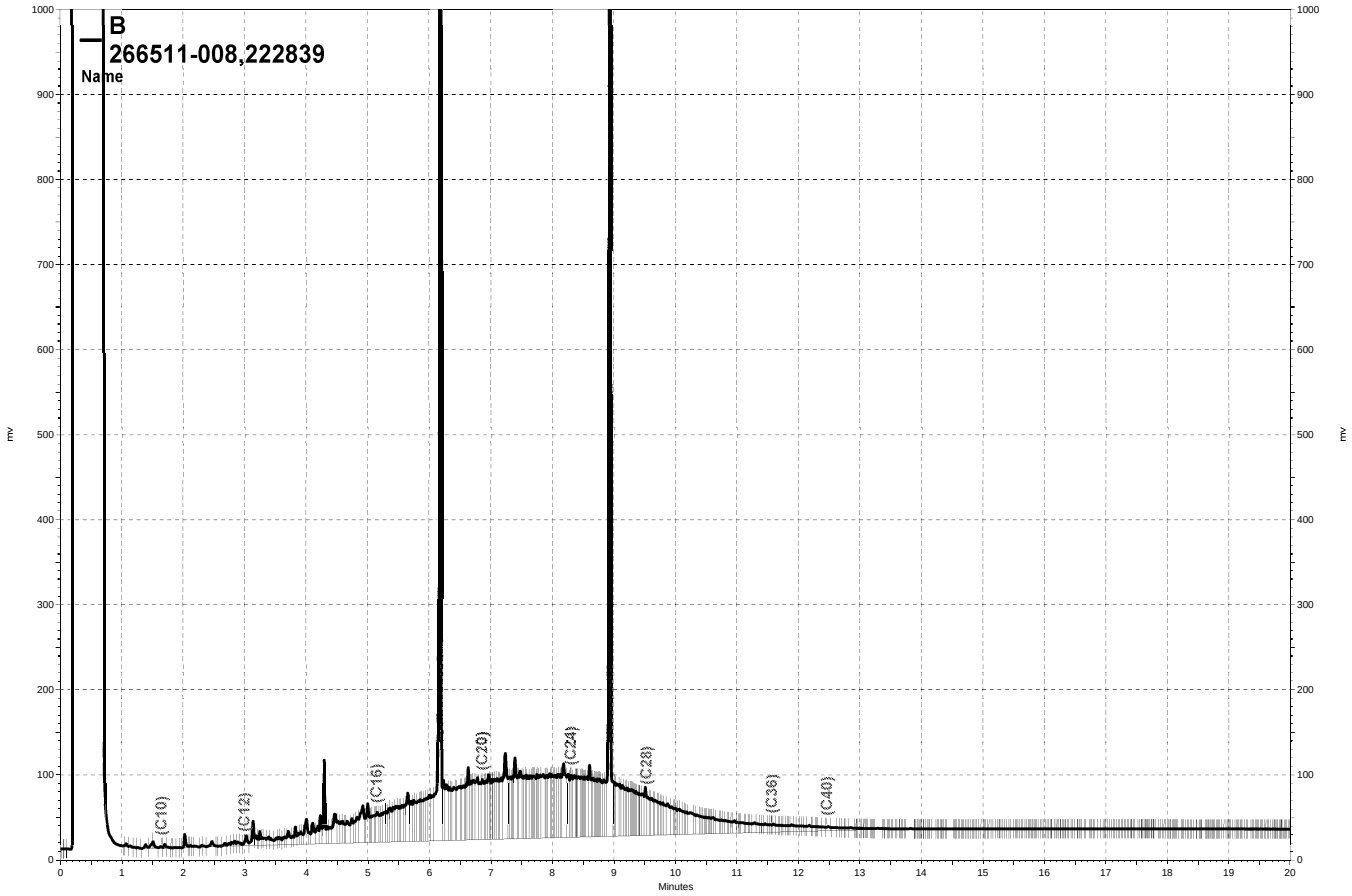
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\124b021, B



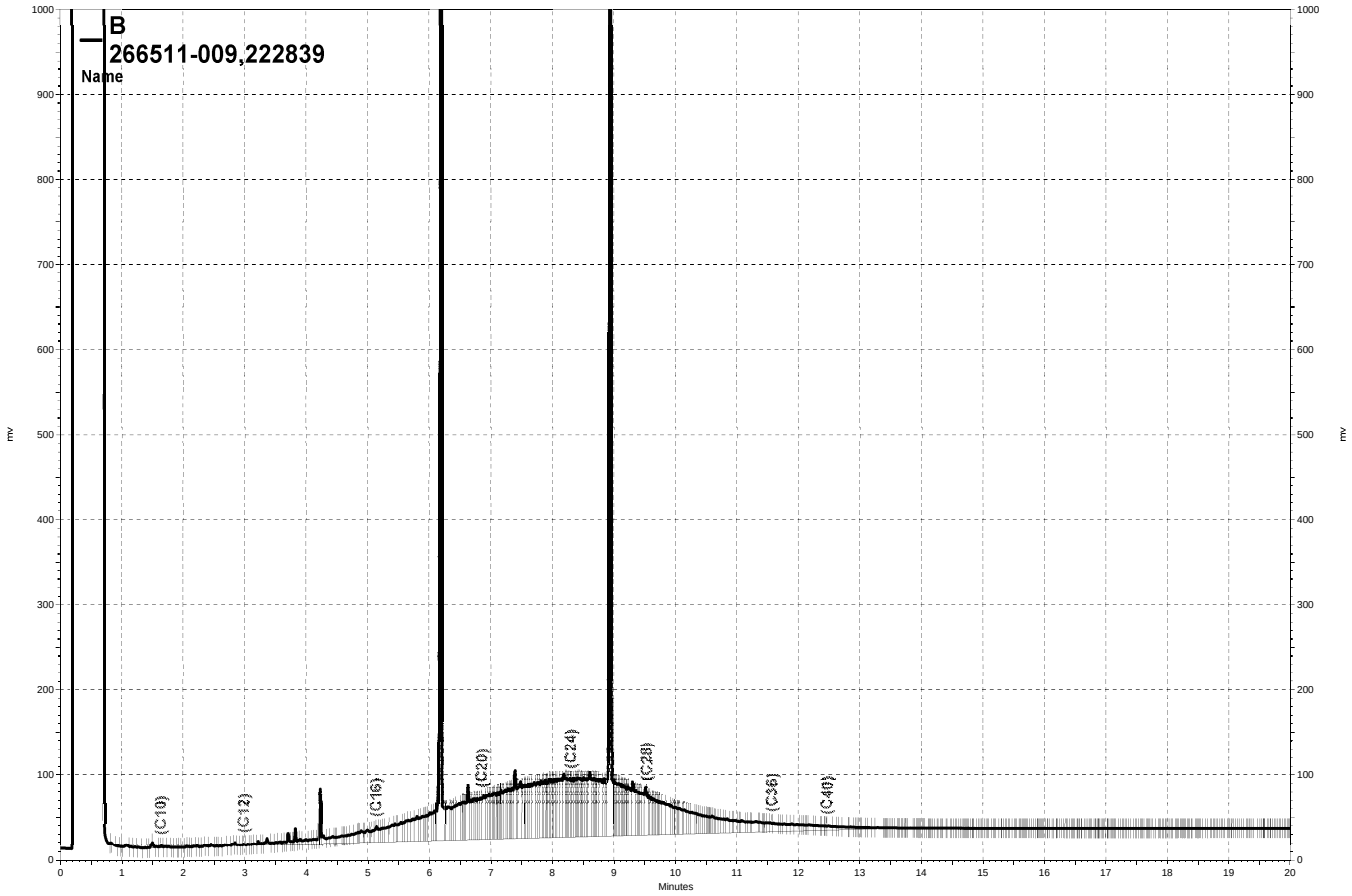
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\124b022, B



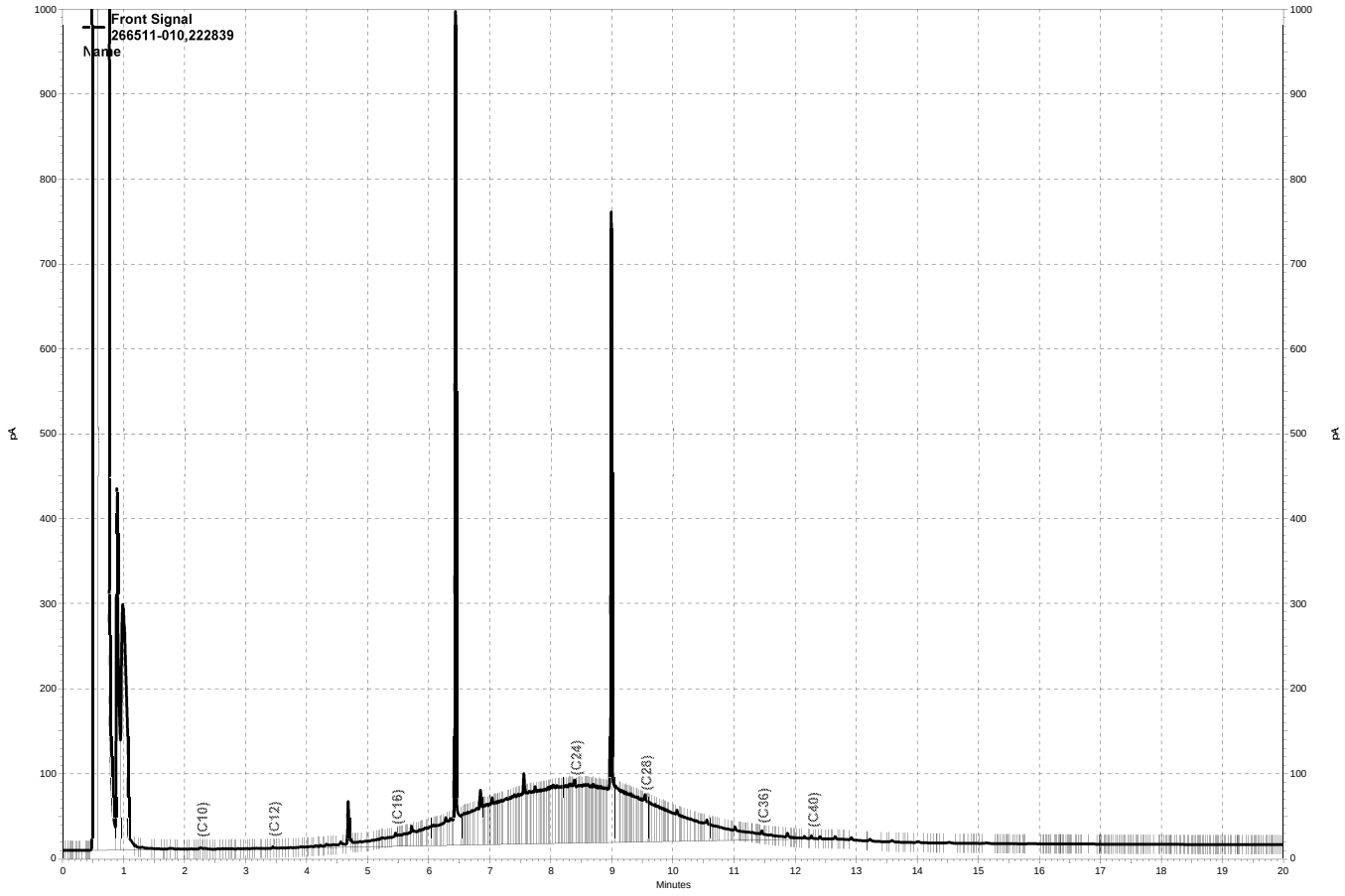
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\124b023, B



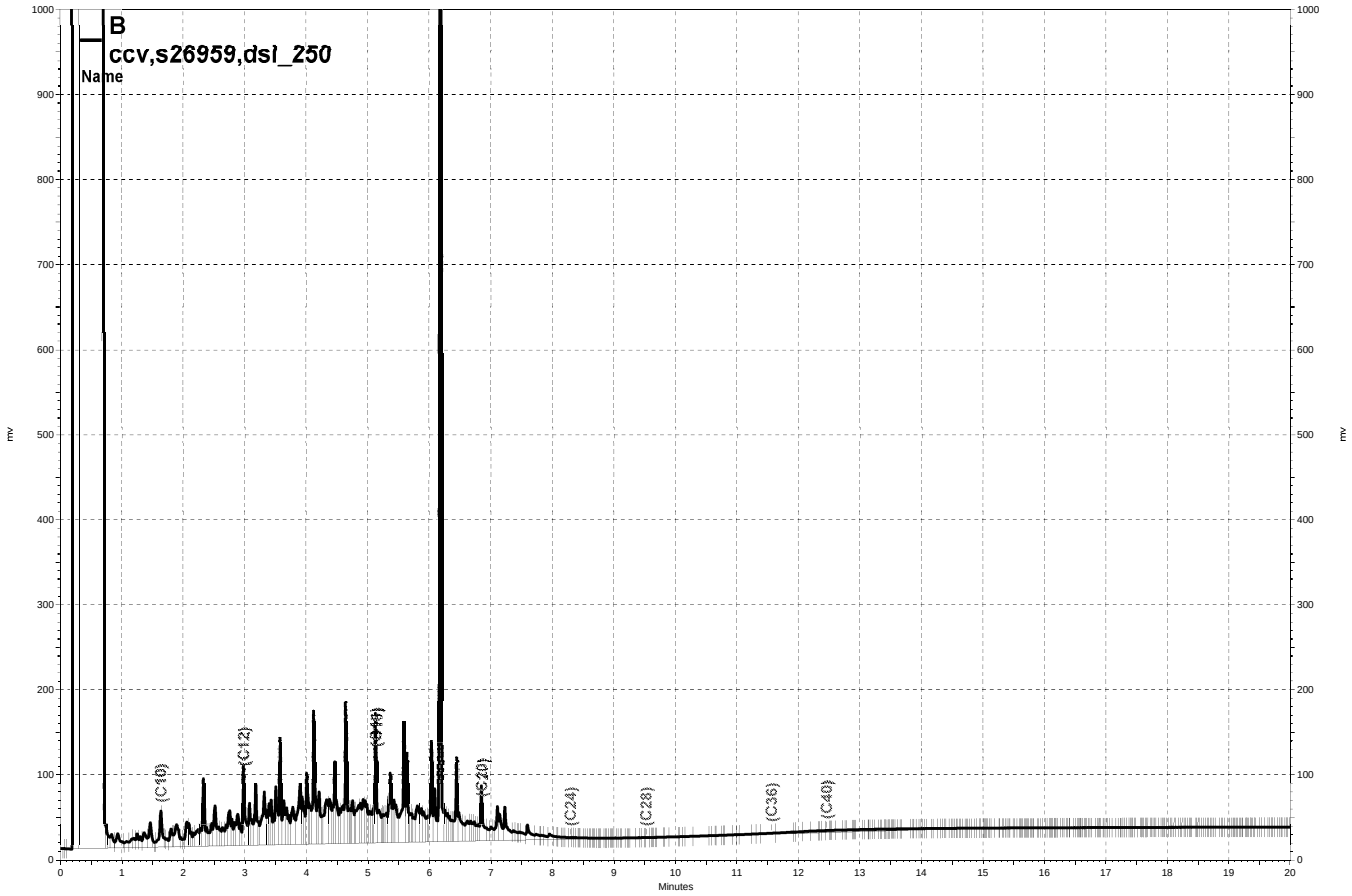
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b043, B



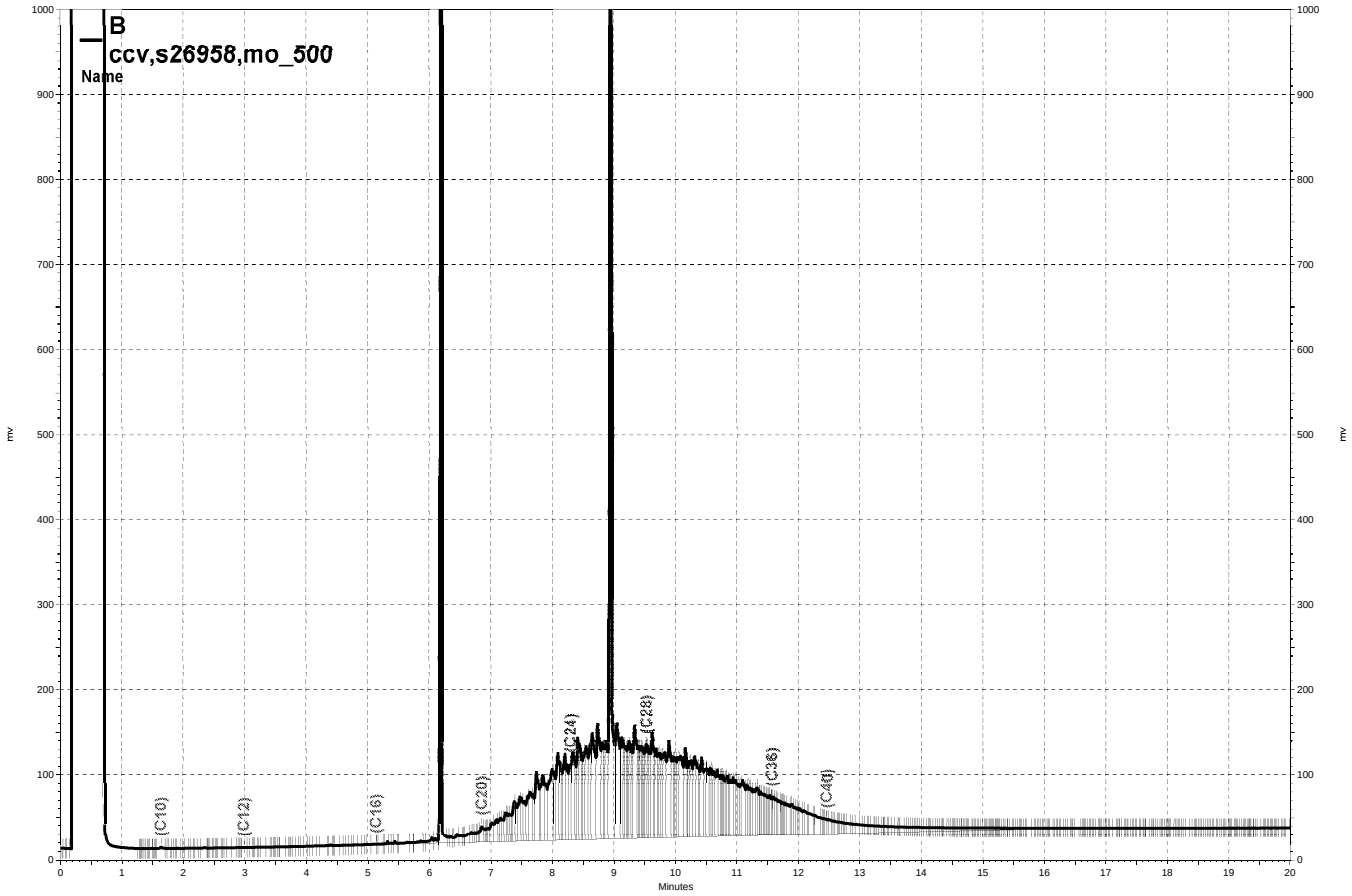
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b044, B



\\lims\gdrive\ezchrom\Projects\GC27\Data\125a016.dat, Front Signal



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b031, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b030, B

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-11(2)	Diln Fac:	50.00
Type:	SAMPLE	Batch#:	222867
Lab ID:	266511-011	Analyzed:	05/06/15
Moisture:	8%		

Analyte	Result	RL
Diesel C10-C24	170 Y	55
Motor Oil C24-C36	930	270

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID:	APLB-11(4.3)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222867
Lab ID:	266511-012	Analyzed:	05/06/15
Moisture:	11%		

Analyte	Result	RL
Diesel C10-C24	1.9 Y	1.1
Motor Oil C24-C36	12	5.7

Surrogate	%REC	Limits
o-Terphenyl	95	59-140

Field ID:	APLB-11(5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222867
Lab ID:	266511-013	Analyzed:	05/06/15
Moisture:	18%		

Analyte	Result	RL
Diesel C10-C24	4.6 Y	1.2
Motor Oil C24-C36	6.3	6.1

Surrogate	%REC	Limits
o-Terphenyl	93	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-15(2.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222867
Lab ID:	266511-014	Analyzed:	05/06/15
Moisture:	9%		

Analyte	Result	RL
Diesel C10-C24	50 Y	1.1
Motor Oil C24-C36	210	5.5

Surrogate	%REC	Limits
o-Terphenyl	94	59-140

Field ID:	APLB-15(4.5)	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	222867
Lab ID:	266511-015	Analyzed:	05/06/15
Moisture:	14%		

Analyte	Result	RL
Diesel C10-C24	5,800 Y	120
Motor Oil C24-C36	14,000	580

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID:	APLB-15(8)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-016	Analyzed:	05/05/15
Moisture:	40%		

Analyte	Result	RL
Diesel C10-C24	12 Y	1.7
Motor Oil C24-C36	200	8.4

Surrogate	%REC	Limits
o-Terphenyl	130	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-16(2.5)	Diln Fac:	3.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-017	Analyzed:	05/06/15
Moisture:	12%		

Analyte	Result	RL
Diesel C10-C24	27 Y	3.4
Motor Oil C24-C36	160	17

Surrogate	%REC	Limits
o-Terphenyl	83	59-140

Field ID:	APLB-16(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-018	Analyzed:	05/06/15
Moisture:	11%		

Analyte	Result	RL
Diesel C10-C24	1.1 Y	1.1
Motor Oil C24-C36	6.5	5.6

Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Field ID:	APLB-16(7.6)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-019	Analyzed:	05/06/15
Moisture:	17%		

Analyte	Result	RL
Diesel C10-C24	9.9 Y	1.2
Motor Oil C24-C36	55	6.0

Surrogate	%REC	Limits
o-Terphenyl	75	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-17(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-020	Analyzed:	05/06/15
Moisture:	10%		

Analyte	Result	RL
Diesel C10-C24	1.5 Y	1.1
Motor Oil C24-C36	14	5.5

Surrogate	%REC	Limits
o-Terphenyl	124	59-140

Field ID:	APLB-17(6)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-021	Analyzed:	05/06/15
Moisture:	14%		

Analyte	Result	RL
Diesel C10-C24	25 Y	1.2
Motor Oil C24-C36	140	5.8

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

Field ID:	APLB-17(6.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-022	Analyzed:	05/06/15
Moisture:	18%		

Analyte	Result	RL
Diesel C10-C24	24 Y	1.2
Motor Oil C24-C36	100	6.1

Surrogate	%REC	Limits
o-Terphenyl	116	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-19(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-023	Analyzed:	05/06/15
Moisture:	10%		

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.5

Surrogate	%REC	Limits
o-Terphenyl	143 *	59-140

Field ID:	APLB-19(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-024	Analyzed:	05/06/15
Moisture:	3%		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.2

Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Field ID:	APLB-19(8.5)	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-025	Analyzed:	05/06/15
Moisture:	19%		

Analyte	Result	RL
Diesel C10-C24	530 Y	6.1
Motor Oil C24-C36	1,600	31

Surrogate	%REC	Limits
o-Terphenyl	88	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-18(2)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-026	Analyzed:	05/06/15
Moisture:	12%		

Analyte	Result	RL
Diesel C10-C24	7.6 Y	1.1
Motor Oil C24-C36	45	5.7

Surrogate	%REC	Limits
o-Terphenyl	135	59-140

Field ID:	APLB-18(4.5)	Diln Fac:	3.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-027	Analyzed:	05/06/15
Moisture:	18%		

Analyte	Result	RL
Diesel C10-C24	13 Y	3.7
Motor Oil C24-C36	270	18

Surrogate	%REC	Limits
o-Terphenyl	85	59-140

Field ID:	APLB-18(7.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-028	Analyzed:	05/06/15
Moisture:	12%		

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.7

Surrogate	%REC	Limits
o-Terphenyl	130	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Field ID:	APLB-12(1.5)	Diln Fac:	10.00
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-029	Analyzed:	05/06/15
Moisture:	7%		

Analyte	Result	RL
Diesel C10-C24	54 Y	11
Motor Oil C24-C36	1,000	54

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID:	APLB-12(4.5)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-030	Analyzed:	05/06/15
Moisture:	11%		

Analyte	Result	RL
Diesel C10-C24	61 Y	1.1
Motor Oil C24-C36	56	5.6

Surrogate	%REC	Limits
o-Terphenyl	134	59-140

Field ID:	APLB-12(7.8)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	222887
Lab ID:	266511-031	Analyzed:	05/06/15
Moisture:	5%		

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.3

Surrogate	%REC	Limits
o-Terphenyl	124	59-140

Type:	BLANK	Batch#:	222867
Lab ID:	QC786653	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	86	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	04/30/15
Units:	mg/Kg	Received:	04/30/15
Basis:	dry	Prepared:	05/05/15

Type:	BLANK	Batch#:	222887
Lab ID:	QC786736	Analyzed:	05/06/15
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	115	59-140

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786654	Batch#:	222867
Matrix:	Soil	Prepared:	05/05/15
Units:	mg/Kg	Analyzed:	05/05/15

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	83.19	68.06	82	58-137

Surrogate	%REC	Limits
o-Terphenyl	74	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786737	Batch#:	222887
Matrix:	Soil	Prepared:	05/05/15
Units:	mg/Kg	Analyzed:	05/06/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.73	59.27	119	58-137

Surrogate	%REC	Limits
o-Terphenyl	140	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	APLB-12(7.8)	Batch#:	222887
MSS Lab ID:	266511-031	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	1.000		

Type: MS Moisture: 5%
Lab ID: QC786738

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.8263	52.12	61.85	117	46-154

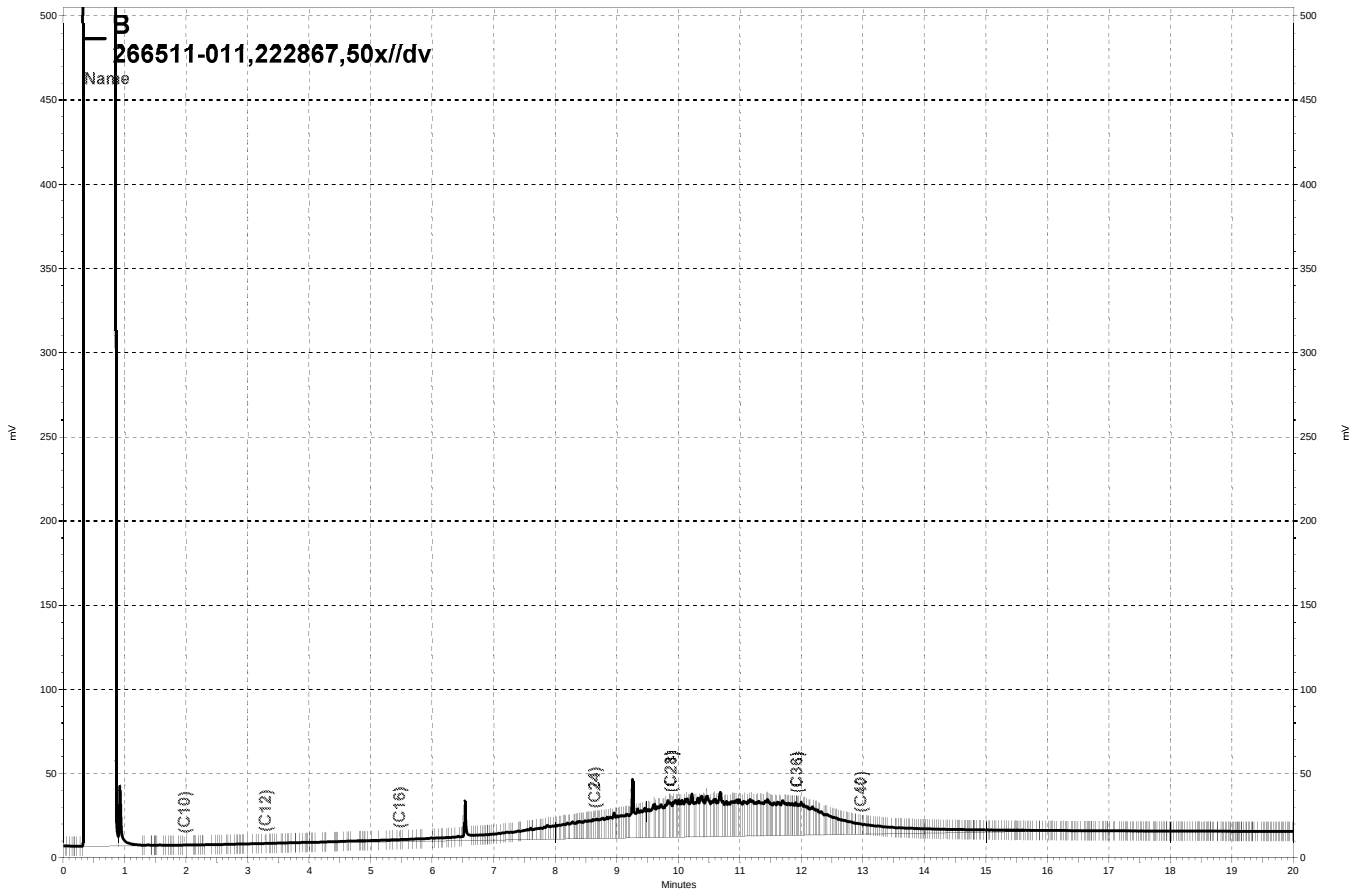
Surrogate	%REC	Limits
o-Terphenyl	140	59-140

Type: MSD Moisture: 5%
Lab ID: QC786739

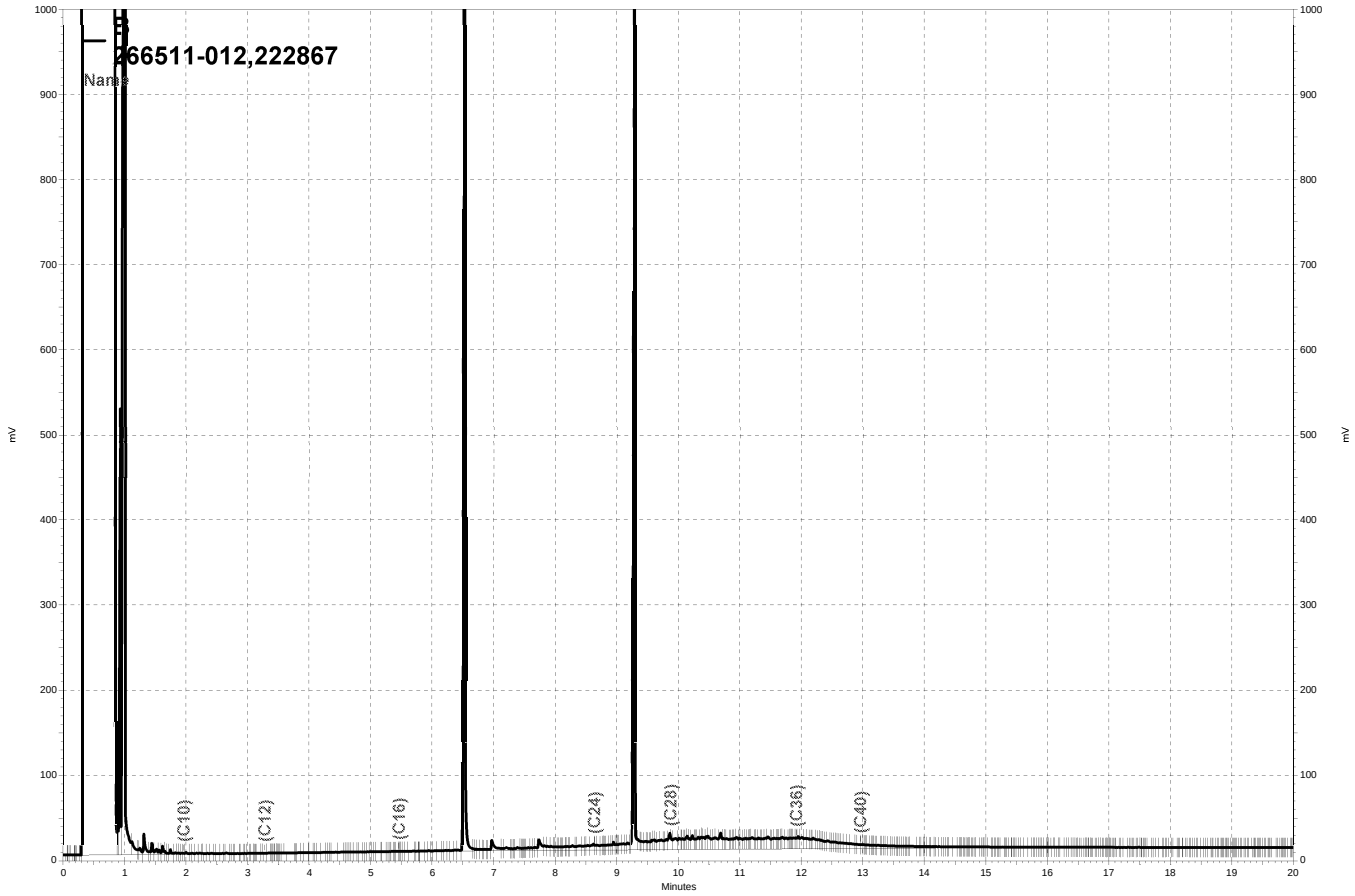
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	52.16	60.47	114	46-154	2	50

Surrogate	%REC	Limits
o-Terphenyl	139	59-140

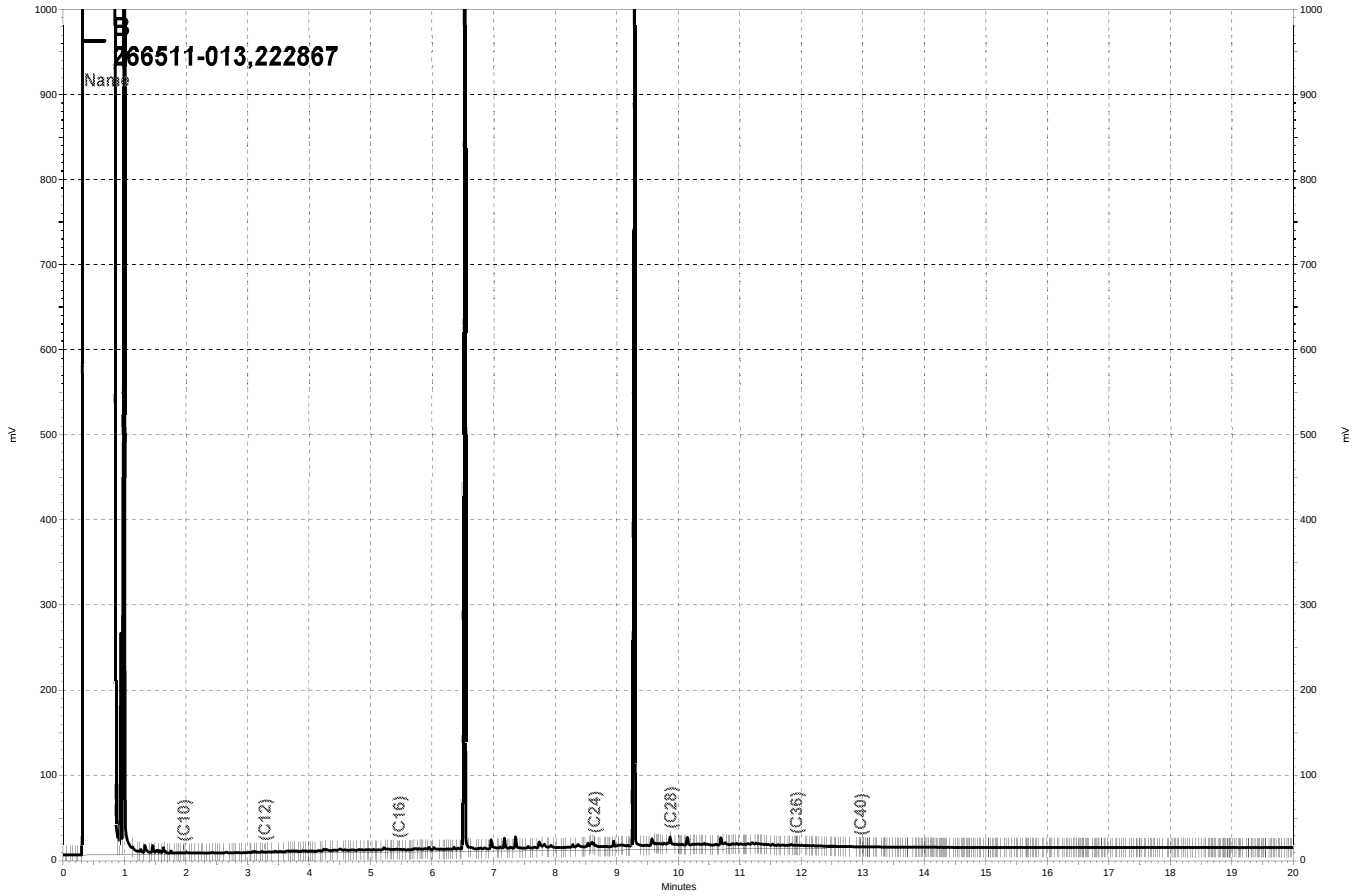
RPD= Relative Percent Difference



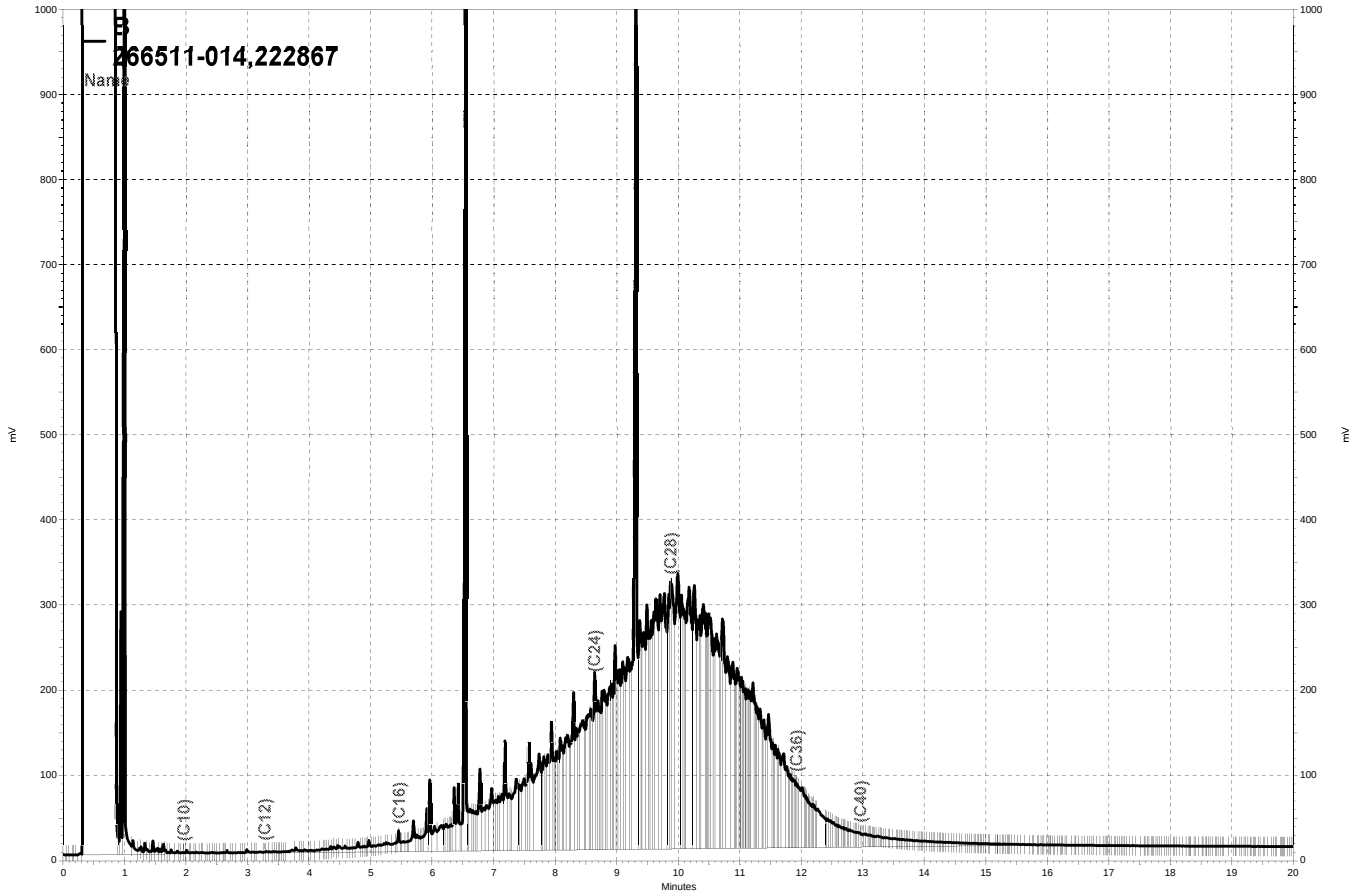
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b048, B



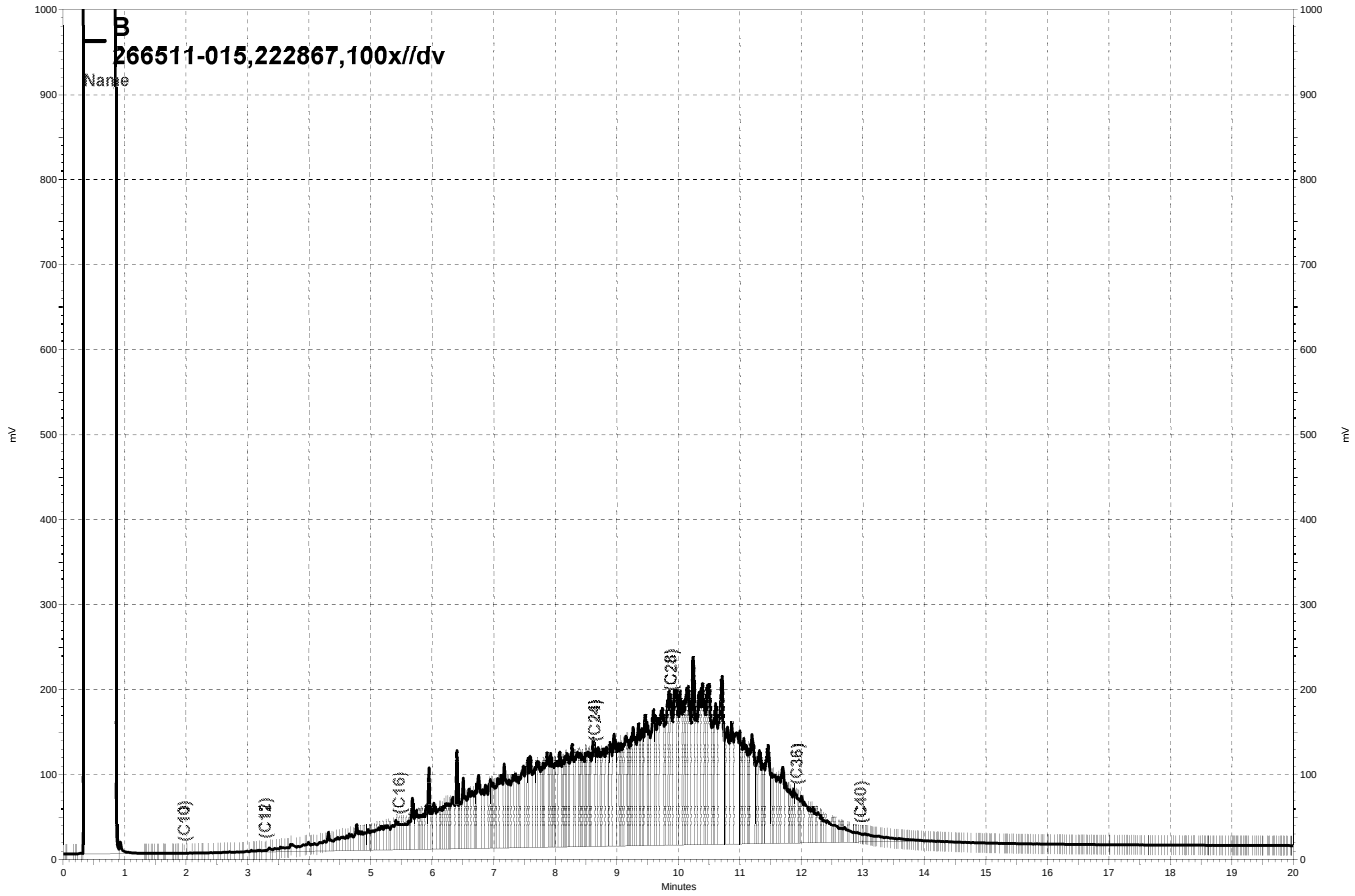
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b051, B



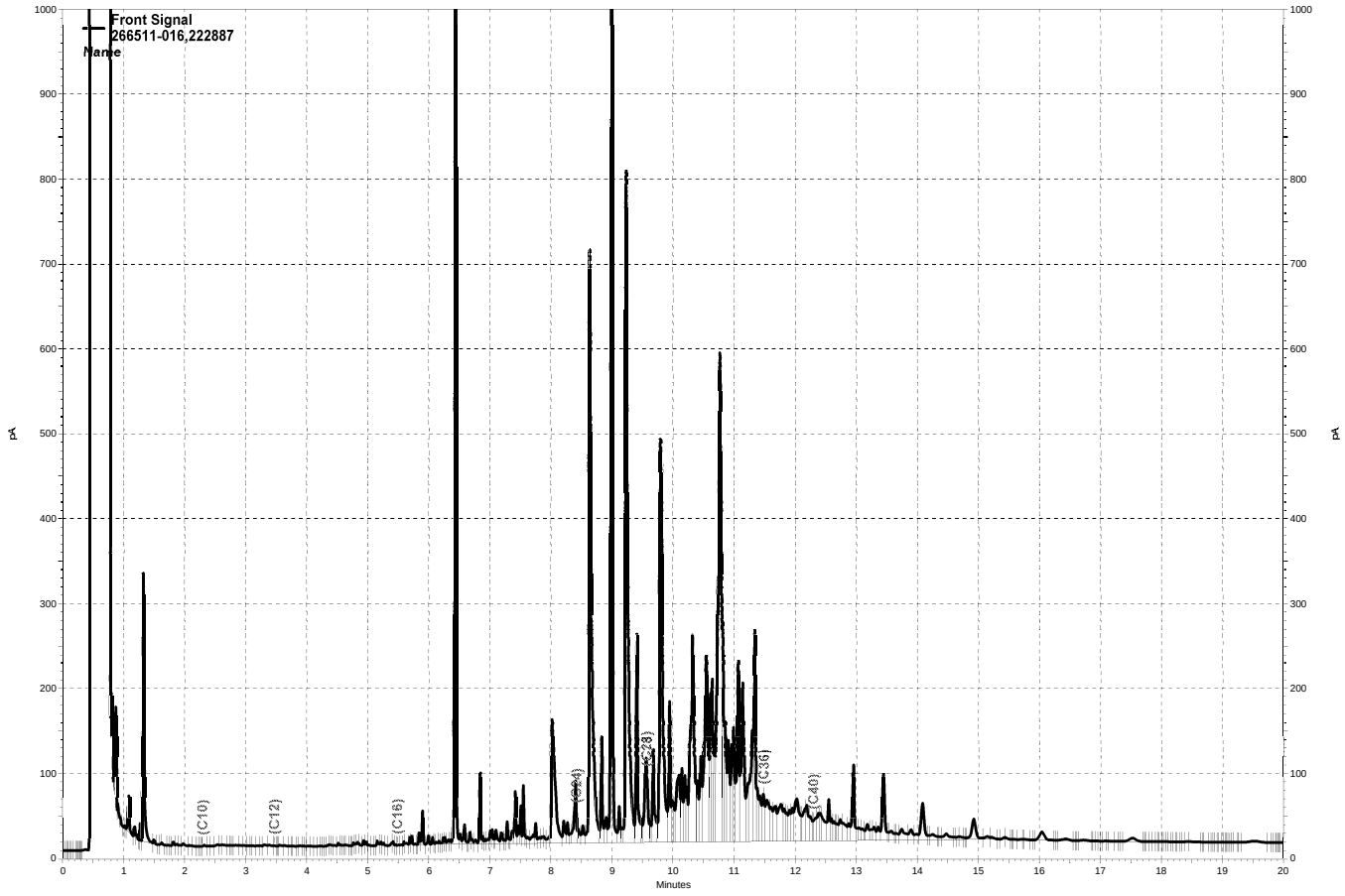
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b052, B



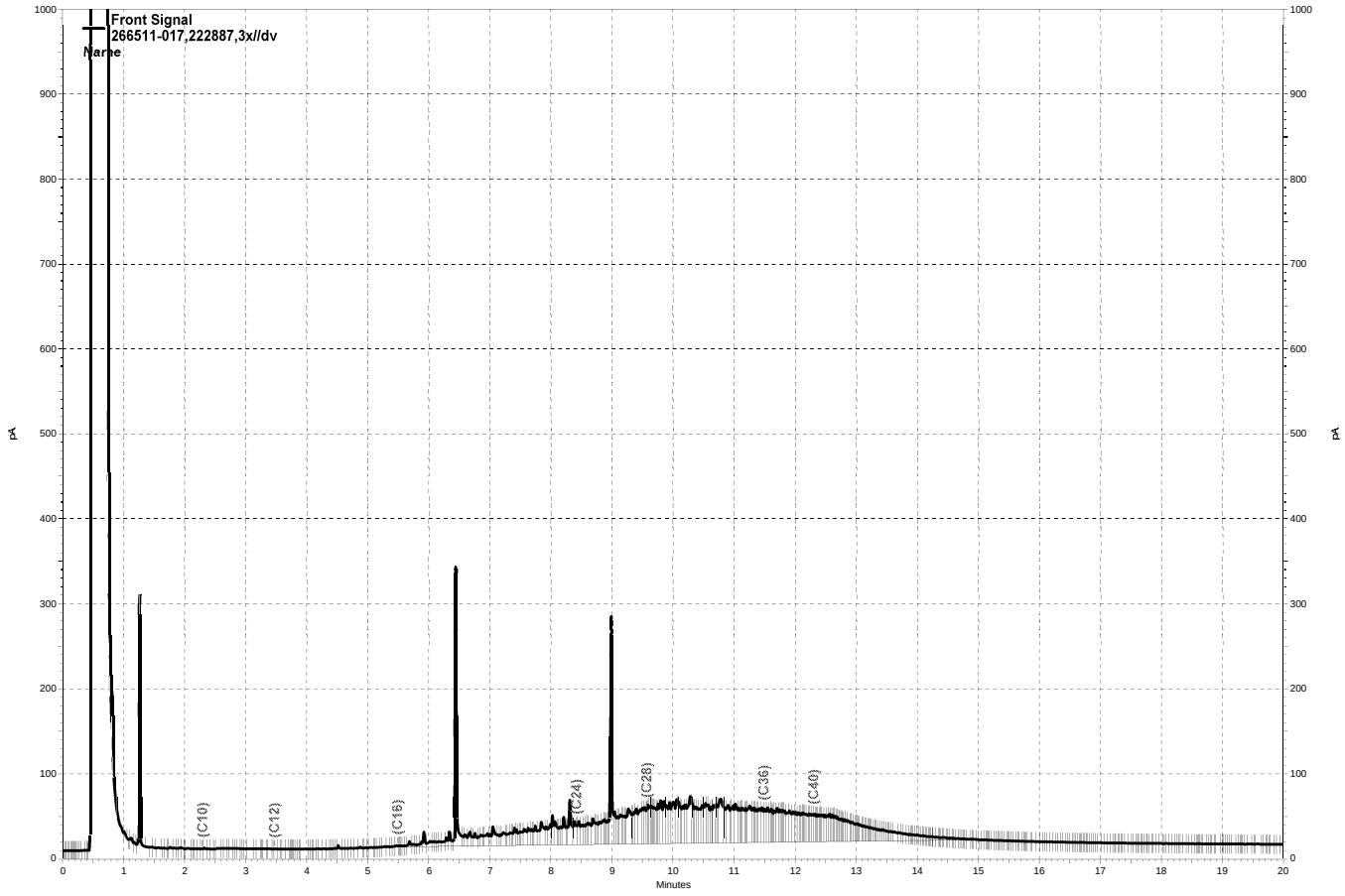
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b053, B



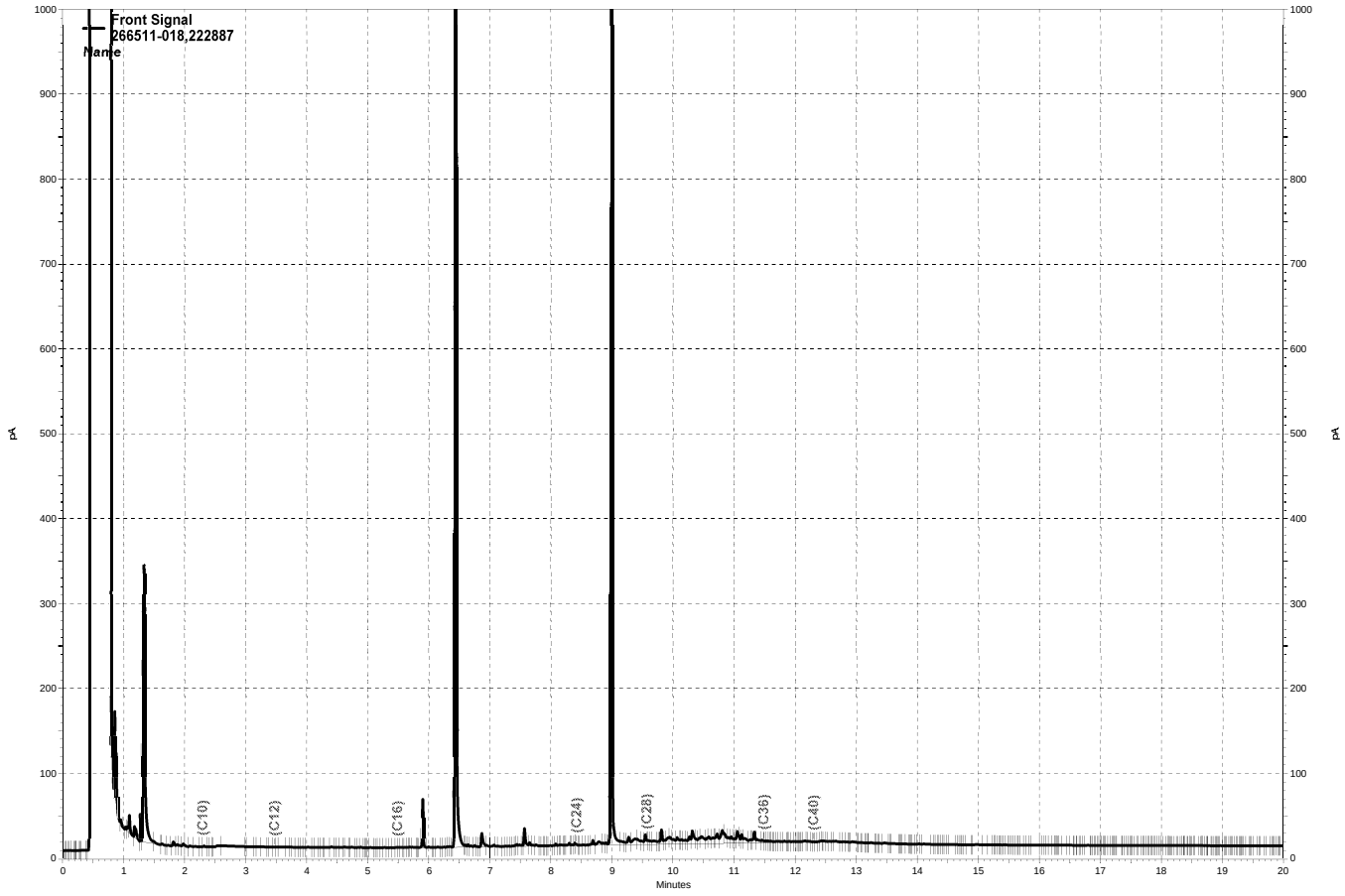
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b049, B



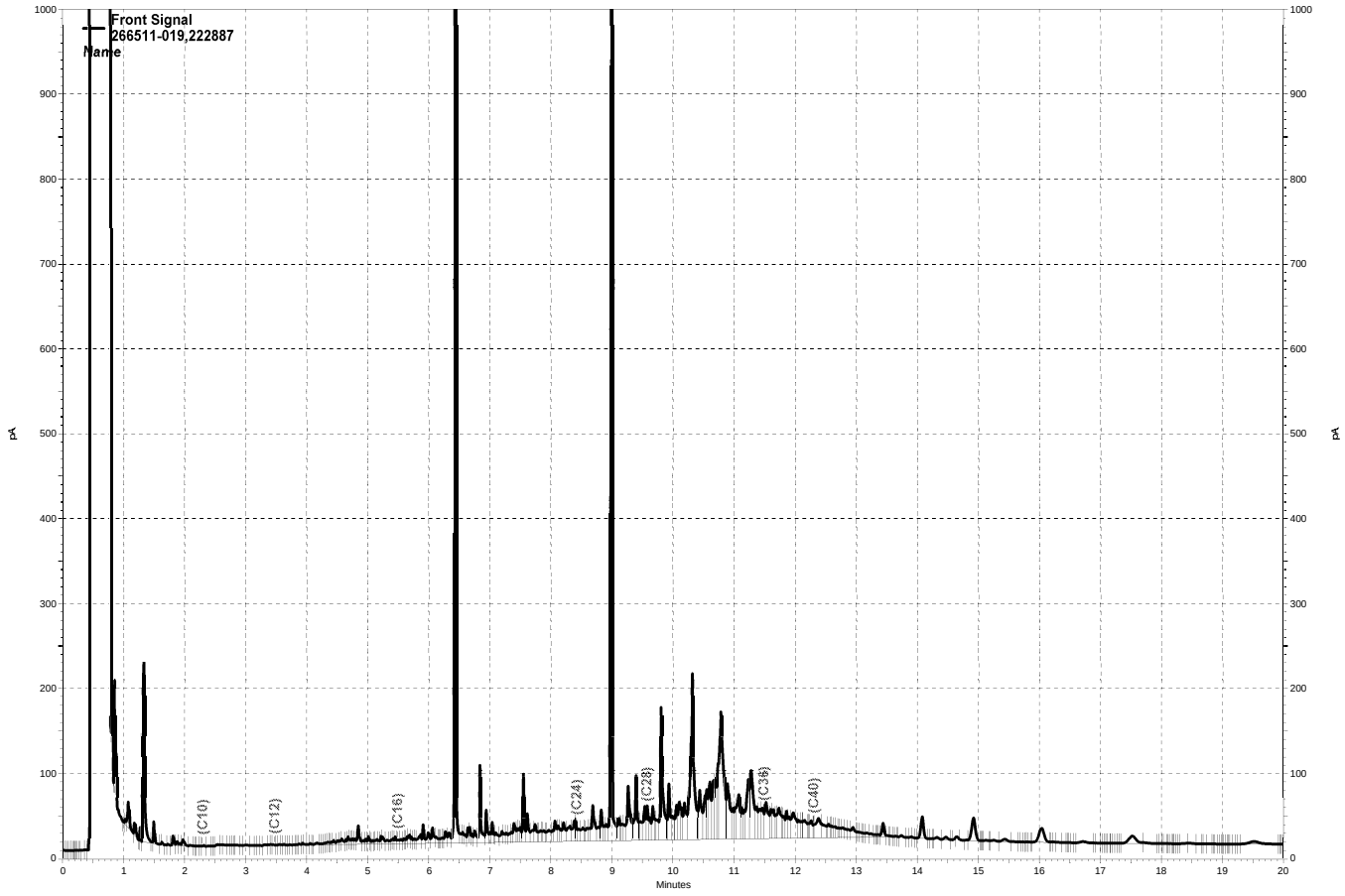
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a025.dat, Front Signal



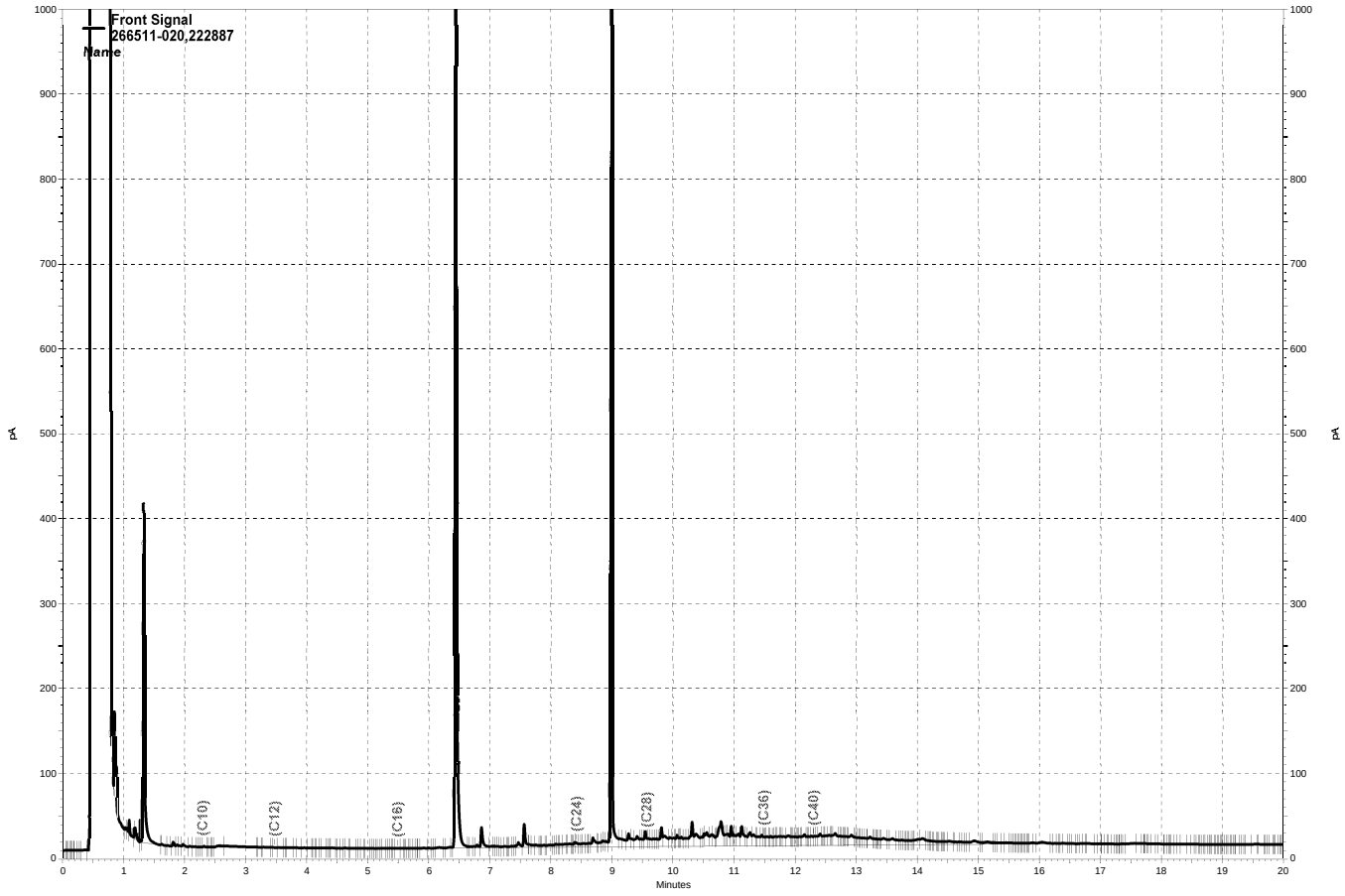
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a049.dat, Front Signal



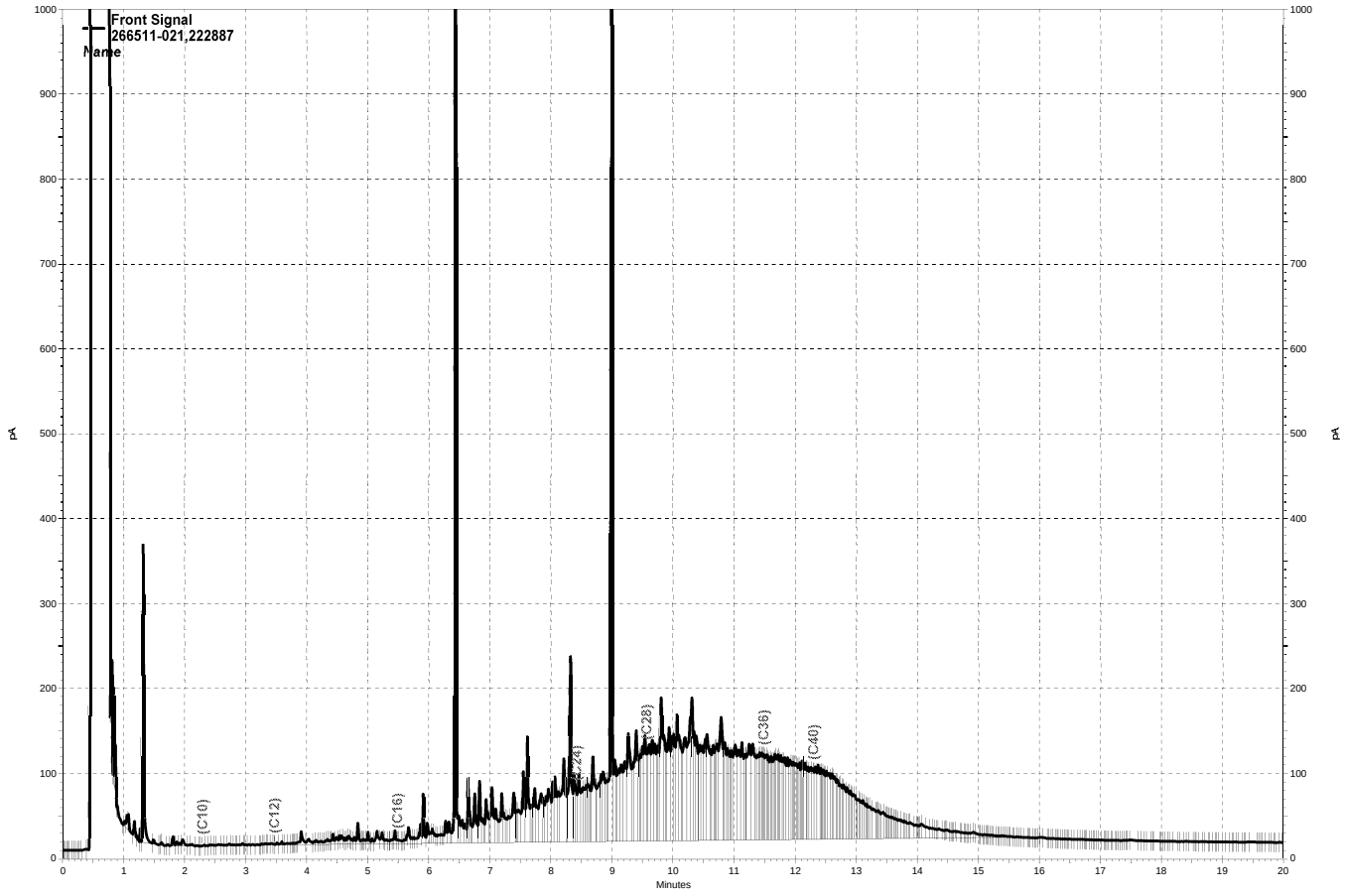
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a037.dat, Front Signal



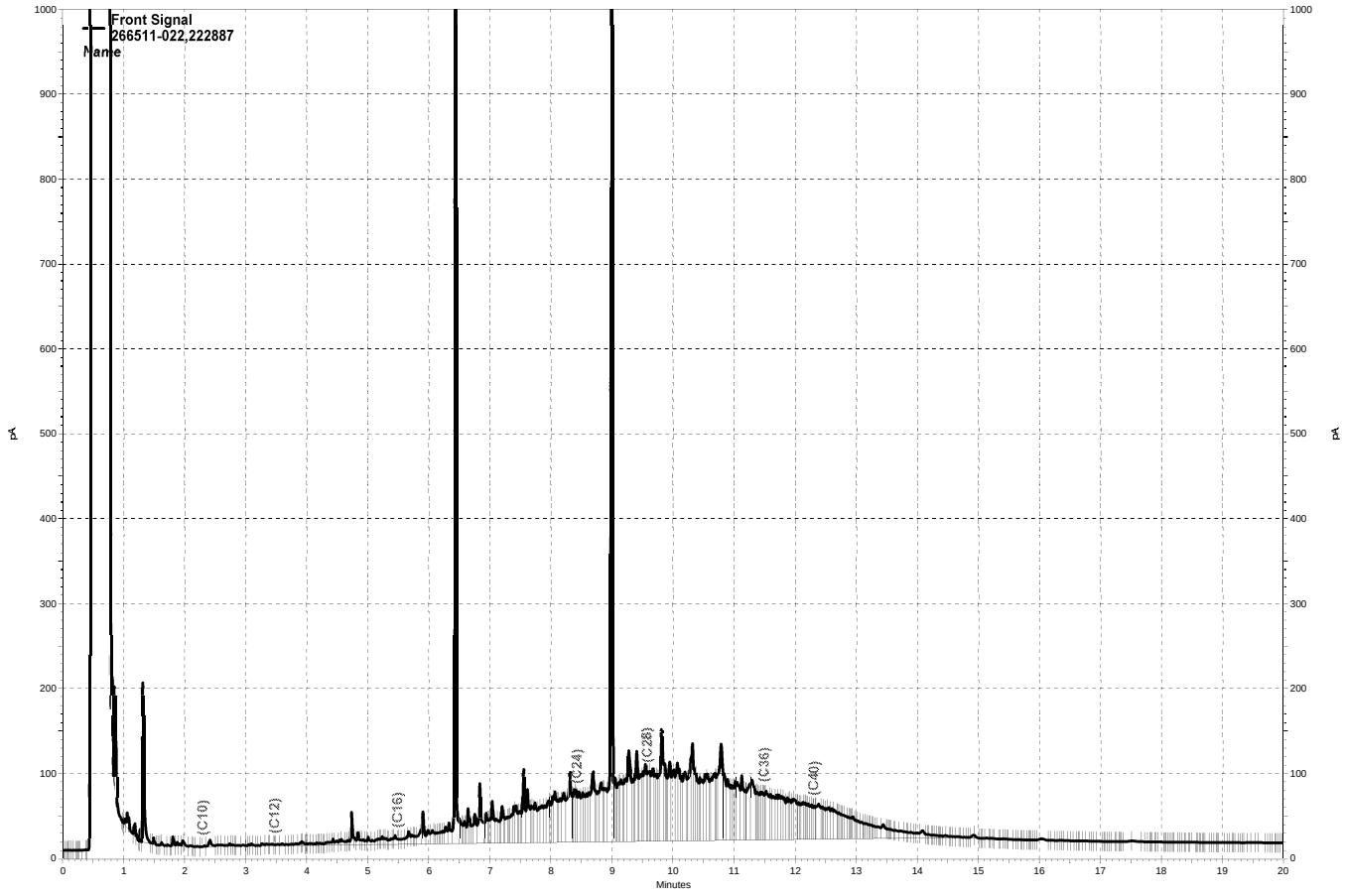
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a038.dat, Front Signal



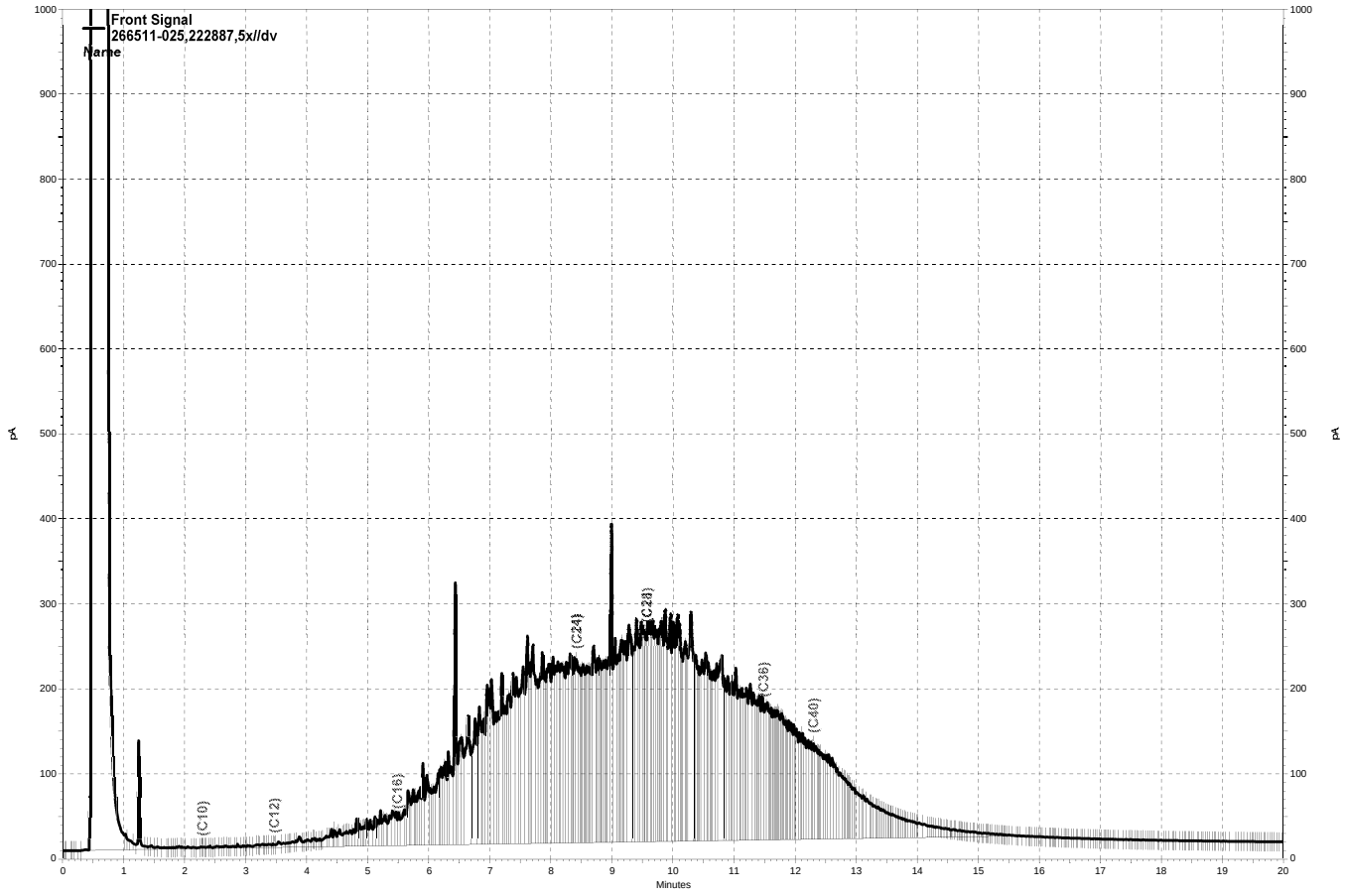
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a039.dat, Front Signal



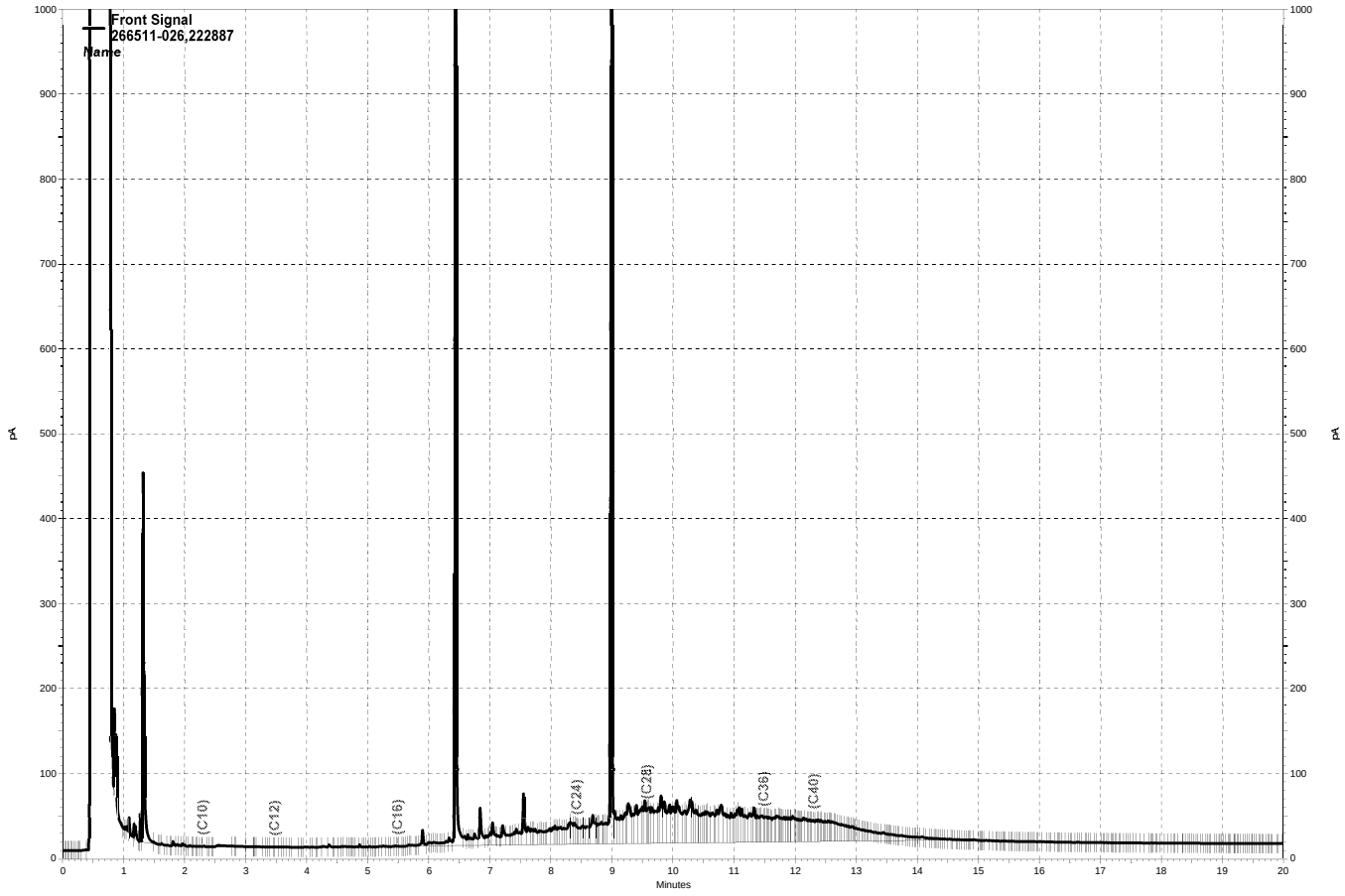
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a040.dat, Front Signal



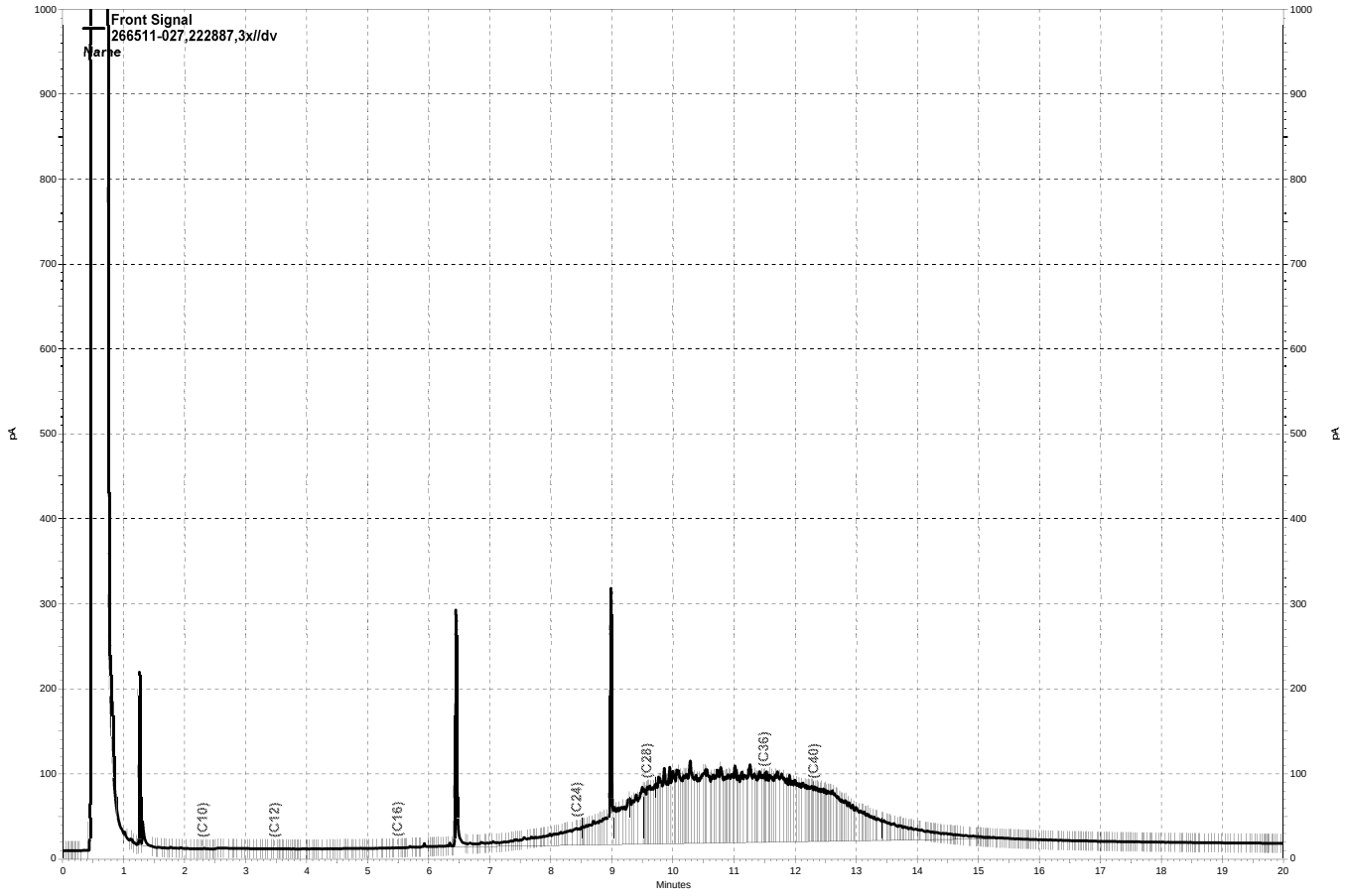
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a041.dat, Front Signal



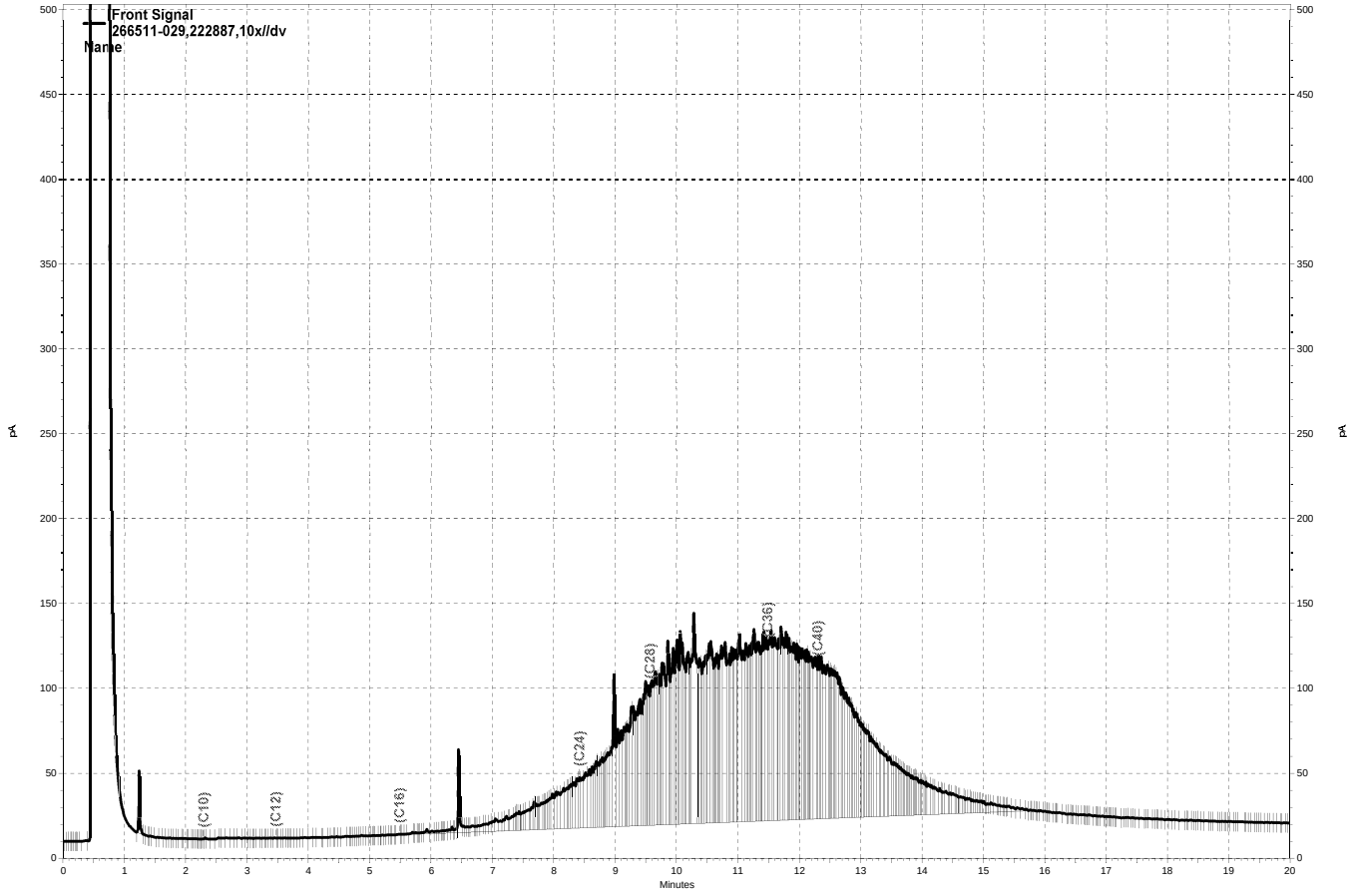
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a051.dat, Front Signal



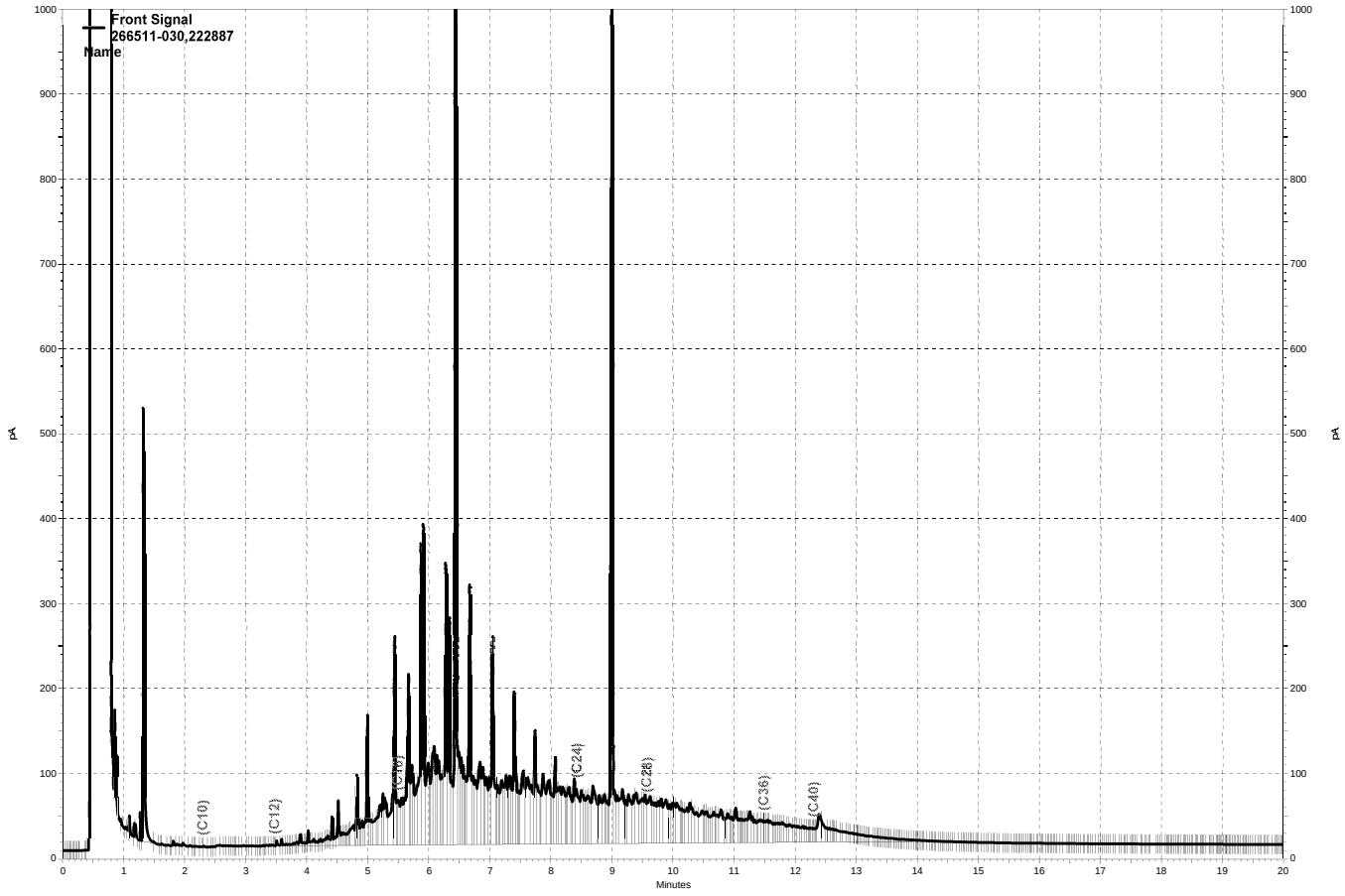
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a054.dat, Front Signal



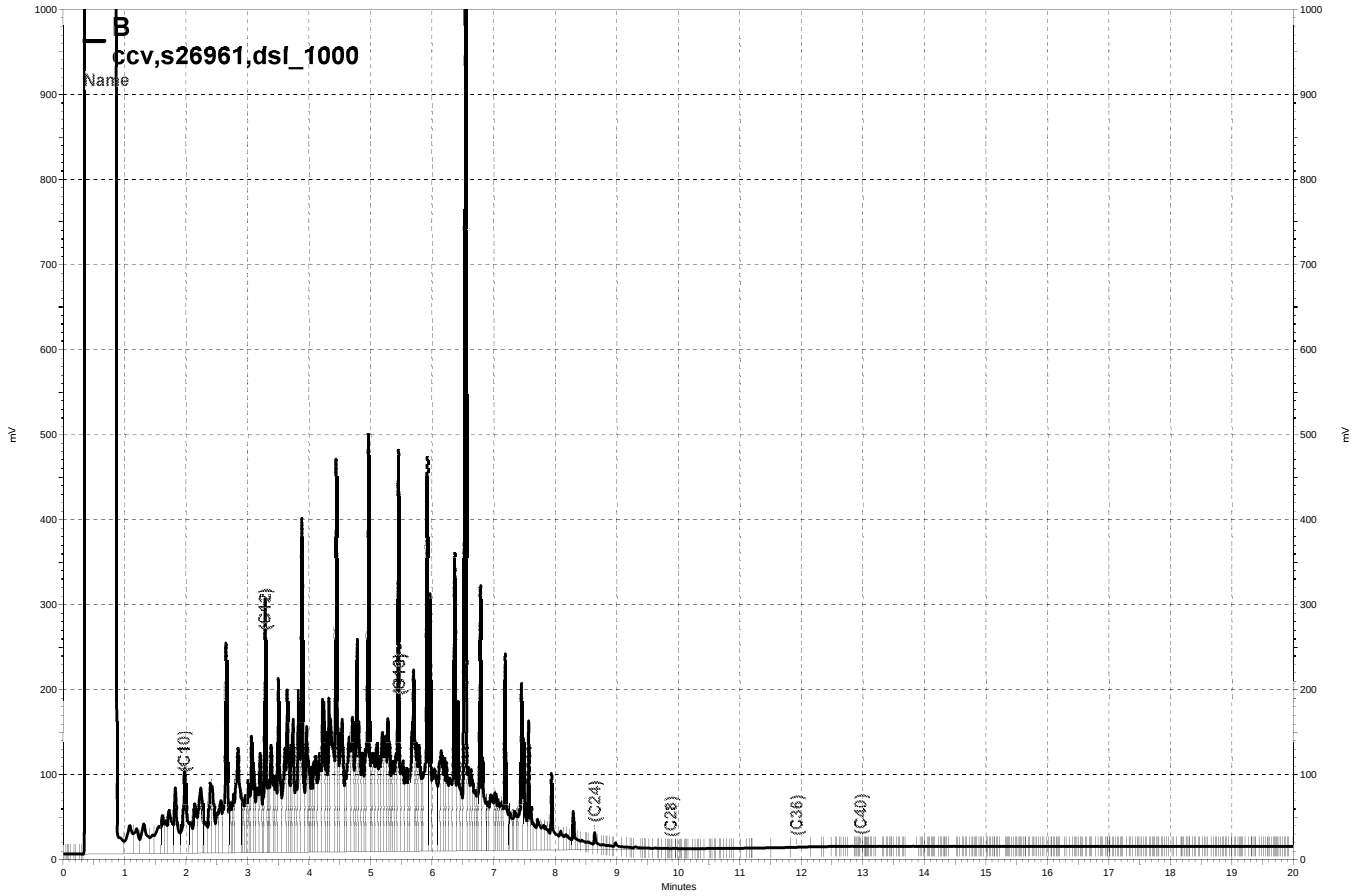
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a050.dat, Front Signal



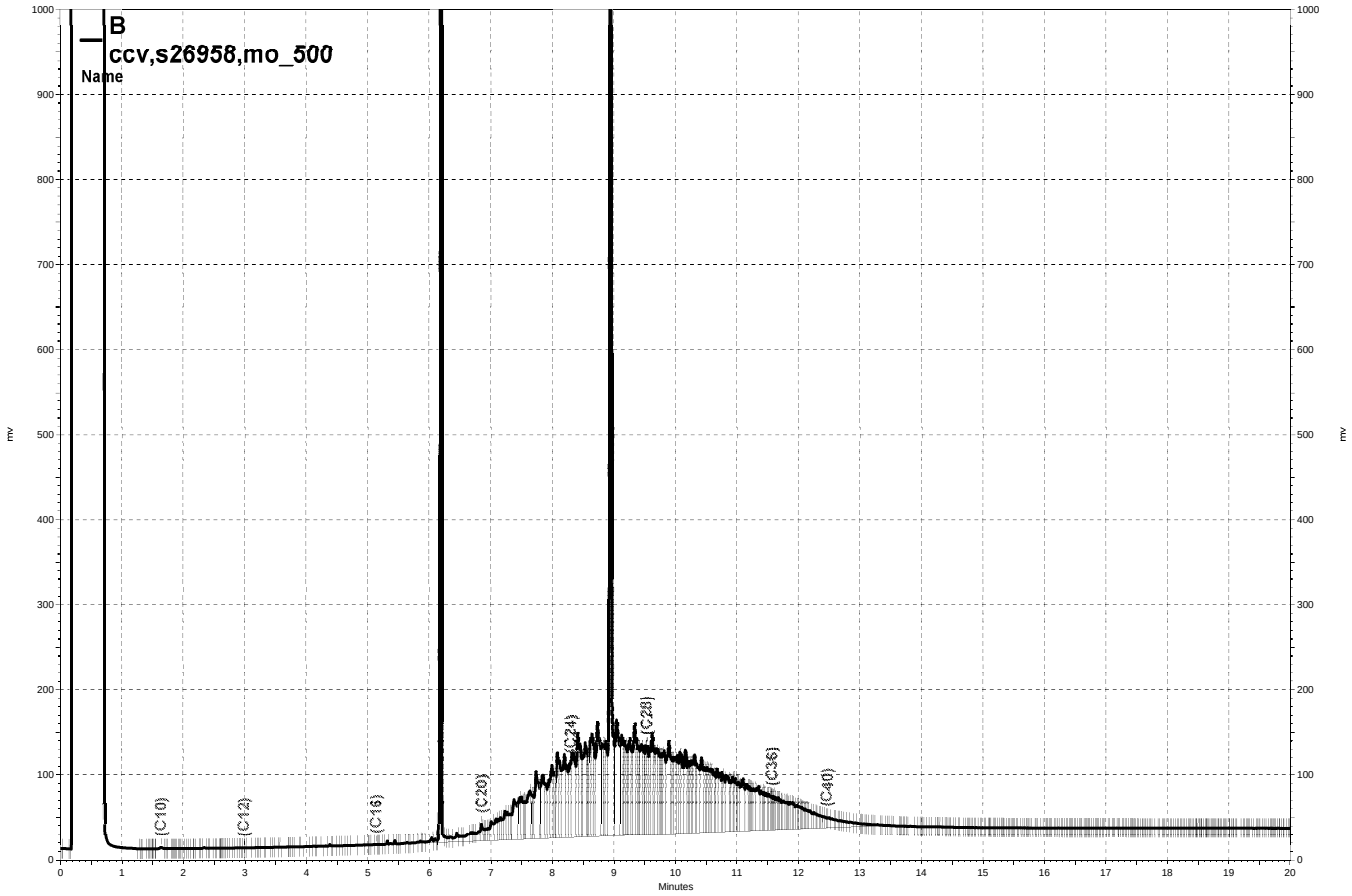
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a052.dat, Front Signal



\\lims\gdrive\ezchrom\Projects\GC27\Data\125a056.dat, Front Signal



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\125b024, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b049, B

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RB43015	Batch#:	222818
Lab ID:	266511-001	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RB43015	Batch#:	222818
Lab ID:	266511-001	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	121	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(GW)	Batch#:	222888
Lab ID:	266511-002	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/06/15
Diln Fac:	4.000		

Analyte	Result	RL
Freon 12	ND	4.0
Chloromethane	ND	4.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	4.0
Chloroethane	ND	4.0
Trichlorofluoromethane	ND	4.0
Acetone	ND	40
Freon 113	ND	8.0
1,1-Dichloroethene	ND	2.0
Methylene Chloride	ND	40
Carbon Disulfide	ND	2.0
MTBE	2.6	2.0
trans-1,2-Dichloroethene	ND	2.0
Vinyl Acetate	ND	40
1,1-Dichloroethane	ND	2.0
2-Butanone	ND	40
cis-1,2-Dichloroethene	ND	2.0
2,2-Dichloropropane	ND	2.0
Chloroform	ND	2.0
Bromochloromethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1-Dichloropropene	ND	2.0
Carbon Tetrachloride	ND	2.0
1,2-Dichloroethane	ND	2.0
Benzene	ND	2.0
Trichloroethene	ND	2.0
1,2-Dichloropropane	ND	2.0
Bromodichloromethane	ND	2.0
Dibromomethane	ND	2.0
4-Methyl-2-Pentanone	ND	40
cis-1,3-Dichloropropene	ND	2.0
Toluene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
2-Hexanone	ND	40
1,3-Dichloropropane	ND	2.0
Tetrachloroethene	ND	2.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(GW)	Batch#:	222888
Lab ID:	266511-002	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/06/15
Diln Fac:	4.000		

Analyte	Result	RL
Dibromochloromethane	ND	2.0
1,2-Dibromoethane	ND	2.0
Chlorobenzene	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Ethylbenzene	ND	2.0
m,p-Xylenes	ND	2.0
o-Xylene	ND	2.0
Styrene	ND	2.0
Bromoform	ND	4.0
Isopropylbenzene	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Propylbenzene	ND	2.0
Bromobenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
4-Chlorotoluene	ND	2.0
tert-Butylbenzene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
sec-Butylbenzene	ND	2.0
para-Isopropyl Toluene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
n-Butylbenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,2-Dibromo-3-Chloropropane	ND	8.0
1,2,4-Trichlorobenzene	ND	2.0
Hexachlorobutadiene	ND	8.0
Naphthalene	ND	8.0
1,2,3-Trichlorobenzene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	DUP4/30/15	Batch#:	222818
Lab ID:	266511-003	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	3.333		

Analyte	Result	RL
Freon 12	ND	3.3
Chloromethane	ND	3.3
Vinyl Chloride	ND	1.7
Bromomethane	ND	3.3
Chloroethane	ND	3.3
Trichlorofluoromethane	ND	3.3
Acetone	ND	33
Freon 113	ND	6.7
1,1-Dichloroethene	ND	1.7
Methylene Chloride	ND	33
Carbon Disulfide	ND	1.7
MTBE	2.6	1.7
trans-1,2-Dichloroethene	ND	1.7
Vinyl Acetate	ND	33
1,1-Dichloroethane	ND	1.7
2-Butanone	ND	33
cis-1,2-Dichloroethene	ND	1.7
2,2-Dichloropropane	ND	1.7
Chloroform	ND	1.7
Bromochloromethane	ND	1.7
1,1,1-Trichloroethane	ND	1.7
1,1-Dichloropropene	ND	1.7
Carbon Tetrachloride	ND	1.7
1,2-Dichloroethane	ND	1.7
Benzene	ND	1.7
Trichloroethene	ND	1.7
1,2-Dichloropropane	ND	1.7
Bromodichloromethane	ND	1.7
Dibromomethane	ND	1.7
4-Methyl-2-Pentanone	ND	33
cis-1,3-Dichloropropene	ND	1.7
Toluene	ND	1.7
trans-1,3-Dichloropropene	ND	1.7
1,1,2-Trichloroethane	ND	1.7
2-Hexanone	ND	33
1,3-Dichloropropane	ND	1.7
Tetrachloroethene	ND	1.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	DUP4/30/15	Batch#:	222818
Lab ID:	266511-003	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	3.333		

Analyte	Result	RL
Dibromochloromethane	ND	1.7
1,2-Dibromoethane	ND	1.7
Chlorobenzene	ND	1.7
1,1,1,2-Tetrachloroethane	ND	1.7
Ethylbenzene	ND	1.7
m,p-Xylenes	ND	1.7
o-Xylene	ND	1.7
Styrene	ND	1.7
Bromoform	ND	3.3
Isopropylbenzene	ND	1.7
1,1,2,2-Tetrachloroethane	ND	1.7
1,2,3-Trichloropropane	ND	1.7
Propylbenzene	ND	1.7
Bromobenzene	ND	1.7
1,3,5-Trimethylbenzene	ND	1.7
2-Chlorotoluene	ND	1.7
4-Chlorotoluene	ND	1.7
tert-Butylbenzene	ND	1.7
1,2,4-Trimethylbenzene	ND	1.7
sec-Butylbenzene	ND	1.7
para-Isopropyl Toluene	ND	1.7
1,3-Dichlorobenzene	ND	1.7
1,4-Dichlorobenzene	ND	1.7
n-Butylbenzene	ND	1.7
1,2-Dichlorobenzene	ND	1.7
1,2-Dibromo-3-Chloropropane	ND	6.7
1,2,4-Trichlorobenzene	ND	1.7
Hexachlorobutadiene	ND	6.7
Naphthalene	ND	6.7
1,2,3-Trichlorobenzene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	127	75-139
Toluene-d8	113	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB4/30/15	Batch#:	222818
Lab ID:	266511-004	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB4/30/15	Batch#:	222818
Lab ID:	266511-004	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	120	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	118	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(GW)	Batch#:	222866
Lab ID:	266511-005	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
Chloromethane	ND	5.0
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Chloroethane	ND	5.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	50
Freon 113	ND	10
1,1-Dichloroethene	ND	2.5
Methylene Chloride	ND	50
Carbon Disulfide	ND	2.5
MTBE	ND	2.5
trans-1,2-Dichloroethene	ND	2.5
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	2.5
2-Butanone	ND	50
cis-1,2-Dichloroethene	ND	2.5
2,2-Dichloropropane	ND	2.5
Chloroform	ND	2.5
Bromochloromethane	ND	2.5
1,1,1-Trichloroethane	ND	2.5
1,1-Dichloropropene	ND	2.5
Carbon Tetrachloride	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	ND	2.5
Trichloroethene	ND	2.5
1,2-Dichloropropane	ND	2.5
Bromodichloromethane	ND	2.5
Dibromomethane	ND	2.5
4-Methyl-2-Pentanone	ND	50
cis-1,3-Dichloropropene	ND	2.5
Toluene	ND	2.5
trans-1,3-Dichloropropene	ND	2.5
1,1,2-Trichloroethane	ND	2.5
2-Hexanone	ND	50
1,3-Dichloropropane	ND	2.5
Tetrachloroethene	ND	2.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(GW)	Batch#:	222866
Lab ID:	266511-005	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	5.000		

Analyte	Result	RL
Dibromochloromethane	ND	2.5
1,2-Dibromoethane	ND	2.5
Chlorobenzene	ND	2.5
1,1,1,2-Tetrachloroethane	ND	2.5
Ethylbenzene	ND	2.5
m,p-Xylenes	ND	2.5
o-Xylene	ND	2.5
Styrene	ND	2.5
Bromoform	ND	5.0
Isopropylbenzene	ND	2.5
1,1,2,2-Tetrachloroethane	ND	2.5
1,2,3-Trichloropropane	ND	2.5
Propylbenzene	ND	2.5
Bromobenzene	ND	2.5
1,3,5-Trimethylbenzene	ND	2.5
2-Chlorotoluene	ND	2.5
4-Chlorotoluene	ND	2.5
tert-Butylbenzene	ND	2.5
1,2,4-Trimethylbenzene	ND	2.5
sec-Butylbenzene	ND	2.5
para-Isopropyl Toluene	ND	2.5
1,3-Dichlorobenzene	ND	2.5
1,4-Dichlorobenzene	ND	2.5
n-Butylbenzene	ND	2.5
1,2-Dichlorobenzene	ND	2.5
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	2.5
Hexachlorobutadiene	ND	10
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(GW)	Batch#:	222866
Lab ID:	266511-006	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	10.00		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	5.0
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
Acetone	ND	100
Freon 113	ND	20
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	100
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	100
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	100
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	100
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	100
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(GW)	Batch#:	222866
Lab ID:	266511-006	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	10.00		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	10
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	20
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	20
Naphthalene	ND	20
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(GW)	Batch#:	222866
Lab ID:	266511-007	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	4.000		

Analyte	Result	RL
Freon 12	ND	4.0
Chloromethane	ND	4.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	4.0
Chloroethane	ND	4.0
Trichlorofluoromethane	ND	4.0
Acetone	ND	40
Freon 113	ND	8.0
1,1-Dichloroethene	ND	2.0
Methylene Chloride	ND	40
Carbon Disulfide	ND	2.0
MTBE	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Vinyl Acetate	ND	40
1,1-Dichloroethane	ND	2.0
2-Butanone	ND	40
cis-1,2-Dichloroethene	ND	2.0
2,2-Dichloropropane	ND	2.0
Chloroform	ND	2.0
Bromochloromethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1-Dichloropropene	ND	2.0
Carbon Tetrachloride	ND	2.0
1,2-Dichloroethane	ND	2.0
Benzene	ND	2.0
Trichloroethene	ND	2.0
1,2-Dichloropropane	ND	2.0
Bromodichloromethane	ND	2.0
Dibromomethane	ND	2.0
4-Methyl-2-Pentanone	ND	40
cis-1,3-Dichloropropene	ND	2.0
Toluene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
2-Hexanone	ND	40
1,3-Dichloropropane	ND	2.0
Tetrachloroethene	ND	2.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(GW)	Batch#:	222866
Lab ID:	266511-007	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	4.000		

Analyte	Result	RL
Dibromochloromethane	ND	2.0
1,2-Dibromoethane	ND	2.0
Chlorobenzene	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Ethylbenzene	ND	2.0
m,p-Xylenes	ND	2.0
o-Xylene	ND	2.0
Styrene	ND	2.0
Bromoform	ND	4.0
Isopropylbenzene	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Propylbenzene	ND	2.0
Bromobenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
4-Chlorotoluene	ND	2.0
tert-Butylbenzene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
sec-Butylbenzene	ND	2.0
para-Isopropyl Toluene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
n-Butylbenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,2-Dibromo-3-Chloropropane	ND	8.0
1,2,4-Trichlorobenzene	ND	2.0
Hexachlorobutadiene	ND	8.0
Naphthalene	ND	8.0
1,2,3-Trichlorobenzene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(GW)	Batch#:	222866
Lab ID:	266511-008	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	10.00		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	5.0
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
Acetone	ND	100
Freon 113	ND	20
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	100
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	100
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	100
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	100
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	100
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(GW)	Batch#:	222866
Lab ID:	266511-008	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	10.00		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	540	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	10
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	20
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	20
Naphthalene	ND	20
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(GW)	Batch#:	222866
Lab ID:	266511-009	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	3.333		

Analyte	Result	RL
Freon 12	ND	3.3
Chloromethane	ND	3.3
Vinyl Chloride	ND	1.7
Bromomethane	ND	3.3
Chloroethane	ND	3.3
Trichlorofluoromethane	ND	3.3
Acetone	ND	33
Freon 113	ND	6.7
1,1-Dichloroethene	ND	1.7
Methylene Chloride	ND	33
Carbon Disulfide	ND	1.7
MTBE	ND	1.7
trans-1,2-Dichloroethene	ND	1.7
Vinyl Acetate	ND	33
1,1-Dichloroethane	ND	1.7
2-Butanone	ND	33
cis-1,2-Dichloroethene	ND	1.7
2,2-Dichloropropane	ND	1.7
Chloroform	ND	1.7
Bromochloromethane	ND	1.7
1,1,1-Trichloroethane	ND	1.7
1,1-Dichloropropene	ND	1.7
Carbon Tetrachloride	ND	1.7
1,2-Dichloroethane	ND	1.7
Benzene	ND	1.7
Trichloroethene	ND	1.7
1,2-Dichloropropane	ND	1.7
Bromodichloromethane	ND	1.7
Dibromomethane	ND	1.7
4-Methyl-2-Pentanone	ND	33
cis-1,3-Dichloropropene	ND	1.7
Toluene	ND	1.7
trans-1,3-Dichloropropene	ND	1.7
1,1,2-Trichloroethane	ND	1.7
2-Hexanone	ND	33
1,3-Dichloropropane	ND	1.7
Tetrachloroethene	ND	1.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(GW)	Batch#:	222866
Lab ID:	266511-009	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	3.333		

Analyte	Result	RL
Dibromochloromethane	ND	1.7
1,2-Dibromoethane	ND	1.7
Chlorobenzene	ND	1.7
1,1,1,2-Tetrachloroethane	ND	1.7
Ethylbenzene	ND	1.7
m,p-Xylenes	ND	1.7
o-Xylene	ND	1.7
Styrene	ND	1.7
Bromoform	ND	3.3
Isopropylbenzene	ND	1.7
1,1,2,2-Tetrachloroethane	ND	1.7
1,2,3-Trichloropropane	ND	1.7
Propylbenzene	ND	1.7
Bromobenzene	ND	1.7
1,3,5-Trimethylbenzene	ND	1.7
2-Chlorotoluene	ND	1.7
4-Chlorotoluene	ND	1.7
tert-Butylbenzene	ND	1.7
1,2,4-Trimethylbenzene	ND	1.7
sec-Butylbenzene	ND	1.7
para-Isopropyl Toluene	ND	1.7
1,3-Dichlorobenzene	ND	1.7
1,4-Dichlorobenzene	ND	1.7
n-Butylbenzene	ND	1.7
1,2-Dichlorobenzene	ND	1.7
1,2-Dibromo-3-Chloropropane	ND	6.7
1,2,4-Trichlorobenzene	ND	1.7
Hexachlorobutadiene	ND	6.7
Naphthalene	ND	6.7
1,2,3-Trichlorobenzene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	91	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222818
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786464

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	10.13	81	66-135
Benzene	12.50	12.48	100	80-123
Trichloroethene	12.50	11.08	89	80-123
Toluene	12.50	11.75	94	80-121
Chlorobenzene	12.50	10.82	87	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC786465

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.17	89	66-135	10	24
Benzene	12.50	13.60	109	80-123	9	20
Trichloroethene	12.50	12.36	99	80-123	11	20
Toluene	12.50	12.88	103	80-121	9	20
Chlorobenzene	12.50	11.81	94	80-123	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	108	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786466	Batch#:	222818
Matrix:	Water	Analyzed:	05/04/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786466	Batch#:	222818
Matrix:	Water	Analyzed:	05/04/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	120	75-139
Toluene-d8	111	80-120
Bromofluorobenzene	111	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222866
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786650

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.79	110	66-135
Benzene	12.50	13.90	111	80-123
Trichloroethene	12.50	12.71	102	80-123
Toluene	12.50	13.63	109	80-121
Chlorobenzene	12.50	12.22	98	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC786651

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	12.15	97	66-135	13	24
Benzene	12.50	13.17	105	80-123	5	20
Trichloroethene	12.50	12.38	99	80-123	3	20
Toluene	12.50	12.90	103	80-121	6	20
Chlorobenzene	12.50	12.24	98	80-123	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786652	Batch#:	222866
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786652	Batch#:	222866
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	110	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222888
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786740

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	11.47	92	66-135
Benzene	12.50	12.70	102	80-123
Trichloroethene	12.50	12.37	99	80-123
Toluene	12.50	13.01	104	80-121
Chlorobenzene	12.50	13.03	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-120

Type: BSD Lab ID: QC786741

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	9.629	77	66-135	17	24
Benzene	12.50	11.08	89	80-123	14	20
Trichloroethene	12.50	10.62	85	80-123	15	20
Toluene	12.50	11.10	89	80-121	16	20
Chlorobenzene	12.50	11.18	89	80-123	15	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786742	Batch#:	222888
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786742	Batch#:	222888
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(2)	Dil'n Fac:	0.9653
Lab ID:	266511-011	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 8%

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.2
Acetone	48	21
Freon 113	ND	5.2
1,1-Dichloroethene	ND	5.2
Methylene Chloride	ND	21
Carbon Disulfide	ND	5.2
MTBE	ND	5.2
trans-1,2-Dichloroethene	ND	5.2
Vinyl Acetate	ND	52
1,1-Dichloroethane	ND	5.2
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.2
2,2-Dichloropropane	ND	5.2
Chloroform	ND	5.2
Bromochloromethane	ND	5.2
1,1,1-Trichloroethane	ND	5.2
1,1-Dichloropropene	ND	5.2
Carbon Tetrachloride	ND	5.2
1,2-Dichloroethane	ND	5.2
Benzene	ND	5.2
Trichloroethene	ND	5.2
1,2-Dichloropropane	ND	5.2
Bromodichloromethane	ND	5.2
Dibromomethane	ND	5.2
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.2
Toluene	ND	5.2
trans-1,3-Dichloropropene	ND	5.2
1,1,2-Trichloroethane	ND	5.2
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.2
Tetrachloroethene	ND	5.2
Dibromochloromethane	ND	5.2
1,2-Dibromoethane	ND	5.2
Chlorobenzene	ND	5.2
1,1,1,2-Tetrachloroethane	ND	5.2
Ethylbenzene	ND	5.2
m,p-Xylenes	ND	5.2
o-Xylene	ND	5.2
Styrene	ND	5.2
Bromoform	ND	5.2
Isopropylbenzene	ND	5.2
1,1,2,2-Tetrachloroethane	ND	5.2
1,2,3-Trichloropropane	ND	5.2
Propylbenzene	ND	5.2
Bromobenzene	ND	5.2

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(2)	Dil'n Fac:	0.9653
Lab ID:	266511-011	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
1,3,5-Trimethylbenzene	ND	5.2
2-Chlorotoluene	ND	5.2
4-Chlorotoluene	ND	5.2
tert-Butylbenzene	ND	5.2
1,2,4-Trimethylbenzene	ND	5.2
sec-Butylbenzene	ND	5.2
para-Isopropyl Toluene	ND	5.2
1,3-Dichlorobenzene	ND	5.2
1,4-Dichlorobenzene	ND	5.2
n-Butylbenzene	ND	5.2
1,2-Dichlorobenzene	ND	5.2
1,2-Dibromo-3-Chloropropane	ND	5.2
1,2,4-Trichlorobenzene	ND	5.2
Hexachlorobutadiene	ND	5.2
Naphthalene	ND	5.2
1,2,3-Trichlorobenzene	ND	5.2

Surrogate	%REC	Limits
Dibromofluoromethane	119	78-134
1,2-Dichloroethane-d4	141 *	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	107	78-123

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(4.3)	Dil'n Fac:	0.9363
Lab ID:	266511-012	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 11%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.3
Acetone	ND	21
Freon 113	ND	5.3
1,1-Dichloroethene	ND	5.3
Methylene Chloride	ND	21
Carbon Disulfide	ND	5.3
MTBE	ND	5.3
trans-1,2-Dichloroethene	ND	5.3
Vinyl Acetate	ND	53
1,1-Dichloroethane	ND	5.3
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.3
2,2-Dichloropropane	ND	5.3
Chloroform	ND	5.3
Bromochloromethane	ND	5.3
1,1,1-Trichloroethane	ND	5.3
1,1-Dichloropropene	ND	5.3
Carbon Tetrachloride	ND	5.3
1,2-Dichloroethane	ND	5.3
Benzene	ND	5.3
Trichloroethene	ND	5.3
1,2-Dichloropropane	ND	5.3
Bromodichloromethane	ND	5.3
Dibromomethane	ND	5.3
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.3
Toluene	ND	5.3
trans-1,3-Dichloropropene	ND	5.3
1,1,2-Trichloroethane	ND	5.3
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.3
Tetrachloroethene	ND	5.3
Dibromochloromethane	ND	5.3
1,2-Dibromoethane	ND	5.3
Chlorobenzene	ND	5.3
1,1,1,2-Tetrachloroethane	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3
Styrene	ND	5.3
Bromoform	ND	5.3
Isopropylbenzene	ND	5.3
1,1,2,2-Tetrachloroethane	ND	5.3
1,2,3-Trichloropropane	ND	5.3
Propylbenzene	ND	5.3
Bromobenzene	ND	5.3
1,3,5-Trimethylbenzene	ND	5.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(4.3)	Dil'n Fac:	0.9363
Lab ID:	266511-012	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.3
4-Chlorotoluene	ND	5.3
tert-Butylbenzene	ND	5.3
1,2,4-Trimethylbenzene	ND	5.3
sec-Butylbenzene	ND	5.3
para-Isopropyl Toluene	ND	5.3
1,3-Dichlorobenzene	ND	5.3
1,4-Dichlorobenzene	ND	5.3
n-Butylbenzene	ND	5.3
1,2-Dichlorobenzene	ND	5.3
1,2-Dibromo-3-Chloropropane	ND	5.3
1,2,4-Trichlorobenzene	ND	5.3
Hexachlorobutadiene	ND	5.3
Naphthalene	ND	5.3
1,2,3-Trichlorobenzene	ND	5.3

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-134
1,2-Dichloroethane-d4	127	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(5)	Basis:	dry
Lab ID:	266511-013	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg		

Moisture: 18%

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	8.7	0.7102	222821	05/04/15
Chloromethane	ND	8.7	0.7102	222821	05/04/15
Vinyl Chloride	ND	8.7	0.7102	222821	05/04/15
Bromomethane	ND	8.7	0.7102	222821	05/04/15
Chloroethane	ND	8.7	0.7102	222821	05/04/15
Trichlorofluoromethane	ND	4.3	0.7102	222821	05/04/15
Acetone	59	17	0.7102	222821	05/04/15
Freon 113	ND	4.3	0.7102	222821	05/04/15
1,1-Dichloroethene	ND	4.3	0.7102	222821	05/04/15
Methylene Chloride	ND	17	0.7102	222821	05/04/15
Carbon Disulfide	ND	4.3	0.7102	222821	05/04/15
MTBE	ND	4.3	0.7102	222821	05/04/15
trans-1,2-Dichloroethene	ND	4.3	0.7102	222821	05/04/15
Vinyl Acetate	ND	43	0.7102	222821	05/04/15
1,1-Dichloroethane	ND	4.3	0.7102	222821	05/04/15
2-Butanone	ND	8.7	0.7102	222821	05/04/15
cis-1,2-Dichloroethene	ND	4.3	0.7102	222821	05/04/15
2,2-Dichloropropane	ND	4.3	0.7102	222821	05/04/15
Chloroform	ND	4.3	0.7102	222821	05/04/15
Bromochloromethane	ND	4.3	0.7102	222821	05/04/15
1,1,1-Trichloroethane	ND	4.3	0.7102	222821	05/04/15
1,1-Dichloropropene	ND	4.9	0.8104	222861	05/05/15
Carbon Tetrachloride	ND	4.9	0.8104	222861	05/05/15
1,2-Dichloroethane	ND	4.9	0.8104	222861	05/05/15
Benzene	ND	4.9	0.8104	222861	05/05/15
Trichloroethene	ND	4.9	0.8104	222861	05/05/15
1,2-Dichloropropane	ND	4.9	0.8104	222861	05/05/15
Bromodichloromethane	ND	4.9	0.8104	222861	05/05/15
Dibromomethane	ND	4.9	0.8104	222861	05/05/15
4-Methyl-2-Pentanone	ND	9.9	0.8104	222861	05/05/15
cis-1,3-Dichloropropene	ND	4.9	0.8104	222861	05/05/15
Toluene	ND	4.3	0.7102	222821	05/04/15
trans-1,3-Dichloropropene	ND	4.3	0.7102	222821	05/04/15
1,1,2-Trichloroethane	ND	4.3	0.7102	222821	05/04/15
2-Hexanone	ND	8.7	0.7102	222821	05/04/15
1,3-Dichloropropane	ND	4.3	0.7102	222821	05/04/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-11(5)	Basis:	dry
Lab ID:	266511-013	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Tetrachloroethene	ND	4.3	0.7102	222821	05/04/15
Dibromochloromethane	ND	4.3	0.7102	222821	05/04/15
1,2-Dibromoethane	ND	4.3	0.7102	222821	05/04/15
Chlorobenzene	ND	4.3	0.7102	222821	05/04/15
1,1,1,2-Tetrachloroethane	ND	4.3	0.7102	222821	05/04/15
Ethylbenzene	ND	4.3	0.7102	222821	05/04/15
m,p-Xylenes	ND	4.3	0.7102	222821	05/04/15
o-Xylene	ND	4.3	0.7102	222821	05/04/15
Styrene	ND	4.3	0.7102	222821	05/04/15
Bromoform	ND	4.3	0.7102	222821	05/04/15
Isopropylbenzene	ND	4.3	0.7102	222821	05/04/15
1,1,2,2-Tetrachloroethane	ND	4.3	0.7102	222821	05/04/15
1,2,3-Trichloropropane	ND	4.3	0.7102	222821	05/04/15
Propylbenzene	ND	4.3	0.7102	222821	05/04/15
Bromobenzene	ND	4.3	0.7102	222821	05/04/15
1,3,5-Trimethylbenzene	ND	4.3	0.7102	222821	05/04/15
2-Chlorotoluene	ND	4.3	0.7102	222821	05/04/15
4-Chlorotoluene	ND	4.3	0.7102	222821	05/04/15
tert-Butylbenzene	ND	4.3	0.7102	222821	05/04/15
1,2,4-Trimethylbenzene	ND	4.3	0.7102	222821	05/04/15
sec-Butylbenzene	ND	4.3	0.7102	222821	05/04/15
para-Isopropyl Toluene	ND	4.3	0.7102	222821	05/04/15
1,3-Dichlorobenzene	ND	4.3	0.7102	222821	05/04/15
1,4-Dichlorobenzene	ND	4.3	0.7102	222821	05/04/15
n-Butylbenzene	ND	4.3	0.7102	222821	05/04/15
1,2-Dichlorobenzene	ND	4.3	0.7102	222821	05/04/15
1,2-Dibromo-3-Chloropropane	ND	4.3	0.7102	222821	05/04/15
1,2,4-Trichlorobenzene	ND	4.3	0.7102	222821	05/04/15
Hexachlorobutadiene	ND	4.3	0.7102	222821	05/04/15
Naphthalene	ND	4.3	0.7102	222821	05/04/15
1,2,3-Trichlorobenzene	ND	4.3	0.7102	222821	05/04/15

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	105	78-134	0.7102	222821	05/04/15
1,2-Dichloroethane-d4	87	80-138	0.8104	222861	05/05/15
Toluene-d8	103	80-120	0.7102	222821	05/04/15
Bromofluorobenzene	102	78-123	0.7102	222821	05/04/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(2.5)	Dil'n Fac:	0.7740
Lab ID:	266511-014	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 9%

Analyte	Result	RL
Freon 12	ND	8.5
Chloromethane	ND	8.5
Vinyl Chloride	ND	8.5
Bromomethane	ND	8.5
Chloroethane	ND	8.5
Trichlorofluoromethane	ND	4.3
Acetone	20	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	ND	8.5
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.5
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.5
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(2.5)	Dil'n Fac:	0.7740
Lab ID:	266511-014	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	121	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(4.5)	Diln Fac:	0.8757
Lab ID:	266511-015	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 14%

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.1
Acetone	97	20
Freon 113	ND	5.1
1,1-Dichloroethene	ND	5.1
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.1
MTBE	ND	5.1
trans-1,2-Dichloroethene	ND	5.1
Vinyl Acetate	ND	51
1,1-Dichloroethane	ND	5.1
2-Butanone	15	10
cis-1,2-Dichloroethene	ND	5.1
2,2-Dichloropropane	ND	5.1
Chloroform	ND	5.1
Bromochloromethane	ND	5.1
1,1,1-Trichloroethane	ND	5.1
1,1-Dichloropropene	ND	5.1
Carbon Tetrachloride	ND	5.1
1,2-Dichloroethane	ND	5.1
Benzene	ND	5.1
Trichloroethene	ND	5.1
1,2-Dichloropropane	ND	5.1
Bromodichloromethane	ND	5.1
Dibromomethane	ND	5.1
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.1
Toluene	ND	5.1
trans-1,3-Dichloropropene	ND	5.1
1,1,2-Trichloroethane	ND	5.1
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.1
Tetrachloroethene	ND	5.1
Dibromochloromethane	ND	5.1
1,2-Dibromoethane	ND	5.1
Chlorobenzene	ND	5.1
1,1,1,2-Tetrachloroethane	ND	5.1
Ethylbenzene	ND	5.1
m,p-Xylenes	ND	5.1
o-Xylene	ND	5.1
Styrene	ND	5.1
Bromoform	ND	5.1
Isopropylbenzene	ND	5.1
1,1,2,2-Tetrachloroethane	ND	5.1
1,2,3-Trichloropropane	ND	5.1
Propylbenzene	ND	5.1
Bromobenzene	ND	5.1
1,3,5-Trimethylbenzene	ND	5.1

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(4.5)	Dil'n Fac:	0.8757
Lab ID:	266511-015	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.1
4-Chlorotoluene	ND	5.1
tert-Butylbenzene	ND	5.1
1,2,4-Trimethylbenzene	ND	5.1
sec-Butylbenzene	ND	5.1
para-Isopropyl Toluene	ND	5.1
1,3-Dichlorobenzene	ND	5.1
1,4-Dichlorobenzene	ND	5.1
n-Butylbenzene	ND	5.1
1,2-Dichlorobenzene	ND	5.1
1,2-Dibromo-3-Chloropropane	ND	5.1
1,2,4-Trichlorobenzene	ND	5.1
Hexachlorobutadiene	ND	5.1
Naphthalene	ND	5.1
1,2,3-Trichlorobenzene	ND	5.1

Surrogate	%REC	Limits
Dibromofluoromethane	118	78-134
1,2-Dichloroethane-d4	128	80-138
Toluene-d8	106	80-120
Bromofluorobenzene	115	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(8)	Dil'n Fac:	0.7716
Lab ID:	266511-016	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 40%

Analyte	Result	RL
Freon 12	ND	13
Chloromethane	ND	13
Vinyl Chloride	ND	13
Bromomethane	ND	13
Chloroethane	ND	13
Trichlorofluoromethane	ND	6.4
Acetone	120	26
Freon 113	ND	6.4
1,1-Dichloroethene	ND	6.4
Methylene Chloride	ND	26
Carbon Disulfide	ND	6.4
MTBE	ND	6.4
trans-1,2-Dichloroethene	ND	6.4
Vinyl Acetate	ND	64
1,1-Dichloroethane	ND	6.4
2-Butanone	22	13
cis-1,2-Dichloroethene	ND	6.4
2,2-Dichloropropane	ND	6.4
Chloroform	ND	6.4
Bromochloromethane	ND	6.4
1,1,1-Trichloroethane	ND	6.4
1,1-Dichloropropene	ND	6.4
Carbon Tetrachloride	ND	6.4
1,2-Dichloroethane	ND	6.4
Benzene	ND	6.4
Trichloroethene	ND	6.4
1,2-Dichloropropane	ND	6.4
Bromodichloromethane	ND	6.4
Dibromomethane	ND	6.4
4-Methyl-2-Pentanone	ND	13
cis-1,3-Dichloropropene	ND	6.4
Toluene	ND	6.4
trans-1,3-Dichloropropene	ND	6.4
1,1,2-Trichloroethane	ND	6.4
2-Hexanone	ND	13
1,3-Dichloropropane	ND	6.4
Tetrachloroethene	ND	6.4
Dibromochloromethane	ND	6.4
1,2-Dibromoethane	ND	6.4
Chlorobenzene	ND	6.4
1,1,1,2-Tetrachloroethane	ND	6.4
Ethylbenzene	ND	6.4
m,p-Xylenes	ND	6.4
o-Xylene	ND	6.4
Styrene	ND	6.4
Bromoform	ND	6.4
Isopropylbenzene	ND	6.4
1,1,2,2-Tetrachloroethane	ND	6.4
1,2,3-Trichloropropane	ND	6.4
Propylbenzene	ND	6.4
Bromobenzene	ND	6.4
1,3,5-Trimethylbenzene	ND	6.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-15(8)	Dil'n Fac:	0.7716
Lab ID:	266511-016	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	6.4
4-Chlorotoluene	ND	6.4
tert-Butylbenzene	ND	6.4
1,2,4-Trimethylbenzene	ND	6.4
sec-Butylbenzene	ND	6.4
para-Isopropyl Toluene	ND	6.4
1,3-Dichlorobenzene	ND	6.4
1,4-Dichlorobenzene	ND	6.4
n-Butylbenzene	ND	6.4
1,2-Dichlorobenzene	ND	6.4
1,2-Dibromo-3-Chloropropane	ND	6.4
1,2,4-Trichlorobenzene	ND	6.4
Hexachlorobutadiene	ND	6.4
Naphthalene	ND	6.4
1,2,3-Trichlorobenzene	ND	6.4

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-134
1,2-Dichloroethane-d4	119	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	101	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(2.5)	Dil'n Fac:	0.8065
Lab ID:	266511-017	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	9.2
Chloromethane	ND	9.2
Vinyl Chloride	ND	9.2
Bromomethane	ND	9.2
Chloroethane	ND	9.2
Trichlorofluoromethane	ND	4.6
Acetone	33	18
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.2
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.2
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.2
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(2.5)	Dil'n Fac:	0.8065
Lab ID:	266511-017	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-134
1,2-Dichloroethane-d4	117	80-138
Toluene-d8	98	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(4.5)	Diln Fac:	0.8913
Lab ID:	266511-018	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 11%

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	27	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(4.5)	Dil'n Fac:	0.8913
Lab ID:	266511-018	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-134
1,2-Dichloroethane-d4	116	80-138
Toluene-d8	100	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(7.6)	Diln Fac:	0.8834
Lab ID:	266511-019	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 17%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.3
Acetone	54	21
Freon 113	ND	5.3
1,1-Dichloroethene	ND	5.3
Methylene Chloride	ND	21
Carbon Disulfide	ND	5.3
MTBE	ND	5.3
trans-1,2-Dichloroethene	ND	5.3
Vinyl Acetate	ND	53
1,1-Dichloroethane	ND	5.3
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.3
2,2-Dichloropropane	ND	5.3
Chloroform	ND	5.3
Bromochloromethane	ND	5.3
1,1,1-Trichloroethane	ND	5.3
1,1-Dichloropropene	ND	5.3
Carbon Tetrachloride	ND	5.3
1,2-Dichloroethane	ND	5.3
Benzene	ND	5.3
Trichloroethene	ND	5.3
1,2-Dichloropropane	ND	5.3
Bromodichloromethane	ND	5.3
Dibromomethane	ND	5.3
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.3
Toluene	ND	5.3
trans-1,3-Dichloropropene	ND	5.3
1,1,2-Trichloroethane	ND	5.3
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.3
Tetrachloroethene	ND	5.3
Dibromochloromethane	ND	5.3
1,2-Dibromoethane	ND	5.3
Chlorobenzene	ND	5.3
1,1,1,2-Tetrachloroethane	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3
Styrene	ND	5.3
Bromoform	ND	5.3
Isopropylbenzene	ND	5.3
1,1,2,2-Tetrachloroethane	ND	5.3
1,2,3-Trichloropropane	ND	5.3
Propylbenzene	ND	5.3
Bromobenzene	ND	5.3
1,3,5-Trimethylbenzene	ND	5.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-16(7.6)	Dil'n Fac:	0.8834
Lab ID:	266511-019	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.3
4-Chlorotoluene	ND	5.3
tert-Butylbenzene	ND	5.3
1,2,4-Trimethylbenzene	ND	5.3
sec-Butylbenzene	ND	5.3
para-Isopropyl Toluene	ND	5.3
1,3-Dichlorobenzene	ND	5.3
1,4-Dichlorobenzene	ND	5.3
n-Butylbenzene	ND	5.3
1,2-Dichlorobenzene	ND	5.3
1,2-Dibromo-3-Chloropropane	ND	5.3
1,2,4-Trichlorobenzene	ND	5.3
Hexachlorobutadiene	ND	5.3
Naphthalene	ND	5.3
1,2,3-Trichlorobenzene	ND	5.3

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	120	80-138
Toluene-d8	103	80-120
Bromofluorobenzene	108	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(2)	Dil'n Fac:	0.8532
Lab ID:	266511-020	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 10%

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.7
Acetone	23	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(2)	Dil'n Fac:	0.8532
Lab ID:	266511-020	Batch#:	222821
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	124	80-138
Toluene-d8	100	80-120
Bromofluorobenzene	91	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(6)	Dil'n Fac:	0.7452
Lab ID:	266511-021	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 14%

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.3
Acetone	51	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	9.8	8.7
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(6)	Dil'n Fac:	0.7452
Lab ID:	266511-021	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	106	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	98	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(6.5)	Diln Fac:	1.029
Lab ID:	266511-022	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 18%

Analyte	Result	RL
Freon 12	ND	13
Chloromethane	ND	13
Vinyl Chloride	ND	13
Bromomethane	ND	13
Chloroethane	ND	13
Trichlorofluoromethane	ND	6.3
Acetone	ND	25
Freon 113	ND	6.3
1,1-Dichloroethene	ND	6.3
Methylene Chloride	ND	25
Carbon Disulfide	ND	6.3
MTBE	ND	6.3
trans-1,2-Dichloroethene	ND	6.3
Vinyl Acetate	ND	63
1,1-Dichloroethane	ND	6.3
2-Butanone	ND	13
cis-1,2-Dichloroethene	ND	6.3
2,2-Dichloropropane	ND	6.3
Chloroform	ND	6.3
Bromochloromethane	ND	6.3
1,1,1-Trichloroethane	ND	6.3
1,1-Dichloropropene	ND	6.3
Carbon Tetrachloride	ND	6.3
1,2-Dichloroethane	ND	6.3
Benzene	ND	6.3
Trichloroethene	ND	6.3
1,2-Dichloropropane	ND	6.3
Bromodichloromethane	ND	6.3
Dibromomethane	ND	6.3
4-Methyl-2-Pentanone	ND	13
cis-1,3-Dichloropropene	ND	6.3
Toluene	ND	6.3
trans-1,3-Dichloropropene	ND	6.3
1,1,2-Trichloroethane	ND	6.3
2-Hexanone	ND	13
1,3-Dichloropropane	ND	6.3
Tetrachloroethene	ND	6.3
Dibromochloromethane	ND	6.3
1,2-Dibromoethane	ND	6.3
Chlorobenzene	ND	6.3
1,1,1,2-Tetrachloroethane	ND	6.3
Ethylbenzene	ND	6.3
m,p-Xylenes	ND	6.3
o-Xylene	ND	6.3
Styrene	ND	6.3
Bromoform	ND	6.3
Isopropylbenzene	ND	6.3
1,1,2,2-Tetrachloroethane	ND	6.3
1,2,3-Trichloropropane	ND	6.3
Propylbenzene	ND	6.3
Bromobenzene	ND	6.3
1,3,5-Trimethylbenzene	ND	6.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-17(6.5)	Dil'n Fac:	1.029
Lab ID:	266511-022	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	6.3
4-Chlorotoluene	ND	6.3
tert-Butylbenzene	ND	6.3
1,2,4-Trimethylbenzene	ND	6.3
sec-Butylbenzene	ND	6.3
para-Isopropyl Toluene	ND	6.3
1,3-Dichlorobenzene	ND	6.3
1,4-Dichlorobenzene	ND	6.3
n-Butylbenzene	ND	6.3
1,2-Dichlorobenzene	ND	6.3
1,2-Dibromo-3-Chloropropane	ND	6.3
1,2,4-Trichlorobenzene	ND	6.3
Hexachlorobutadiene	ND	6.3
Naphthalene	ND	6.3
1,2,3-Trichlorobenzene	ND	6.3

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	107	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	98	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(2)	Dil'n Fac:	0.7440
Lab ID:	266511-023	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 10%

Analyte	Result	RL
Freon 12	ND	8.3
Chloromethane	ND	8.3
Vinyl Chloride	ND	8.3
Bromomethane	ND	8.3
Chloroethane	ND	8.3
Trichlorofluoromethane	ND	4.1
Acetone	ND	17
Freon 113	ND	4.1
1,1-Dichloroethene	ND	4.1
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.1
MTBE	ND	4.1
trans-1,2-Dichloroethene	ND	4.1
Vinyl Acetate	ND	41
1,1-Dichloroethane	ND	4.1
2-Butanone	ND	8.3
cis-1,2-Dichloroethene	ND	4.1
2,2-Dichloropropane	ND	4.1
Chloroform	ND	4.1
Bromochloromethane	ND	4.1
1,1,1-Trichloroethane	ND	4.1
1,1-Dichloropropene	ND	4.1
Carbon Tetrachloride	ND	4.1
1,2-Dichloroethane	ND	4.1
Benzene	ND	4.1
Trichloroethene	ND	4.1
1,2-Dichloropropane	ND	4.1
Bromodichloromethane	ND	4.1
Dibromomethane	ND	4.1
4-Methyl-2-Pentanone	ND	8.3
cis-1,3-Dichloropropene	ND	4.1
Toluene	ND	4.1
trans-1,3-Dichloropropene	ND	4.1
1,1,2-Trichloroethane	ND	4.1
2-Hexanone	ND	8.3
1,3-Dichloropropane	ND	4.1
Tetrachloroethene	ND	4.1
Dibromochloromethane	ND	4.1
1,2-Dibromoethane	ND	4.1
Chlorobenzene	ND	4.1
1,1,1,2-Tetrachloroethane	ND	4.1
Ethylbenzene	ND	4.1
m,p-Xylenes	ND	4.1
o-Xylene	ND	4.1
Styrene	ND	4.1
Bromoform	ND	4.1
Isopropylbenzene	ND	4.1
1,1,2,2-Tetrachloroethane	ND	4.1
1,2,3-Trichloropropane	ND	4.1
Propylbenzene	ND	4.1
Bromobenzene	ND	4.1
1,3,5-Trimethylbenzene	ND	4.1

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(2)	Dil'n Fac:	0.7440
Lab ID:	266511-023	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.1
4-Chlorotoluene	ND	4.1
tert-Butylbenzene	ND	4.1
1,2,4-Trimethylbenzene	ND	4.1
sec-Butylbenzene	ND	4.1
para-Isopropyl Toluene	ND	4.1
1,3-Dichlorobenzene	ND	4.1
1,4-Dichlorobenzene	ND	4.1
n-Butylbenzene	ND	4.1
1,2-Dichlorobenzene	ND	4.1
1,2-Dibromo-3-Chloropropane	ND	4.1
1,2,4-Trichlorobenzene	ND	4.1
Hexachlorobutadiene	ND	4.1
Naphthalene	ND	4.1
1,2,3-Trichlorobenzene	ND	4.1

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	110	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(4.5)	Diln Fac:	0.9381
Lab ID:	266511-024	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 3%

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(4.5)	Dil'n Fac:	0.9381
Lab ID:	266511-024	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-134
1,2-Dichloroethane-d4	110	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	92	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(8.5)	Dil'n Fac:	0.8803
Lab ID:	266511-025	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 19%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.4
Acetone	54	22
Freon 113	ND	5.4
1,1-Dichloroethene	ND	5.4
Methylene Chloride	ND	22
Carbon Disulfide	ND	5.4
MTBE	ND	5.4
trans-1,2-Dichloroethene	ND	5.4
Vinyl Acetate	ND	54
1,1-Dichloroethane	ND	5.4
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.4
2,2-Dichloropropane	ND	5.4
Chloroform	ND	5.4
Bromochloromethane	ND	5.4
1,1,1-Trichloroethane	ND	5.4
1,1-Dichloropropene	ND	5.4
Carbon Tetrachloride	ND	5.4
1,2-Dichloroethane	ND	5.4
Benzene	ND	5.4
Trichloroethene	ND	5.4
1,2-Dichloropropane	ND	5.4
Bromodichloromethane	ND	5.4
Dibromomethane	ND	5.4
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.4
Toluene	ND	5.4
trans-1,3-Dichloropropene	ND	5.4
1,1,2-Trichloroethane	ND	5.4
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.4
Tetrachloroethene	ND	5.4
Dibromochloromethane	ND	5.4
1,2-Dibromoethane	ND	5.4
Chlorobenzene	ND	5.4
1,1,1,2-Tetrachloroethane	ND	5.4
Ethylbenzene	ND	5.4
m,p-Xylenes	ND	5.4
o-Xylene	ND	5.4
Styrene	ND	5.4
Bromoform	ND	5.4
Isopropylbenzene	ND	5.4
1,1,2,2-Tetrachloroethane	ND	5.4
1,2,3-Trichloropropane	ND	5.4
Propylbenzene	ND	5.4
Bromobenzene	ND	5.4
1,3,5-Trimethylbenzene	ND	5.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-19(8.5)	Dil'n Fac:	0.8803
Lab ID:	266511-025	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.4
4-Chlorotoluene	ND	5.4
tert-Butylbenzene	ND	5.4
1,2,4-Trimethylbenzene	ND	5.4
sec-Butylbenzene	ND	5.4
para-Isopropyl Toluene	ND	5.4
1,3-Dichlorobenzene	ND	5.4
1,4-Dichlorobenzene	ND	5.4
n-Butylbenzene	ND	5.4
1,2-Dichlorobenzene	ND	5.4
1,2-Dibromo-3-Chloropropane	ND	5.4
1,2,4-Trichlorobenzene	ND	5.4
Hexachlorobutadiene	ND	5.4
Naphthalene	ND	5.4
1,2,3-Trichlorobenzene	ND	5.4

Surrogate	%REC	Limits
Dibromofluoromethane	118	78-134
1,2-Dichloroethane-d4	110	80-138
Toluene-d8	93	80-120
Bromofluorobenzene	99	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(2)	Dil'n Fac:	0.7496
Lab ID:	266511-026	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	8.5
Chloromethane	ND	8.5
Vinyl Chloride	ND	8.5
Bromomethane	ND	8.5
Chloroethane	ND	8.5
Trichlorofluoromethane	ND	4.3
Acetone	ND	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	ND	8.5
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.5
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.5
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(2)	Dil'n Fac:	0.7496
Lab ID:	266511-026	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-134
1,2-Dichloroethane-d4	103	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(4.5)	Dil'n Fac:	0.7911
Lab ID:	266511-027	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 18%

Analyte	Result	RL
Freon 12	ND	9.6
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.6
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.6
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.6
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(4.5)	Dil'n Fac:	0.7911
Lab ID:	266511-027	Batch#:	222827
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-134
1,2-Dichloroethane-d4	111	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(7.5)	Diln Fac:	0.8651
Lab ID:	266511-028	Batch#:	222861
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/05/15

Moisture: 12%

Analyte	Result	RL
Freon 12	ND	9.8
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Acetone	ND	20
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	ND	9.8
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.8
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.8
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-18(7.5)	Dil'n Fac:	0.8651
Lab ID:	266511-028	Batch#:	222861
Matrix:	Soil	Sampled:	04/30/15
Units:	ug/Kg	Received:	04/30/15
Basis:	dry	Analyzed:	05/05/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	ND	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	ND	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	86	78-134
1,2-Dichloroethane-d4	81	80-138
Toluene-d8	103	80-120
Bromofluorobenzene	92	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222821
Units:	ug/Kg	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786473

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	26.15	105	70-134
Benzene	25.00	25.21	101	80-123
Trichloroethene	25.00	24.50	98	80-128
Toluene	25.00	24.37	97	80-120
Chlorobenzene	25.00	25.61	102	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	100	78-134
1,2-Dichloroethane-d4	108	80-138
Toluene-d8	100	80-120
Bromofluorobenzene	94	78-123

Type: BSD Lab ID: QC786474

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	26.98	108	70-134	3	22
Benzene	25.00	25.40	102	80-123	1	21
Trichloroethene	25.00	25.00	100	80-128	2	23
Toluene	25.00	24.26	97	80-120	0	20
Chlorobenzene	25.00	25.68	103	80-123	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	78-134
1,2-Dichloroethane-d4	105	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	100	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786475	Batch#:	222821
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786475	Batch#:	222821
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	112	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	102	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222827
Units:	ug/Kg	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786493

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.58	110	70-134
Benzene	25.00	27.07	108	80-123
Trichloroethene	25.00	26.50	106	80-128
Toluene	25.00	26.15	105	80-120
Chlorobenzene	25.00	26.06	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-134
1,2-Dichloroethane-d4	95	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	96	78-123

Type: BSD Lab ID: QC786494

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	25.35	101	70-134	8	22
Benzene	25.00	25.36	101	80-123	7	21
Trichloroethene	25.00	24.40	98	80-128	8	23
Toluene	25.00	24.90	100	80-120	5	20
Chlorobenzene	25.00	25.14	101	80-123	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	91	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	94	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786495	Batch#:	222827
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786495	Batch#:	222827
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	98	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786636	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	22.43	90	70-134
Benzene	25.00	27.15	109	80-123
Trichloroethene	25.00	24.76	99	80-128
Toluene	25.00	25.49	102	80-120
Chlorobenzene	25.00	24.24	97	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	87	78-134
1,2-Dichloroethane-d4	85	80-138
Toluene-d8	105	80-120
Bromofluorobenzene	93	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786637	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786637	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	88	78-134
1,2-Dichloroethane-d4	88	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	222861
MSS Lab ID:	266521-001	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/05/15
Basis:	as received		

Type: MS Diln Fac: 0.9452
Lab ID: QC786683

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4708	47.26	33.42	71	56-133
Benzene	<0.4054	47.26	30.28	64	57-120
Trichloroethene	<0.3359	47.26	32.82	69	49-145
Toluene	<0.4670	47.26	26.59	56	51-120
Chlorobenzene	<0.4970	47.26	20.91	44 *	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	87	78-134
1,2-Dichloroethane-d4	87	80-138
Toluene-d8	110	80-120
Bromofluorobenzene	102	78-123

Type: MSD Diln Fac: 0.9728
Lab ID: QC786684

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.64	39.26	81	56-133	13	46
Benzene	48.64	40.53	83	57-120	26	44
Trichloroethene	48.64	39.87	82	49-145	17	46
Toluene	48.64	39.06	80	51-120	35	47
Chlorobenzene	48.64	30.83	63	47-120	36	50

Surrogate	%REC	Limits
Dibromofluoromethane	85	78-134
1,2-Dichloroethane-d4	84	80-138
Toluene-d8	105	80-120
Bromofluorobenzene	99	78-123

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RB43015	Batch#:	222841
Lab ID:	266511-001	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	13
Phenol	ND	13
bis(2-Chloroethyl)ether	ND	13
2-Chlorophenol	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
Benzyl alcohol	ND	13
1,2-Dichlorobenzene	ND	13
2-Methylphenol	ND	13
bis(2-Chloroisopropyl) ether	ND	13
4-Methylphenol	ND	13
N-Nitroso-di-n-propylamine	ND	13
Hexachloroethane	ND	13
Nitrobenzene	ND	13
Isophorone	ND	13
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	13
Benzoic acid	ND	63
bis(2-Chloroethoxy)methane	ND	13
2,4-Dichlorophenol	ND	13
1,2,4-Trichlorobenzene	ND	13
Naphthalene	ND	13
4-Chloroaniline	ND	13
Hexachlorobutadiene	ND	13
4-Chloro-3-methylphenol	ND	13
2-Methylnaphthalene	ND	13
Hexachlorocyclopentadiene	ND	25
2,4,6-Trichlorophenol	ND	13
2,4,5-Trichlorophenol	ND	13
2-Chloronaphthalene	ND	13
2-Nitroaniline	ND	25
Dimethylphthalate	ND	13
Acenaphthylene	ND	13
2,6-Dinitrotoluene	ND	13
3-Nitroaniline	ND	25
Acenaphthene	ND	13
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
Dibenzofuran	ND	13
2,4-Dinitrotoluene	ND	13
Diethylphthalate	ND	13
Fluorene	ND	13
4-Chlorophenyl-phenylether	ND	13
4-Nitroaniline	ND	25
4,6-Dinitro-2-methylphenol	ND	25
N-Nitrosodiphenylamine	ND	13
Azobenzene	ND	13
4-Bromophenyl-phenylether	ND	13
Hexachlorobenzene	ND	13
Pentachlorophenol	ND	25
Phenanthrene	ND	13
Anthracene	ND	13
Di-n-butylphthalate	ND	13
Fluoranthene	ND	13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RB43015	Batch#:	222841
Lab ID:	266511-001	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	13
Butylbenzylphthalate	ND	13
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	13
Chrysene	ND	13
bis(2-Ethylhexyl)phthalate	ND	13
Di-n-octylphthalate	ND	13
Benzo(b)fluoranthene	ND	13
Benzo(k)fluoranthene	ND	13
Benzo(a)pyrene	ND	13
Indeno(1,2,3-cd)pyrene	ND	13
Dibenz(a,h)anthracene	ND	13
Benzo(g,h,i)perylene	ND	13

Surrogate	%REC	Limits
2-Fluorophenol	76	38-120
Phenol-d5	85	38-120
2,4,6-Tribromophenol	77	46-120
Nitrobenzene-d5	81	51-120
2-Fluorobiphenyl	71	54-120
Terphenyl-d14	77	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(GW)	Batch#:	222841
Lab ID:	266511-002	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.8
Phenol	ND	9.8
bis(2-Chloroethyl)ether	ND	9.8
2-Chlorophenol	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
Benzyl alcohol	ND	9.8
1,2-Dichlorobenzene	ND	9.8
2-Methylphenol	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
4-Methylphenol	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	9.8
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.8
2,4-Dichlorophenol	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	20
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	20
Acenaphthene	ND	9.8
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	9.8
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
Fluorene	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	9.8
Azobenzene	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Pentachlorophenol	ND	20
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(GW)	Batch#:	222841
Lab ID:	266511-002	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%REC	Limits
2-Fluorophenol	69	38-120
Phenol-d5	77	38-120
2,4,6-Tribromophenol	86	46-120
Nitrobenzene-d5	73	51-120
2-Fluorobiphenyl	63	54-120
Terphenyl-d14	68	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	DUP4/30/15	Batch#:	222841
Lab ID:	266511-003	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.8
Phenol	ND	9.8
bis(2-Chloroethyl)ether	ND	9.8
2-Chlorophenol	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
Benzyl alcohol	ND	9.8
1,2-Dichlorobenzene	ND	9.8
2-Methylphenol	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
4-Methylphenol	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	9.8
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.8
2,4-Dichlorophenol	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	20
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	20
Acenaphthene	ND	9.8
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	9.8
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
Fluorene	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	9.8
Azobenzene	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Pentachlorophenol	ND	20
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8

ND= Not Detected
RL= Reporting Limit

93.0

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	DUP4/30/15	Batch#:	222841
Lab ID:	266511-003	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%REC	Limits
2-Fluorophenol	69	38-120
Phenol-d5	76	38-120
2,4,6-Tribromophenol	86	46-120
Nitrobenzene-d5	71	51-120
2-Fluorobiphenyl	63	54-120
Terphenyl-d14	56	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(GW)	Batch#:	222841
Lab ID:	266511-005	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(GW)	Batch#:	222841
Lab ID:	266511-005	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	64	38-120
Phenol-d5	62	38-120
2,4,6-Tribromophenol	86	46-120
Nitrobenzene-d5	70	51-120
2-Fluorobiphenyl	74	54-120
Terphenyl-d14	34	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(GW)	Batch#:	222841
Lab ID:	266511-006	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.8
Phenol	ND	9.8
bis(2-Chloroethyl)ether	ND	9.8
2-Chlorophenol	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
Benzyl alcohol	ND	9.8
1,2-Dichlorobenzene	ND	9.8
2-Methylphenol	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
4-Methylphenol	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	9.8
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.8
2,4-Dichlorophenol	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	20
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	20
Acenaphthene	ND	9.8
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	9.8
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
Fluorene	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	9.8
Azobenzene	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Pentachlorophenol	ND	20
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(GW)	Batch#:	222841
Lab ID:	266511-006	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%REC	Limits
2-Fluorophenol	68	38-120
Phenol-d5	77	38-120
2,4,6-Tribromophenol	90	46-120
Nitrobenzene-d5	74	51-120
2-Fluorobiphenyl	65	54-120
Terphenyl-d14	49	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(GW)	Batch#:	222841
Lab ID:	266511-007	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.8
Phenol	ND	9.8
bis(2-Chloroethyl)ether	ND	9.8
2-Chlorophenol	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
Benzyl alcohol	ND	9.8
1,2-Dichlorobenzene	ND	9.8
2-Methylphenol	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
4-Methylphenol	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	9.8
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.8
2,4-Dichlorophenol	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	20
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	20
Acenaphthene	ND	9.8
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	9.8
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
Fluorene	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	9.8
Azobenzene	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Pentachlorophenol	ND	20
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(GW)	Batch#:	222841
Lab ID:	266511-007	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%REC	Limits
2-Fluorophenol	73	38-120
Phenol-d5	81	38-120
2,4,6-Tribromophenol	94	46-120
Nitrobenzene-d5	78	51-120
2-Fluorobiphenyl	68	54-120
Terphenyl-d14	67	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(GW)	Batch#:	222841
Lab ID:	266511-008	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.8
Phenol	ND	9.8
bis(2-Chloroethyl)ether	ND	9.8
2-Chlorophenol	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
Benzyl alcohol	ND	9.8
1,2-Dichlorobenzene	ND	9.8
2-Methylphenol	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
4-Methylphenol	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	9.8
Benzoic acid	ND	49
bis(2-Chloroethoxy)methane	ND	9.8
2,4-Dichlorophenol	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	20
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	20
Acenaphthene	ND	9.8
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	9.8
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
Fluorene	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	9.8
Azobenzene	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Pentachlorophenol	ND	20
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(GW)	Batch#:	222841
Lab ID:	266511-008	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%REC	Limits
2-Fluorophenol	40	38-120
Phenol-d5	51	38-120
2,4,6-Tribromophenol	76	46-120
Nitrobenzene-d5	59	51-120
2-Fluorobiphenyl	68	54-120
Terphenyl-d14	47	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(GW)	Batch#:	222841
Lab ID:	266511-009	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.4
Phenol	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
2-Chlorophenol	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
Benzyl alcohol	ND	9.4
1,2-Dichlorobenzene	ND	9.4
2-Methylphenol	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
4-Methylphenol	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
2-Nitrophenol	ND	19
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
bis(2-Chloroethoxy)methane	ND	9.4
2,4-Dichlorophenol	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	19
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	19
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	19
Acenaphthene	ND	9.4
2,4-Dinitrophenol	ND	19
4-Nitrophenol	ND	19
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
Fluorene	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
4-Nitroaniline	ND	19
4,6-Dinitro-2-methylphenol	ND	19
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Pentachlorophenol	ND	19
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(GW)	Batch#:	222841
Lab ID:	266511-009	Sampled:	04/30/15
Matrix:	Water	Received:	04/30/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	19
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%REC	Limits
2-Fluorophenol	65	38-120
Phenol-d5	63	38-120
2,4,6-Tribromophenol	88	46-120
Nitrobenzene-d5	70	51-120
2-Fluorobiphenyl	77	54-120
Terphenyl-d14	30	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786555	Batch#:	222841
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

99.0

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786555	Batch#:	222841
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	74	38-120
Phenol-d5	80	38-120
2,4,6-Tribromophenol	66	46-120
Nitrobenzene-d5	76	51-120
2-Fluorobiphenyl	66	54-120
Terphenyl-d14	70	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	222841
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Type: BS Lab ID: QC786556

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	73.26	92	46-120
2-Chlorophenol	80.00	69.50	87	48-120
1,4-Dichlorobenzene	80.00	58.85	74	52-120
N-Nitroso-di-n-propylamine	80.00	75.11	94	46-120
1,2,4-Trichlorobenzene	80.00	59.09	74	53-120
4-Chloro-3-methylphenol	80.00	62.09	78	40-120
Acenaphthene	30.00	23.80	79	61-120
4-Nitrophenol	80.00	91.24	114	40-120
2,4-Dinitrotoluene	80.00	78.20	98	64-120
Pentachlorophenol	80.00	67.88	85	47-120
Pyrene	30.00	23.86	80	62-120

Surrogate	%REC	Limits
2-Fluorophenol	78	38-120
Phenol-d5	88	38-120
2,4,6-Tribromophenol	97	46-120
Nitrobenzene-d5	81	51-120
2-Fluorobiphenyl	74	54-120
Terphenyl-d14	77	21-120

Type: BSD Lab ID: QC786557

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	75.86	95	46-120	3	55
2-Chlorophenol	80.00	70.28	88	48-120	1	54
1,4-Dichlorobenzene	80.00	66.34	83	52-120	12	30
N-Nitroso-di-n-propylamine	80.00	75.24	94	46-120	0	25
1,2,4-Trichlorobenzene	80.00	65.98	82	53-120	11	26
4-Chloro-3-methylphenol	80.00	62.79	78	40-120	1	54
Acenaphthene	30.00	24.00	80	61-120	1	25
4-Nitrophenol	80.00	90.31	113	40-120	1	45
2,4-Dinitrotoluene	80.00	77.40	97	64-120	1	32
Pentachlorophenol	80.00	67.60	85	47-120	0	48
Pyrene	30.00	23.01	77	62-120	4	26

Surrogate	%REC	Limits
2-Fluorophenol	79	38-120
Phenol-d5	89	38-120
2,4,6-Tribromophenol	97	46-120
Nitrobenzene-d5	83	51-120
2-Fluorobiphenyl	75	54-120
Terphenyl-d14	76	21-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(2)	Batch#:	222828
Lab ID:	266511-011	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	10.00		

Moisture: 8%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,600
Phenol	ND	3,600
bis(2-Chloroethyl)ether	ND	3,600
2-Chlorophenol	ND	3,600
1,3-Dichlorobenzene	ND	3,600
1,4-Dichlorobenzene	ND	3,600
Benzyl alcohol	ND	3,600
1,2-Dichlorobenzene	ND	3,600
2-Methylphenol	ND	3,600
bis(2-Chloroisopropyl) ether	ND	3,600
4-Methylphenol	ND	3,600
N-Nitroso-di-n-propylamine	ND	3,600
Hexachloroethane	ND	3,600
Nitrobenzene	ND	3,600
Isophorone	ND	3,600
2-Nitrophenol	ND	7,200
2,4-Dimethylphenol	ND	3,600
Benzoic acid	ND	18,000
bis(2-Chloroethoxy)methane	ND	3,600
2,4-Dichlorophenol	ND	3,600
1,2,4-Trichlorobenzene	ND	3,600
Naphthalene	ND	720
4-Chloroaniline	ND	3,600
Hexachlorobutadiene	ND	3,600
4-Chloro-3-methylphenol	ND	3,600
2-Methylnaphthalene	ND	720
Hexachlorocyclopentadiene	ND	7,200
2,4,6-Trichlorophenol	ND	3,600
2,4,5-Trichlorophenol	ND	3,600
2-Chloronaphthalene	ND	3,600
2-Nitroaniline	ND	7,200
Dimethylphthalate	ND	3,600
Acenaphthylene	ND	720
2,6-Dinitrotoluene	ND	3,600
3-Nitroaniline	ND	7,200
Acenaphthene	ND	720
2,4-Dinitrophenol	ND	7,200
4-Nitrophenol	ND	7,200
Dibenzofuran	ND	3,600
2,4-Dinitrotoluene	ND	3,600
Diethylphthalate	ND	3,600
Fluorene	ND	720
4-Chlorophenyl-phenylether	ND	3,600
4-Nitroaniline	ND	7,200
4,6-Dinitro-2-methylphenol	ND	7,200
N-Nitrosodiphenylamine	ND	3,600
Azobenzene	ND	3,600
4-Bromophenyl-phenylether	ND	3,600
Hexachlorobenzene	ND	3,600
Pentachlorophenol	ND	7,200

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(2)	Batch#:	222828
Lab ID:	266511-011	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	10.00		

Analyte	Result	RL
Phenanthrene	ND	720
Anthracene	ND	720
Di-n-butylphthalate	ND	3,600
Fluoranthene	ND	720
Pyrene	ND	720
Butylbenzylphthalate	ND	3,600
3,3'-Dichlorobenzidine	ND	7,200
Benzo(a)anthracene	ND	720
Chrysene	ND	720
bis(2-Ethylhexyl)phthalate	ND	3,600
Di-n-octylphthalate	ND	3,600
Benzo(b)fluoranthene	ND	720
Benzo(k)fluoranthene	ND	720
Benzo(a)pyrene	ND	720
Indeno(1,2,3-cd)pyrene	ND	720
Dibenz(a,h)anthracene	ND	720
Benzo(g,h,i)perylene	ND	720

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(4.3)	Batch#:	222828
Lab ID:	266511-012	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 11%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	380
Phenol	ND	380
bis(2-Chloroethyl)ether	ND	380
2-Chlorophenol	ND	380
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
Benzyl alcohol	ND	380
1,2-Dichlorobenzene	ND	380
2-Methylphenol	ND	380
bis(2-Chloroisopropyl) ether	ND	380
4-Methylphenol	ND	380
N-Nitroso-di-n-propylamine	ND	380
Hexachloroethane	ND	380
Nitrobenzene	ND	380
Isophorone	ND	380
2-Nitrophenol	ND	750
2,4-Dimethylphenol	ND	380
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	380
2,4-Dichlorophenol	ND	380
1,2,4-Trichlorobenzene	ND	380
Naphthalene	ND	75
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	380
4-Chloro-3-methylphenol	ND	380
2-Methylnaphthalene	ND	75
Hexachlorocyclopentadiene	ND	750
2,4,6-Trichlorophenol	ND	380
2,4,5-Trichlorophenol	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	750
Dimethylphthalate	ND	380
Acenaphthylene	ND	75
2,6-Dinitrotoluene	ND	380
3-Nitroaniline	ND	750
Acenaphthene	ND	75
2,4-Dinitrophenol	ND	750
4-Nitrophenol	ND	750
Dibenzofuran	ND	380
2,4-Dinitrotoluene	ND	380
Diethylphthalate	ND	380
Fluorene	ND	75
4-Chlorophenyl-phenylether	ND	380
4-Nitroaniline	ND	750
4,6-Dinitro-2-methylphenol	ND	750
N-Nitrosodiphenylamine	ND	380
Azobenzene	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	380
Pentachlorophenol	ND	750
Phenanthrene	170	75

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(4.3)	Batch#:	222828
Lab ID:	266511-012	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	75
Di-n-butylphthalate	ND	380
Fluoranthene	310	75
Pyrene	260	75
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	750
Benzo(a)anthracene	170	75
Chrysene	170	75
bis(2-Ethylhexyl)phthalate	ND	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	150	75
Benzo(k)fluoranthene	ND	75
Benzo(a)pyrene	100	75
Indeno(1,2,3-cd)pyrene	ND	75
Dibenz(a,h)anthracene	ND	75
Benzo(g,h,i)perylene	ND	75

Surrogate	%REC	Limits
2-Fluorophenol	66	25-120
Phenol-d5	67	36-120
2,4,6-Tribromophenol	42	27-120
Nitrobenzene-d5	55	44-120
2-Fluorobiphenyl	53	47-120
Terphenyl-d14	59	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(5)	Batch#:	222828
Lab ID:	266511-013	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 18%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	410
Phenol	ND	410
bis(2-Chloroethyl)ether	ND	410
2-Chlorophenol	ND	410
1,3-Dichlorobenzene	ND	410
1,4-Dichlorobenzene	ND	410
Benzyl alcohol	ND	410
1,2-Dichlorobenzene	ND	410
2-Methylphenol	ND	410
bis(2-Chloroisopropyl) ether	ND	410
4-Methylphenol	ND	410
N-Nitroso-di-n-propylamine	ND	410
Hexachloroethane	ND	410
Nitrobenzene	ND	410
Isophorone	ND	410
2-Nitrophenol	ND	810
2,4-Dimethylphenol	ND	410
Benzoic acid	ND	2,000
bis(2-Chloroethoxy)methane	ND	410
2,4-Dichlorophenol	ND	410
1,2,4-Trichlorobenzene	ND	410
Naphthalene	ND	81
4-Chloroaniline	ND	410
Hexachlorobutadiene	ND	410
4-Chloro-3-methylphenol	ND	410
2-Methylnaphthalene	ND	81
Hexachlorocyclopentadiene	ND	810
2,4,6-Trichlorophenol	ND	410
2,4,5-Trichlorophenol	ND	410
2-Chloronaphthalene	ND	410
2-Nitroaniline	ND	810
Dimethylphthalate	ND	410
Acenaphthylene	ND	81
2,6-Dinitrotoluene	ND	410
3-Nitroaniline	ND	810
Acenaphthene	ND	81
2,4-Dinitrophenol	ND	810
4-Nitrophenol	ND	810
Dibenzofuran	ND	410
2,4-Dinitrotoluene	ND	410
Diethylphthalate	ND	410
Fluorene	ND	81
4-Chlorophenyl-phenylether	ND	410
4-Nitroaniline	ND	810
4,6-Dinitro-2-methylphenol	ND	810
N-Nitrosodiphenylamine	ND	410
Azobenzene	ND	410
4-Bromophenyl-phenylether	ND	410
Hexachlorobenzene	ND	410
Pentachlorophenol	ND	810
Phenanthrene	ND	81

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-11(5)	Batch#:	222828
Lab ID:	266511-013	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	81
Di-n-butylphthalate	ND	410
Fluoranthene	ND	81
Pyrene	ND	81
Butylbenzylphthalate	ND	410
3,3'-Dichlorobenzidine	ND	810
Benzo(a)anthracene	ND	81
Chrysene	ND	81
bis(2-Ethylhexyl)phthalate	ND	410
Di-n-octylphthalate	ND	410
Benzo(b)fluoranthene	ND	81
Benzo(k)fluoranthene	ND	81
Benzo(a)pyrene	ND	81
Indeno(1,2,3-cd)pyrene	ND	81
Dibenz(a,h)anthracene	ND	81
Benzo(g,h,i)perylene	ND	81

Surrogate	%REC	Limits
2-Fluorophenol	70	25-120
Phenol-d5	70	36-120
2,4,6-Tribromophenol	60	27-120
Nitrobenzene-d5	57	44-120
2-Fluorobiphenyl	58	47-120
Terphenyl-d14	66	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(2.5)	Batch#:	222828
Lab ID:	266511-014	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 9%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	370
Phenol	ND	370
bis(2-Chloroethyl)ether	ND	370
2-Chlorophenol	ND	370
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
Benzyl alcohol	ND	370
1,2-Dichlorobenzene	ND	370
2-Methylphenol	ND	370
bis(2-Chloroisopropyl) ether	ND	370
4-Methylphenol	ND	370
N-Nitroso-di-n-propylamine	ND	370
Hexachloroethane	ND	370
Nitrobenzene	ND	370
Isophorone	ND	370
2-Nitrophenol	ND	730
2,4-Dimethylphenol	ND	370
Benzoic acid	ND	1,800
bis(2-Chloroethoxy)methane	ND	370
2,4-Dichlorophenol	ND	370
1,2,4-Trichlorobenzene	ND	370
Naphthalene	94	73
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	370
4-Chloro-3-methylphenol	ND	370
2-Methylnaphthalene	120	73
Hexachlorocyclopentadiene	ND	730
2,4,6-Trichlorophenol	ND	370
2,4,5-Trichlorophenol	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	730
Dimethylphthalate	ND	370
Acenaphthylene	ND	73
2,6-Dinitrotoluene	ND	370
3-Nitroaniline	ND	730
Acenaphthene	ND	73
2,4-Dinitrophenol	ND	730
4-Nitrophenol	ND	730
Dibenzofuran	ND	370
2,4-Dinitrotoluene	ND	370
Diethylphthalate	ND	370
Fluorene	ND	73
4-Chlorophenyl-phenylether	ND	370
4-Nitroaniline	ND	730
4,6-Dinitro-2-methylphenol	ND	730
N-Nitrosodiphenylamine	ND	370
Azobenzene	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	370
Pentachlorophenol	ND	730
Phenanthrene	ND	73

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(2.5)	Batch#:	222828
Lab ID:	266511-014	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	73
Di-n-butylphthalate	ND	370
Fluoranthene	110	73
Pyrene	110	73
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	730
Benzo(a)anthracene	ND	73
Chrysene	74	73
bis(2-Ethylhexyl)phthalate	ND	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	ND	73
Benzo(k)fluoranthene	ND	73
Benzo(a)pyrene	ND	73
Indeno(1,2,3-cd)pyrene	ND	73
Dibenz(a,h)anthracene	ND	73
Benzo(g,h,i)perylene	ND	73

Surrogate	%REC	Limits
2-Fluorophenol	68	25-120
Phenol-d5	70	36-120
2,4,6-Tribromophenol	52	27-120
Nitrobenzene-d5	59	44-120
2-Fluorobiphenyl	61	47-120
Terphenyl-d14	62	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(4.5)	Batch#:	222828
Lab ID:	266511-015	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	100.0		

Moisture: 14%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	39,000
Phenol	ND	39,000
bis(2-Chloroethyl)ether	ND	39,000
2-Chlorophenol	ND	39,000
1,3-Dichlorobenzene	ND	39,000
1,4-Dichlorobenzene	ND	39,000
Benzyl alcohol	ND	39,000
1,2-Dichlorobenzene	ND	39,000
2-Methylphenol	ND	39,000
bis(2-Chloroisopropyl) ether	ND	39,000
4-Methylphenol	ND	39,000
N-Nitroso-di-n-propylamine	ND	39,000
Hexachloroethane	ND	39,000
Nitrobenzene	ND	39,000
Isophorone	ND	39,000
2-Nitrophenol	ND	78,000
2,4-Dimethylphenol	ND	39,000
Benzoic acid	ND	200,000
bis(2-Chloroethoxy)methane	ND	39,000
2,4-Dichlorophenol	ND	39,000
1,2,4-Trichlorobenzene	ND	39,000
Naphthalene	ND	7,800
4-Chloroaniline	ND	39,000
Hexachlorobutadiene	ND	39,000
4-Chloro-3-methylphenol	ND	39,000
2-Methylnaphthalene	ND	7,800
Hexachlorocyclopentadiene	ND	78,000
2,4,6-Trichlorophenol	ND	39,000
2,4,5-Trichlorophenol	ND	39,000
2-Chloronaphthalene	ND	39,000
2-Nitroaniline	ND	78,000
Dimethylphthalate	ND	39,000
Acenaphthylene	ND	7,800
2,6-Dinitrotoluene	ND	39,000
3-Nitroaniline	ND	78,000
Acenaphthene	ND	7,800
2,4-Dinitrophenol	ND	78,000
4-Nitrophenol	ND	78,000
Dibenzofuran	ND	39,000
2,4-Dinitrotoluene	ND	39,000
Diethylphthalate	ND	39,000
Fluorene	ND	7,800
4-Chlorophenyl-phenylether	ND	39,000
4-Nitroaniline	ND	78,000
4,6-Dinitro-2-methylphenol	ND	78,000
N-Nitrosodiphenylamine	ND	39,000
Azobenzene	ND	39,000
4-Bromophenyl-phenylether	ND	39,000
Hexachlorobenzene	ND	39,000
Pentachlorophenol	ND	78,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(4.5)	Batch#:	222828
Lab ID:	266511-015	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	100.0		

Analyte	Result	RL
Phenanthrene	ND	7,800
Anthracene	ND	7,800
Di-n-butylphthalate	ND	39,000
Fluoranthene	ND	7,800
Pyrene	ND	7,800
Butylbenzylphthalate	ND	39,000
3,3'-Dichlorobenzidine	ND	78,000
Benzo(a)anthracene	ND	7,800
Chrysene	ND	7,800
bis(2-Ethylhexyl)phthalate	ND	39,000
Di-n-octylphthalate	ND	39,000
Benzo(b)fluoranthene	ND	7,800
Benzo(k)fluoranthene	ND	7,800
Benzo(a)pyrene	ND	7,800
Indeno(1,2,3-cd)pyrene	ND	7,800
Dibenz(a,h)anthracene	ND	7,800
Benzo(g,h,i)perylene	ND	7,800

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(8)	Batch#:	222828
Lab ID:	266511-016	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 40%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	550
Phenol	ND	550
bis(2-Chloroethyl)ether	ND	550
2-Chlorophenol	ND	550
1,3-Dichlorobenzene	ND	550
1,4-Dichlorobenzene	ND	550
Benzyl alcohol	ND	550
1,2-Dichlorobenzene	ND	550
2-Methylphenol	ND	550
bis(2-Chloroisopropyl) ether	ND	550
4-Methylphenol	ND	550
N-Nitroso-di-n-propylamine	ND	550
Hexachloroethane	ND	550
Nitrobenzene	ND	550
Isophorone	ND	550
2-Nitrophenol	ND	1,100
2,4-Dimethylphenol	ND	550
Benzoic acid	ND	2,800
bis(2-Chloroethoxy)methane	ND	550
2,4-Dichlorophenol	ND	550
1,2,4-Trichlorobenzene	ND	550
Naphthalene	ND	110
4-Chloroaniline	ND	550
Hexachlorobutadiene	ND	550
4-Chloro-3-methylphenol	ND	550
2-Methylnaphthalene	ND	110
Hexachlorocyclopentadiene	ND	1,100
2,4,6-Trichlorophenol	ND	550
2,4,5-Trichlorophenol	ND	550
2-Chloronaphthalene	ND	550
2-Nitroaniline	ND	1,100
Dimethylphthalate	ND	550
Acenaphthylene	ND	110
2,6-Dinitrotoluene	ND	550
3-Nitroaniline	ND	1,100
Acenaphthene	ND	110
2,4-Dinitrophenol	ND	1,100
4-Nitrophenol	ND	1,100
Dibenzofuran	ND	550
2,4-Dinitrotoluene	ND	550
Diethylphthalate	ND	550
Fluorene	ND	110
4-Chlorophenyl-phenylether	ND	550
4-Nitroaniline	ND	1,100
4,6-Dinitro-2-methylphenol	ND	1,100
N-Nitrosodiphenylamine	ND	550
Azobenzene	ND	550
4-Bromophenyl-phenylether	ND	550
Hexachlorobenzene	ND	550
Pentachlorophenol	ND	1,100
Phenanthrene	ND	110

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-15(8)	Batch#:	222828
Lab ID:	266511-016	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	110
Di-n-butylphthalate	ND	550
Fluoranthene	ND	110
Pyrene	ND	110
Butylbenzylphthalate	ND	550
3,3'-Dichlorobenzidine	ND	1,100
Benzo(a)anthracene	ND	110
Chrysene	ND	110
bis(2-Ethylhexyl)phthalate	ND	550
Di-n-octylphthalate	ND	550
Benzo(b)fluoranthene	ND	110
Benzo(k)fluoranthene	ND	110
Benzo(a)pyrene	ND	110
Indeno(1,2,3-cd)pyrene	ND	110
Dibenz(a,h)anthracene	ND	110
Benzo(g,h,i)perylene	ND	110

Surrogate	%REC	Limits
2-Fluorophenol	73	25-120
Phenol-d5	75	36-120
2,4,6-Tribromophenol	60	27-120
Nitrobenzene-d5	61	44-120
2-Fluorobiphenyl	64	47-120
Terphenyl-d14	71	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(2.5)	Batch#:	222828
Lab ID:	266511-017	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	5.000		

Moisture: 12%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,800
Phenol	ND	3,800
bis(2-Chloroethyl)ether	ND	3,800
2-Chlorophenol	ND	3,800
1,3-Dichlorobenzene	ND	3,800
1,4-Dichlorobenzene	ND	3,800
Benzyl alcohol	ND	3,800
1,2-Dichlorobenzene	ND	3,800
2-Methylphenol	ND	3,800
bis(2-Chloroisopropyl) ether	ND	3,800
4-Methylphenol	ND	3,800
N-Nitroso-di-n-propylamine	ND	3,800
Hexachloroethane	ND	3,800
Nitrobenzene	ND	3,800
Isophorone	ND	3,800
2-Nitrophenol	ND	7,500
2,4-Dimethylphenol	ND	3,800
Benzoic acid	ND	19,000
bis(2-Chloroethoxy)methane	ND	3,800
2,4-Dichlorophenol	ND	3,800
1,2,4-Trichlorobenzene	ND	3,800
Naphthalene	ND	750
4-Chloroaniline	ND	3,800
Hexachlorobutadiene	ND	3,800
4-Chloro-3-methylphenol	ND	3,800
2-Methylnaphthalene	ND	750
Hexachlorocyclopentadiene	ND	7,500
2,4,6-Trichlorophenol	ND	3,800
2,4,5-Trichlorophenol	ND	3,800
2-Chloronaphthalene	ND	3,800
2-Nitroaniline	ND	7,500
Dimethylphthalate	ND	3,800
Acenaphthylene	ND	750
2,6-Dinitrotoluene	ND	3,800
3-Nitroaniline	ND	7,500
Acenaphthene	ND	750
2,4-Dinitrophenol	ND	7,500
4-Nitrophenol	ND	7,500
Dibenzofuran	ND	3,800
2,4-Dinitrotoluene	ND	3,800
Diethylphthalate	ND	3,800
Fluorene	ND	750
4-Chlorophenyl-phenylether	ND	3,800
4-Nitroaniline	ND	7,500
4,6-Dinitro-2-methylphenol	ND	7,500
N-Nitrosodiphenylamine	ND	3,800
Azobenzene	ND	3,800
4-Bromophenyl-phenylether	ND	3,800
Hexachlorobenzene	ND	3,800
Pentachlorophenol	ND	7,500

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(2.5)	Batch#:	222828
Lab ID:	266511-017	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	5.000		

Analyte	Result	RL
Phenanthrene	ND	750
Anthracene	ND	750
Di-n-butylphthalate	ND	3,800
Fluoranthene	ND	750
Pyrene	ND	750
Butylbenzylphthalate	ND	3,800
3,3'-Dichlorobenzidine	ND	7,500
Benzo(a)anthracene	ND	750
Chrysene	ND	750
bis(2-Ethylhexyl)phthalate	ND	3,800
Di-n-octylphthalate	ND	3,800
Benzo(b)fluoranthene	ND	750
Benzo(k)fluoranthene	ND	750
Benzo(a)pyrene	ND	750
Indeno(1,2,3-cd)pyrene	ND	750
Dibenz(a,h)anthracene	ND	750
Benzo(g,h,i)perylene	ND	750

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(4.5)	Batch#:	222828
Lab ID:	266511-018	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 11%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	380
Phenol	ND	380
bis(2-Chloroethyl)ether	ND	380
2-Chlorophenol	ND	380
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
Benzyl alcohol	ND	380
1,2-Dichlorobenzene	ND	380
2-Methylphenol	ND	380
bis(2-Chloroisopropyl) ether	ND	380
4-Methylphenol	ND	380
N-Nitroso-di-n-propylamine	ND	380
Hexachloroethane	ND	380
Nitrobenzene	ND	380
Isophorone	ND	380
2-Nitrophenol	ND	760
2,4-Dimethylphenol	ND	380
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	380
2,4-Dichlorophenol	ND	380
1,2,4-Trichlorobenzene	ND	380
Naphthalene	ND	76
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	380
4-Chloro-3-methylphenol	ND	380
2-Methylnaphthalene	ND	76
Hexachlorocyclopentadiene	ND	760
2,4,6-Trichlorophenol	ND	380
2,4,5-Trichlorophenol	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	760
Dimethylphthalate	ND	380
Acenaphthylene	ND	76
2,6-Dinitrotoluene	ND	380
3-Nitroaniline	ND	760
Acenaphthene	ND	76
2,4-Dinitrophenol	ND	760
4-Nitrophenol	ND	760
Dibenzofuran	ND	380
2,4-Dinitrotoluene	ND	380
Diethylphthalate	ND	380
Fluorene	ND	76
4-Chlorophenyl-phenylether	ND	380
4-Nitroaniline	ND	760
4,6-Dinitro-2-methylphenol	ND	760
N-Nitrosodiphenylamine	ND	380
Azobenzene	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	380
Pentachlorophenol	ND	760
Phenanthrene	ND	76

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(4.5)	Batch#:	222828
Lab ID:	266511-018	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	76
Di-n-butylphthalate	ND	380
Fluoranthene	ND	76
Pyrene	ND	76
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	760
Benzo(a)anthracene	ND	76
Chrysene	ND	76
bis(2-Ethylhexyl)phthalate	ND	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	ND	76
Benzo(k)fluoranthene	ND	76
Benzo(a)pyrene	ND	76
Indeno(1,2,3-cd)pyrene	ND	76
Dibenz(a,h)anthracene	ND	76
Benzo(g,h,i)perylene	ND	76

Surrogate	%REC	Limits
2-Fluorophenol	81	25-120
Phenol-d5	81	36-120
2,4,6-Tribromophenol	59	27-120
Nitrobenzene-d5	69	44-120
2-Fluorobiphenyl	69	47-120
Terphenyl-d14	76	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(7.6)	Batch#:	222828
Lab ID:	266511-019	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	400
Phenol	ND	400
bis(2-Chloroethyl)ether	ND	400
2-Chlorophenol	ND	400
1,3-Dichlorobenzene	ND	400
1,4-Dichlorobenzene	ND	400
Benzyl alcohol	ND	400
1,2-Dichlorobenzene	ND	400
2-Methylphenol	ND	400
bis(2-Chloroisopropyl) ether	ND	400
4-Methylphenol	ND	400
N-Nitroso-di-n-propylamine	ND	400
Hexachloroethane	ND	400
Nitrobenzene	ND	400
Isophorone	ND	400
2-Nitrophenol	ND	800
2,4-Dimethylphenol	ND	400
Benzoic acid	ND	2,000
bis(2-Chloroethoxy)methane	ND	400
2,4-Dichlorophenol	ND	400
1,2,4-Trichlorobenzene	ND	400
Naphthalene	ND	80
4-Chloroaniline	ND	400
Hexachlorobutadiene	ND	400
4-Chloro-3-methylphenol	ND	400
2-Methylnaphthalene	ND	80
Hexachlorocyclopentadiene	ND	800
2,4,6-Trichlorophenol	ND	400
2,4,5-Trichlorophenol	ND	400
2-Chloronaphthalene	ND	400
2-Nitroaniline	ND	800
Dimethylphthalate	ND	400
Acenaphthylene	ND	80
2,6-Dinitrotoluene	ND	400
3-Nitroaniline	ND	800
Acenaphthene	ND	80
2,4-Dinitrophenol	ND	800
4-Nitrophenol	ND	800
Dibenzofuran	ND	400
2,4-Dinitrotoluene	ND	400
Diethylphthalate	ND	400
Fluorene	ND	80
4-Chlorophenyl-phenylether	ND	400
4-Nitroaniline	ND	800
4,6-Dinitro-2-methylphenol	ND	800
N-Nitrosodiphenylamine	ND	400
Azobenzene	ND	400
4-Bromophenyl-phenylether	ND	400
Hexachlorobenzene	ND	400
Pentachlorophenol	ND	800
Phenanthrene	ND	80

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-16(7.6)	Batch#:	222828
Lab ID:	266511-019	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	80
Di-n-butylphthalate	ND	400
Fluoranthene	ND	80
Pyrene	ND	80
Butylbenzylphthalate	ND	400
3,3'-Dichlorobenzidine	ND	800
Benzo(a)anthracene	ND	80
Chrysene	ND	80
bis(2-Ethylhexyl)phthalate	ND	400
Di-n-octylphthalate	ND	400
Benzo(b)fluoranthene	ND	80
Benzo(k)fluoranthene	ND	80
Benzo(a)pyrene	ND	80
Indeno(1,2,3-cd)pyrene	ND	80
Dibenz(a,h)anthracene	ND	80
Benzo(g,h,i)perylene	ND	80

Surrogate	%REC	Limits
2-Fluorophenol	59	25-120
Phenol-d5	62	36-120
2,4,6-Tribromophenol	55	27-120
Nitrobenzene-d5	50	44-120
2-Fluorobiphenyl	52	47-120
Terphenyl-d14	59	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(2)	Batch#:	222828
Lab ID:	266511-020	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 10%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	370
Phenol	ND	370
bis(2-Chloroethyl)ether	ND	370
2-Chlorophenol	ND	370
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
Benzyl alcohol	ND	370
1,2-Dichlorobenzene	ND	370
2-Methylphenol	ND	370
bis(2-Chloroisopropyl) ether	ND	370
4-Methylphenol	ND	370
N-Nitroso-di-n-propylamine	ND	370
Hexachloroethane	ND	370
Nitrobenzene	ND	370
Isophorone	ND	370
2-Nitrophenol	ND	740
2,4-Dimethylphenol	ND	370
Benzoic acid	ND	1,800
bis(2-Chloroethoxy)methane	ND	370
2,4-Dichlorophenol	ND	370
1,2,4-Trichlorobenzene	ND	370
Naphthalene	ND	74
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	370
4-Chloro-3-methylphenol	ND	370
2-Methylnaphthalene	ND	74
Hexachlorocyclopentadiene	ND	740
2,4,6-Trichlorophenol	ND	370
2,4,5-Trichlorophenol	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	740
Dimethylphthalate	ND	370
Acenaphthylene	ND	74
2,6-Dinitrotoluene	ND	370
3-Nitroaniline	ND	740
Acenaphthene	ND	74
2,4-Dinitrophenol	ND	740
4-Nitrophenol	ND	740
Dibenzofuran	ND	370
2,4-Dinitrotoluene	ND	370
Diethylphthalate	ND	370
Fluorene	ND	74
4-Chlorophenyl-phenylether	ND	370
4-Nitroaniline	ND	740
4,6-Dinitro-2-methylphenol	ND	740
N-Nitrosodiphenylamine	ND	370
Azobenzene	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	370
Pentachlorophenol	ND	740
Phenanthrene	ND	74

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(2)	Batch#:	222828
Lab ID:	266511-020	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	74
Di-n-butylphthalate	ND	370
Fluoranthene	ND	74
Pyrene	ND	74
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	740
Benzo(a)anthracene	ND	74
Chrysene	ND	74
bis(2-Ethylhexyl)phthalate	ND	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	ND	74
Benzo(k)fluoranthene	ND	74
Benzo(a)pyrene	ND	74
Indeno(1,2,3-cd)pyrene	ND	74
Dibenz(a,h)anthracene	ND	74
Benzo(g,h,i)perylene	ND	74

Surrogate	%REC	Limits
2-Fluorophenol	75	25-120
Phenol-d5	78	36-120
2,4,6-Tribromophenol	67	27-120
Nitrobenzene-d5	61	44-120
2-Fluorobiphenyl	62	47-120
Terphenyl-d14	74	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(6)	Batch#:	222828
Lab ID:	266511-021	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	1.000		

Moisture: 14%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	390
Phenol	ND	390
bis(2-Chloroethyl)ether	ND	390
2-Chlorophenol	ND	390
1,3-Dichlorobenzene	ND	390
1,4-Dichlorobenzene	ND	390
Benzyl alcohol	ND	390
1,2-Dichlorobenzene	ND	390
2-Methylphenol	ND	390
bis(2-Chloroisopropyl) ether	ND	390
4-Methylphenol	ND	390
N-Nitroso-di-n-propylamine	ND	390
Hexachloroethane	ND	390
Nitrobenzene	ND	390
Isophorone	ND	390
2-Nitrophenol	ND	770
2,4-Dimethylphenol	ND	390
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	390
2,4-Dichlorophenol	ND	390
1,2,4-Trichlorobenzene	ND	390
Naphthalene	ND	77
4-Chloroaniline	ND	390
Hexachlorobutadiene	ND	390
4-Chloro-3-methylphenol	ND	390
2-Methylnaphthalene	ND	77
Hexachlorocyclopentadiene	ND	770
2,4,6-Trichlorophenol	ND	390
2,4,5-Trichlorophenol	ND	390
2-Chloronaphthalene	ND	390
2-Nitroaniline	ND	770
Dimethylphthalate	ND	390
Acenaphthylene	ND	77
2,6-Dinitrotoluene	ND	390
3-Nitroaniline	ND	770
Acenaphthene	ND	77
2,4-Dinitrophenol	ND	770
4-Nitrophenol	ND	770
Dibenzofuran	ND	390
2,4-Dinitrotoluene	ND	390
Diethylphthalate	ND	390
Fluorene	ND	77
4-Chlorophenyl-phenylether	ND	390
4-Nitroaniline	ND	770
4,6-Dinitro-2-methylphenol	ND	770
N-Nitrosodiphenylamine	ND	390
Azobenzene	ND	390
4-Bromophenyl-phenylether	ND	390
Hexachlorobenzene	ND	390
Pentachlorophenol	ND	770
Phenanthrene	ND	77

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(6)	Batch#:	222828
Lab ID:	266511-021	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	77
Di-n-butylphthalate	ND	390
Fluoranthene	ND	77
Pyrene	ND	77
Butylbenzylphthalate	ND	390
3,3'-Dichlorobenzidine	ND	770
Benzo(a)anthracene	ND	77
Chrysene	ND	77
bis(2-Ethylhexyl)phthalate	ND	390
Di-n-octylphthalate	ND	390
Benzo(b)fluoranthene	ND	77
Benzo(k)fluoranthene	ND	77
Benzo(a)pyrene	ND	77
Indeno(1,2,3-cd)pyrene	ND	77
Dibenz(a,h)anthracene	ND	77
Benzo(g,h,i)perylene	ND	77

Surrogate	%REC	Limits
2-Fluorophenol	45	25-120
Phenol-d5	53	36-120
2,4,6-Tribromophenol	62	27-120
Nitrobenzene-d5	52	44-120
2-Fluorobiphenyl	60	47-120
Terphenyl-d14	64	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(6.5)	Batch#:	222828
Lab ID:	266511-022	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 18%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	410
Phenol	ND	410
bis(2-Chloroethyl)ether	ND	410
2-Chlorophenol	ND	410
1,3-Dichlorobenzene	ND	410
1,4-Dichlorobenzene	ND	410
Benzyl alcohol	ND	410
1,2-Dichlorobenzene	ND	410
2-Methylphenol	ND	410
bis(2-Chloroisopropyl) ether	ND	410
4-Methylphenol	ND	410
N-Nitroso-di-n-propylamine	ND	410
Hexachloroethane	ND	410
Nitrobenzene	ND	410
Isophorone	ND	410
2-Nitrophenol	ND	810
2,4-Dimethylphenol	ND	410
Benzoic acid	ND	2,000
bis(2-Chloroethoxy)methane	ND	410
2,4-Dichlorophenol	ND	410
1,2,4-Trichlorobenzene	ND	410
Naphthalene	ND	81
4-Chloroaniline	ND	410
Hexachlorobutadiene	ND	410
4-Chloro-3-methylphenol	ND	410
2-Methylnaphthalene	ND	81
Hexachlorocyclopentadiene	ND	810
2,4,6-Trichlorophenol	ND	410
2,4,5-Trichlorophenol	ND	410
2-Chloronaphthalene	ND	410
2-Nitroaniline	ND	810
Dimethylphthalate	ND	410
Acenaphthylene	ND	81
2,6-Dinitrotoluene	ND	410
3-Nitroaniline	ND	810
Acenaphthene	ND	81
2,4-Dinitrophenol	ND	810
4-Nitrophenol	ND	810
Dibenzofuran	ND	410
2,4-Dinitrotoluene	ND	410
Diethylphthalate	ND	410
Fluorene	ND	81
4-Chlorophenyl-phenylether	ND	410
4-Nitroaniline	ND	810
4,6-Dinitro-2-methylphenol	ND	810
N-Nitrosodiphenylamine	ND	410
Azobenzene	ND	410
4-Bromophenyl-phenylether	ND	410
Hexachlorobenzene	ND	410
Pentachlorophenol	ND	810
Phenanthrene	ND	81

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(6.5)	Batch#:	222828
Lab ID:	266511-022	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	81
Di-n-butylphthalate	ND	410
Fluoranthene	ND	81
Pyrene	ND	81
Butylbenzylphthalate	ND	410
3,3'-Dichlorobenzidine	ND	810
Benzo(a)anthracene	ND	81
Chrysene	ND	81
bis(2-Ethylhexyl)phthalate	ND	410
Di-n-octylphthalate	ND	410
Benzo(b)fluoranthene	ND	81
Benzo(k)fluoranthene	ND	81
Benzo(a)pyrene	ND	81
Indeno(1,2,3-cd)pyrene	ND	81
Dibenz(a,h)anthracene	ND	81
Benzo(g,h,i)perylene	ND	81

Surrogate	%REC	Limits
2-Fluorophenol	62	25-120
Phenol-d5	63	36-120
2,4,6-Tribromophenol	44	27-120
Nitrobenzene-d5	50	44-120
2-Fluorobiphenyl	51	47-120
Terphenyl-d14	59	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(2)	Batch#:	222828
Lab ID:	266511-023	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 10%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	370
Phenol	ND	370
bis(2-Chloroethyl)ether	ND	370
2-Chlorophenol	ND	370
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
Benzyl alcohol	ND	370
1,2-Dichlorobenzene	ND	370
2-Methylphenol	ND	370
bis(2-Chloroisopropyl) ether	ND	370
4-Methylphenol	ND	370
N-Nitroso-di-n-propylamine	ND	370
Hexachloroethane	ND	370
Nitrobenzene	ND	370
Isophorone	ND	370
2-Nitrophenol	ND	730
2,4-Dimethylphenol	ND	370
Benzoic acid	ND	1,800
bis(2-Chloroethoxy)methane	ND	370
2,4-Dichlorophenol	ND	370
1,2,4-Trichlorobenzene	ND	370
Naphthalene	ND	73
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	370
4-Chloro-3-methylphenol	ND	370
2-Methylnaphthalene	ND	73
Hexachlorocyclopentadiene	ND	730
2,4,6-Trichlorophenol	ND	370
2,4,5-Trichlorophenol	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	730
Dimethylphthalate	ND	370
Acenaphthylene	ND	73
2,6-Dinitrotoluene	ND	370
3-Nitroaniline	ND	730
Acenaphthene	ND	73
2,4-Dinitrophenol	ND	730
4-Nitrophenol	ND	730
Dibenzofuran	ND	370
2,4-Dinitrotoluene	ND	370
Diethylphthalate	ND	370
Fluorene	ND	73
4-Chlorophenyl-phenylether	ND	370
4-Nitroaniline	ND	730
4,6-Dinitro-2-methylphenol	ND	730
N-Nitrosodiphenylamine	ND	370
Azobenzene	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	370
Pentachlorophenol	ND	730
Phenanthrene	ND	73

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(2)	Batch#:	222828
Lab ID:	266511-023	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	73
Di-n-butylphthalate	ND	370
Fluoranthene	ND	73
Pyrene	ND	73
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	730
Benzo(a)anthracene	ND	73
Chrysene	ND	73
bis(2-Ethylhexyl)phthalate	ND	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	ND	73
Benzo(k)fluoranthene	ND	73
Benzo(a)pyrene	ND	73
Indeno(1,2,3-cd)pyrene	ND	73
Dibenz(a,h)anthracene	ND	73
Benzo(g,h,i)perylene	ND	73

Surrogate	%REC	Limits
2-Fluorophenol	60	25-120
Phenol-d5	64	36-120
2,4,6-Tribromophenol	30	27-120
Nitrobenzene-d5	50	44-120
2-Fluorobiphenyl	47	47-120
Terphenyl-d14	59	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(4.5)	Batch#:	222828
Lab ID:	266511-024	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 3%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	350
Phenol	ND	350
bis(2-Chloroethyl)ether	ND	350
2-Chlorophenol	ND	350
1,3-Dichlorobenzene	ND	350
1,4-Dichlorobenzene	ND	350
Benzyl alcohol	ND	350
1,2-Dichlorobenzene	ND	350
2-Methylphenol	ND	350
bis(2-Chloroisopropyl) ether	ND	350
4-Methylphenol	ND	350
N-Nitroso-di-n-propylamine	ND	350
Hexachloroethane	ND	350
Nitrobenzene	ND	350
Isophorone	ND	350
2-Nitrophenol	ND	700
2,4-Dimethylphenol	ND	350
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	350
2,4-Dichlorophenol	ND	350
1,2,4-Trichlorobenzene	ND	350
Naphthalene	ND	70
4-Chloroaniline	ND	350
Hexachlorobutadiene	ND	350
4-Chloro-3-methylphenol	ND	350
2-Methylnaphthalene	ND	70
Hexachlorocyclopentadiene	ND	700
2,4,6-Trichlorophenol	ND	350
2,4,5-Trichlorophenol	ND	350
2-Chloronaphthalene	ND	350
2-Nitroaniline	ND	700
Dimethylphthalate	ND	350
Acenaphthylene	ND	70
2,6-Dinitrotoluene	ND	350
3-Nitroaniline	ND	700
Acenaphthene	ND	70
2,4-Dinitrophenol	ND	700
4-Nitrophenol	ND	700
Dibenzofuran	ND	350
2,4-Dinitrotoluene	ND	350
Diethylphthalate	ND	350
Fluorene	ND	70
4-Chlorophenyl-phenylether	ND	350
4-Nitroaniline	ND	700
4,6-Dinitro-2-methylphenol	ND	700
N-Nitrosodiphenylamine	ND	350
Azobenzene	ND	350
4-Bromophenyl-phenylether	ND	350
Hexachlorobenzene	ND	350
Pentachlorophenol	ND	700
Phenanthrene	ND	70

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(4.5)	Batch#:	222828
Lab ID:	266511-024	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	70
Di-n-butylphthalate	ND	350
Fluoranthene	ND	70
Pyrene	ND	70
Butylbenzylphthalate	ND	350
3,3'-Dichlorobenzidine	ND	700
Benzo(a)anthracene	ND	70
Chrysene	ND	70
bis(2-Ethylhexyl)phthalate	ND	350
Di-n-octylphthalate	ND	350
Benzo(b)fluoranthene	ND	70
Benzo(k)fluoranthene	ND	70
Benzo(a)pyrene	ND	70
Indeno(1,2,3-cd)pyrene	ND	70
Dibenz(a,h)anthracene	ND	70
Benzo(g,h,i)perylene	ND	70

Surrogate	%REC	Limits
2-Fluorophenol	69	25-120
Phenol-d5	69	36-120
2,4,6-Tribromophenol	41	27-120
Nitrobenzene-d5	57	44-120
2-Fluorobiphenyl	58	47-120
Terphenyl-d14	63	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(8.5)	Batch#:	222828
Lab ID:	266511-025	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	20.00		

Moisture: 19%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	17,000
Phenol	ND	17,000
bis(2-Chloroethyl)ether	ND	17,000
2-Chlorophenol	ND	17,000
1,3-Dichlorobenzene	ND	17,000
1,4-Dichlorobenzene	ND	17,000
Benzyl alcohol	ND	17,000
1,2-Dichlorobenzene	ND	17,000
2-Methylphenol	ND	17,000
bis(2-Chloroisopropyl) ether	ND	17,000
4-Methylphenol	ND	17,000
N-Nitroso-di-n-propylamine	ND	17,000
Hexachloroethane	ND	17,000
Nitrobenzene	ND	17,000
Isophorone	ND	17,000
2-Nitrophenol	ND	33,000
2,4-Dimethylphenol	ND	17,000
Benzoic acid	ND	83,000
bis(2-Chloroethoxy)methane	ND	17,000
2,4-Dichlorophenol	ND	17,000
1,2,4-Trichlorobenzene	ND	17,000
Naphthalene	ND	3,300
4-Chloroaniline	ND	17,000
Hexachlorobutadiene	ND	17,000
4-Chloro-3-methylphenol	ND	17,000
2-Methylnaphthalene	ND	3,300
Hexachlorocyclopentadiene	ND	33,000
2,4,6-Trichlorophenol	ND	17,000
2,4,5-Trichlorophenol	ND	17,000
2-Chloronaphthalene	ND	17,000
2-Nitroaniline	ND	33,000
Dimethylphthalate	ND	17,000
Acenaphthylene	ND	3,300
2,6-Dinitrotoluene	ND	17,000
3-Nitroaniline	ND	33,000
Acenaphthene	ND	3,300
2,4-Dinitrophenol	ND	33,000
4-Nitrophenol	ND	33,000
Dibenzofuran	ND	17,000
2,4-Dinitrotoluene	ND	17,000
Diethylphthalate	ND	17,000
Fluorene	ND	3,300
4-Chlorophenyl-phenylether	ND	17,000
4-Nitroaniline	ND	33,000
4,6-Dinitro-2-methylphenol	ND	33,000
N-Nitrosodiphenylamine	ND	17,000
Azobenzene	ND	17,000
4-Bromophenyl-phenylether	ND	17,000
Hexachlorobenzene	ND	17,000
Pentachlorophenol	ND	33,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-19(8.5)	Batch#:	222828
Lab ID:	266511-025	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	20.00		

Analyte	Result	RL
Phenanthrene	ND	3,300
Anthracene	ND	3,300
Di-n-butylphthalate	ND	17,000
Fluoranthene	ND	3,300
Pyrene	ND	3,300
Butylbenzylphthalate	ND	17,000
3,3'-Dichlorobenzidine	ND	33,000
Benzo(a)anthracene	ND	3,300
Chrysene	ND	3,300
bis(2-Ethylhexyl)phthalate	ND	17,000
Di-n-octylphthalate	ND	17,000
Benzo(b)fluoranthene	ND	3,300
Benzo(k)fluoranthene	ND	3,300
Benzo(a)pyrene	ND	3,300
Indeno(1,2,3-cd)pyrene	ND	3,300
Dibenz(a,h)anthracene	ND	3,300
Benzo(g,h,i)perylene	ND	3,300

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(2)	Batch#:	222828
Lab ID:	266511-026	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 12%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	380
Phenol	ND	380
bis(2-Chloroethyl)ether	ND	380
2-Chlorophenol	ND	380
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
Benzyl alcohol	ND	380
1,2-Dichlorobenzene	ND	380
2-Methylphenol	ND	380
bis(2-Chloroisopropyl) ether	ND	380
4-Methylphenol	ND	380
N-Nitroso-di-n-propylamine	ND	380
Hexachloroethane	ND	380
Nitrobenzene	ND	380
Isophorone	ND	380
2-Nitrophenol	ND	770
2,4-Dimethylphenol	ND	380
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	380
2,4-Dichlorophenol	ND	380
1,2,4-Trichlorobenzene	ND	380
Naphthalene	ND	77
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	380
4-Chloro-3-methylphenol	ND	380
2-Methylnaphthalene	ND	77
Hexachlorocyclopentadiene	ND	770
2,4,6-Trichlorophenol	ND	380
2,4,5-Trichlorophenol	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	770
Dimethylphthalate	ND	380
Acenaphthylene	ND	77
2,6-Dinitrotoluene	ND	380
3-Nitroaniline	ND	770
Acenaphthene	ND	77
2,4-Dinitrophenol	ND	770
4-Nitrophenol	ND	770
Dibenzofuran	ND	380
2,4-Dinitrotoluene	ND	380
Diethylphthalate	ND	380
Fluorene	ND	77
4-Chlorophenyl-phenylether	ND	380
4-Nitroaniline	ND	770
4,6-Dinitro-2-methylphenol	ND	770
N-Nitrosodiphenylamine	ND	380
Azobenzene	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	380
Pentachlorophenol	ND	770
Phenanthrene	ND	77

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(2)	Batch#:	222828
Lab ID:	266511-026	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	77
Di-n-butylphthalate	ND	380
Fluoranthene	ND	77
Pyrene	ND	77
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	770
Benzo(a)anthracene	ND	77
Chrysene	ND	77
bis(2-Ethylhexyl)phthalate	ND	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	ND	77
Benzo(k)fluoranthene	ND	77
Benzo(a)pyrene	ND	77
Indeno(1,2,3-cd)pyrene	ND	77
Dibenz(a,h)anthracene	ND	77
Benzo(g,h,i)perylene	ND	77

Surrogate	%REC	Limits
2-Fluorophenol	73	25-120
Phenol-d5	77	36-120
2,4,6-Tribromophenol	58	27-120
Nitrobenzene-d5	60	44-120
2-Fluorobiphenyl	62	47-120
Terphenyl-d14	73	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(4.5)	Batch#:	222828
Lab ID:	266511-027	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	5.000		

Moisture: 18%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	4,100
Phenol	ND	4,100
bis(2-Chloroethyl)ether	ND	4,100
2-Chlorophenol	ND	4,100
1,3-Dichlorobenzene	ND	4,100
1,4-Dichlorobenzene	ND	4,100
Benzyl alcohol	ND	4,100
1,2-Dichlorobenzene	ND	4,100
2-Methylphenol	ND	4,100
bis(2-Chloroisopropyl) ether	ND	4,100
4-Methylphenol	ND	4,100
N-Nitroso-di-n-propylamine	ND	4,100
Hexachloroethane	ND	4,100
Nitrobenzene	ND	4,100
Isophorone	ND	4,100
2-Nitrophenol	ND	8,200
2,4-Dimethylphenol	ND	4,100
Benzoic acid	ND	20,000
bis(2-Chloroethoxy)methane	ND	4,100
2,4-Dichlorophenol	ND	4,100
1,2,4-Trichlorobenzene	ND	4,100
Naphthalene	ND	820
4-Chloroaniline	ND	4,100
Hexachlorobutadiene	ND	4,100
4-Chloro-3-methylphenol	ND	4,100
2-Methylnaphthalene	ND	820
Hexachlorocyclopentadiene	ND	8,200
2,4,6-Trichlorophenol	ND	4,100
2,4,5-Trichlorophenol	ND	4,100
2-Chloronaphthalene	ND	4,100
2-Nitroaniline	ND	8,200
Dimethylphthalate	ND	4,100
Acenaphthylene	ND	820
2,6-Dinitrotoluene	ND	4,100
3-Nitroaniline	ND	8,200
Acenaphthene	ND	820
2,4-Dinitrophenol	ND	8,200
4-Nitrophenol	ND	8,200
Dibenzofuran	ND	4,100
2,4-Dinitrotoluene	ND	4,100
Diethylphthalate	ND	4,100
Fluorene	ND	820
4-Chlorophenyl-phenylether	ND	4,100
4-Nitroaniline	ND	8,200
4,6-Dinitro-2-methylphenol	ND	8,200
N-Nitrosodiphenylamine	ND	4,100
Azobenzene	ND	4,100
4-Bromophenyl-phenylether	ND	4,100
Hexachlorobenzene	ND	4,100
Pentachlorophenol	ND	8,200

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(4.5)	Batch#:	222828
Lab ID:	266511-027	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	5.000		

Analyte	Result	RL
Phenanthrene	ND	820
Anthracene	ND	820
Di-n-butylphthalate	ND	4,100
Fluoranthene	ND	820
Pyrene	ND	820
Butylbenzylphthalate	ND	4,100
3,3'-Dichlorobenzidine	ND	8,200
Benzo(a)anthracene	ND	820
Chrysene	ND	820
bis(2-Ethylhexyl)phthalate	ND	4,100
Di-n-octylphthalate	ND	4,100
Benzo(b)fluoranthene	ND	820
Benzo(k)fluoranthene	ND	820
Benzo(a)pyrene	ND	820
Indeno(1,2,3-cd)pyrene	ND	820
Dibenz(a,h)anthracene	ND	820
Benzo(g,h,i)perylene	ND	820

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(7.5)	Batch#:	222828
Lab ID:	266511-028	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 12%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	380
Phenol	ND	380
bis(2-Chloroethyl)ether	ND	380
2-Chlorophenol	ND	380
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
Benzyl alcohol	ND	380
1,2-Dichlorobenzene	ND	380
2-Methylphenol	ND	380
bis(2-Chloroisopropyl) ether	ND	380
4-Methylphenol	ND	380
N-Nitroso-di-n-propylamine	ND	380
Hexachloroethane	ND	380
Nitrobenzene	ND	380
Isophorone	ND	380
2-Nitrophenol	ND	760
2,4-Dimethylphenol	ND	380
Benzoic acid	ND	1,900
bis(2-Chloroethoxy)methane	ND	380
2,4-Dichlorophenol	ND	380
1,2,4-Trichlorobenzene	ND	380
Naphthalene	ND	76
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	380
4-Chloro-3-methylphenol	ND	380
2-Methylnaphthalene	ND	76
Hexachlorocyclopentadiene	ND	760
2,4,6-Trichlorophenol	ND	380
2,4,5-Trichlorophenol	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	760
Dimethylphthalate	ND	380
Acenaphthylene	ND	76
2,6-Dinitrotoluene	ND	380
3-Nitroaniline	ND	760
Acenaphthene	ND	76
2,4-Dinitrophenol	ND	760
4-Nitrophenol	ND	760
Dibenzofuran	ND	380
2,4-Dinitrotoluene	ND	380
Diethylphthalate	ND	380
Fluorene	ND	76
4-Chlorophenyl-phenylether	ND	380
4-Nitroaniline	ND	760
4,6-Dinitro-2-methylphenol	ND	760
N-Nitrosodiphenylamine	ND	380
Azobenzene	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	380
Pentachlorophenol	ND	760
Phenanthrene	ND	76

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-18(7.5)	Batch#:	222828
Lab ID:	266511-028	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	76
Di-n-butylphthalate	ND	380
Fluoranthene	ND	76
Pyrene	ND	76
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	760
Benzo(a)anthracene	ND	76
Chrysene	ND	76
bis(2-Ethylhexyl)phthalate	ND	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	ND	76
Benzo(k)fluoranthene	ND	76
Benzo(a)pyrene	ND	76
Indeno(1,2,3-cd)pyrene	ND	76
Dibenz(a,h)anthracene	ND	76
Benzo(g,h,i)perylene	ND	76

Surrogate	%REC	Limits
2-Fluorophenol	71	25-120
Phenol-d5	72	36-120
2,4,6-Tribromophenol	44	27-120
Nitrobenzene-d5	58	44-120
2-Fluorobiphenyl	59	47-120
Terphenyl-d14	68	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786499	Batch#:	222828
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/04/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786499	Batch#:	222828
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/04/15

Analyte	Result	RL
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	50	25-120
Phenol-d5	55	36-120
2,4,6-Tribromophenol	60	27-120
Nitrobenzene-d5	62	44-120
2-Fluorobiphenyl	71	47-120
Terphenyl-d14	69	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786500	Batch#:	222828
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/04/15

Analyte	Spiked	Result	%REC	Limits
Phenol	2,661	1,969	74	42-120
2-Chlorophenol	2,661	2,199	83	45-120
1,4-Dichlorobenzene	2,661	2,229	84	48-120
N-Nitroso-di-n-propylamine	2,661	2,229	84	27-123
1,2,4-Trichlorobenzene	2,661	2,277	86	50-120
4-Chloro-3-methylphenol	2,661	2,304	87	59-120
Acenaphthene	998.0	861.8	86	53-120
4-Nitrophenol	2,661	2,066	78	47-120
2,4-Dinitrotoluene	2,661	2,244	84	55-120
Pentachlorophenol	2,661	1,916	72	32-120
Pyrene	998.0	870.9	87	52-120

Surrogate	%REC	Limits
2-Fluorophenol	68	25-120
Phenol-d5	75	36-120
2,4,6-Tribromophenol	91	27-120
Nitrobenzene-d5	73	44-120
2-Fluorobiphenyl	74	47-120
Terphenyl-d14	82	49-120

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-17(2)	Batch#:	222828
MSS Lab ID:	266511-020	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Type: MS Moisture: 10%
Lab ID: QC786501

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<7.804	2,956	2,226	75	47-120
2-Chlorophenol	<8.126	2,956	1,836	62	44-120
1,4-Dichlorobenzene	<8.507	2,956	629.6	21 *	49-120
N-Nitroso-di-n-propylamine	<8.687	2,956	2,220	75	42-120
1,2,4-Trichlorobenzene	<8.718	2,956	1,348	46 *	54-120
4-Chloro-3-methylphenol	<9.204	2,956	2,142	72	55-120
Acenaphthene	<9.063	1,109	710.1	64	51-120
4-Nitrophenol	<78.71	2,956	2,089	71	36-120
2,4-Dinitrotoluene	<10.62	2,956	2,149	73	52-120
Pentachlorophenol	<141.2	2,956	1,647	56	14-120
Pyrene	<12.04	1,109	802.7	72	46-124

Surrogate	%REC	Limits
2-Fluorophenol	73	25-120
Phenol-d5	75	36-120
2,4,6-Tribromophenol	66	27-120
Nitrobenzene-d5	61	44-120
2-Fluorobiphenyl	62	47-120
Terphenyl-d14	66	49-120

Type: MSD Moisture: 10%
Lab ID: QC786502

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,946	2,042	69	47-120	8	39
2-Chlorophenol	2,946	1,635	56	44-120	11	38
1,4-Dichlorobenzene	2,946	269.6	9 *	49-120	80 *	45
N-Nitroso-di-n-propylamine	2,946	1,978	67	42-120	11	40
1,2,4-Trichlorobenzene	2,946	982.7	33 *	54-120	31	38
4-Chloro-3-methylphenol	2,946	1,970	67	55-120	8	41
Acenaphthene	1,105	656.2	59	51-120	8	47
4-Nitrophenol	2,946	1,916	65	36-120	8	41
2,4-Dinitrotoluene	2,946	2,033	69	52-120	5	40
Pentachlorophenol	2,946	1,570	53	14-120	5	53
Pyrene	1,105	758.2	69	46-124	5	50

Surrogate	%REC	Limits
2-Fluorophenol	67	25-120
Phenol-d5	68	36-120
2,4,6-Tribromophenol	63	27-120
Nitrobenzene-d5	56	44-120
2-Fluorobiphenyl	58	47-120
Terphenyl-d14	61	49-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266511	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Former APC Terminal
Field ID:	APLB-12(1.5)	Diln Fac:	1.000
Lab ID:	266511-029	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry		

Moisture: 7%

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.50	222876	05/06/15	EPA 3050B	EPA 6010B
Arsenic	4.4	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Barium	85	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Beryllium	0.30	0.10	222876	05/05/15	EPA 3050B	EPA 6010B
Cadmium	0.71	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Chromium	26	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Cobalt	7.3	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Copper	22	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Lead	34	0.25	222876	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.20	0.019	222868	05/05/15	METHOD	EPA 7471A
Molybdenum	0.50	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Nickel	25	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Selenium	0.76	0.50	222876	05/05/15	EPA 3050B	EPA 6010B
Silver	ND	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Thallium	ND	0.50	222876	05/05/15	EPA 3050B	EPA 6010B
Vanadium	37	0.25	222876	05/05/15	EPA 3050B	EPA 6010B
Zinc	65	1.0	222876	05/05/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266511	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Former APC Terminal
Field ID:	APLB-12(4.5)	Diln Fac:	1.000
Lab ID:	266511-030	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry		

Moisture: 11%

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	0.84	0.51	222876	05/06/15	EPA 3050B	EPA 6010B
Arsenic	3.5	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Barium	190	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Beryllium	0.39	0.10	222876	05/05/15	EPA 3050B	EPA 6010B
Cadmium	1.4	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Chromium	8.5	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Cobalt	10	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Copper	21	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Lead	7.3	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Mercury	0.31	0.018	222868	05/05/15	METHOD	EPA 7471A
Molybdenum	0.42	0.26	222876	05/06/15	EPA 3050B	EPA 6010B
Nickel	12	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Selenium	1.7	0.51	222876	05/05/15	EPA 3050B	EPA 6010B
Silver	ND	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Thallium	ND	0.51	222876	05/05/15	EPA 3050B	EPA 6010B
Vanadium	45	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Zinc	100	1.0	222876	05/05/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266511	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Former APC Terminal
Field ID:	APLB-12(7.8)	Diln Fac:	1.000
Lab ID:	266511-031	Sampled:	04/30/15
Matrix:	Soil	Received:	04/30/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry		

Moisture: 5%

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.52	222876	05/06/15	EPA 3050B	EPA 6010B
Arsenic	1.7	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Barium	36	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Beryllium	0.12	0.10	222876	05/05/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Chromium	30	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Cobalt	3.2	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Copper	3.3	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Lead	2.0	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Mercury	0.022	0.018	222868	05/05/15	METHOD	EPA 7471A
Molybdenum	ND	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Nickel	16	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Selenium	ND	0.52	222876	05/05/15	EPA 3050B	EPA 6010B
Silver	ND	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Thallium	ND	0.52	222876	05/05/15	EPA 3050B	EPA 6010B
Vanadium	16	0.26	222876	05/05/15	EPA 3050B	EPA 6010B
Zinc	11	1.0	222876	05/05/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222868
Lab ID:	QC786657	Prepared:	05/05/15
Matrix:	Soil	Analyzed:	05/05/15
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	222868
Matrix:	Soil	Prepared:	05/05/15
Units:	mg/Kg	Analyzed:	05/05/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786658	0.2083	0.2206	106	80-120		
BSD	QC786659	0.2083	0.2198	106	80-120	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	222868
MSS Lab ID:	266516-001	Sampled:	04/29/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry	Analyzed:	05/05/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC786660	0.01414	0.2976	0.3266	105	69-142	25%		
MSD	QC786661		0.2525	0.2809	106	69-142	25%	1	36

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786690	Batch#:	222876
Matrix:	Soil	Prepared:	05/05/15
Units:	mg/Kg	Analyzed:	05/05/15

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	222876
Units:	mg/Kg	Prepared:	05/05/15
Diln Fac:	5.000	Analyzed:	05/05/15

Type: BS Lab ID: QC786691

Analyte	Spiked	Result	%REC	Limits
Antimony	50.00	44.71	89	80-120
Arsenic	50.00	47.33	95	80-120
Barium	50.00	47.54	95	80-120
Beryllium	50.00	48.57	97	80-120
Cadmium	50.00	49.57	99	80-120
Chromium	50.00	47.01	94	80-120
Cobalt	50.00	45.34	91	80-120
Copper	50.00	45.56	91	80-120
Lead	50.00	45.86	92	80-120
Molybdenum	50.00	47.13	94	80-120
Nickel	50.00	46.67	93	80-120
Selenium	50.00	46.35	93	80-120
Silver	50.00	45.51	91	80-120
Thallium	50.00	47.24	94	80-120
Vanadium	50.00	48.52	97	80-120
Zinc	50.00	48.97	98	80-120

Type: BSD Lab ID: QC786692

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.00	47.55	95	80-120	6	20
Arsenic	50.00	49.02	98	80-120	4	20
Barium	50.00	49.04	98	80-120	3	20
Beryllium	50.00	50.27	101	80-120	3	20
Cadmium	50.00	51.16	102	80-120	3	20
Chromium	50.00	48.30	97	80-120	3	20
Cobalt	50.00	46.52	93	80-120	3	20
Copper	50.00	46.81	94	80-120	3	20
Lead	50.00	47.67	95	80-120	4	20
Molybdenum	50.00	49.19	98	80-120	4	20
Nickel	50.00	47.95	96	80-120	3	20
Selenium	50.00	48.27	97	80-120	4	20
Silver	50.00	46.74	93	80-120	3	20
Thallium	50.00	48.62	97	80-120	3	20
Vanadium	50.00	49.93	100	80-120	3	20
Zinc	50.00	50.40	101	80-120	3	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	222876
MSS Lab ID:	266551-002	Sampled:	05/04/15
Matrix:	Soil	Received:	05/04/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	as received	Analyzed:	05/05/15
Diln Fac:	5.000		

Type: MS Lab ID: QC786693

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	1.060	50.00	10.41	19	15-120
Arsenic	5.562	50.00	50.65	90	69-120
Barium	126.5	50.00	243.0	233 *	35-154
Beryllium	0.2423	50.00	46.86	93	75-120
Cadmium	1.301	50.00	59.23	116	71-120
Chromium	192.0	50.00	187.8	-8 *	57-133
Cobalt	22.07	50.00	64.47	85	56-125
Copper	74.20	50.00	121.2	94	54-144
Lead	199.6	50.00	286.0	173 *	53-125
Molybdenum	0.6858	50.00	43.13	85	66-120
Nickel	391.5	50.00	341.9	-99 NM	44-141
Selenium	0.6382	50.00	44.90	89	61-120
Silver	0.07038	50.00	44.75	89	69-120
Thallium	<0.1300	50.00	41.32	83	59-120
Vanadium	37.84	50.00	91.95	108	52-144
Zinc	169.5	50.00	258.2	177 *	45-145

Type: MSD Lab ID: QC786694

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	49.50	9.805	18	15-120	5	41
Arsenic	49.50	50.60	91	69-120	1	35
Barium	49.50	193.5	135	35-154	22	36
Beryllium	49.50	46.28	93	75-120	0	20
Cadmium	49.50	46.63	92	71-120	23	25
Chromium	49.50	301.6	221 *	57-133	47 *	33
Cobalt	49.50	61.96	81	56-125	3	36
Copper	49.50	481.4	823 *	54-144	120 *	38
Lead	49.50	314.9	233 NM	53-125	10	42
Molybdenum	49.50	42.28	84	66-120	1	20
Nickel	49.50	321.8	-141 NM	44-141	6	39
Selenium	49.50	42.80	85	61-120	4	33
Silver	49.50	43.98	89	69-120	1	22
Thallium	49.50	40.88	83	59-120	0	27
Vanadium	49.50	83.85	93	52-144	9	29
Zinc	49.50	283.4	230 *	45-145	10	39

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB-12(GW)	Diln Fac:	1.000
Lab ID:	266511-010	Sampled:	04/30/15
Matrix:	Filtrate	Received:	04/30/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Arsenic	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Barium	540	5.0	222890	05/05/15	05/06/15	EPA 6010B
Beryllium	ND	2.0	222890	05/05/15	05/06/15	EPA 6010B
Cadmium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Chromium	9.6	5.0	222890	05/05/15	05/06/15	EPA 6010B
Cobalt	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Copper	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Lead	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Mercury	ND	0.20	222838	05/04/15	05/05/15	EPA 7470A
Molybdenum	8.9	5.0	222890	05/05/15	05/06/15	EPA 6010B
Nickel	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Selenium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Silver	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Thallium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Vanadium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Zinc	ND	20	222890	05/05/15	05/06/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222838
Lab ID:	QC786543	Prepared:	05/04/15
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222838
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786544	2.500	2.495	100	80-120		
BSD	QC786545	2.500	2.484	99	80-120	0	24

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222838
Field ID:	ZZZZZZZZZZ	Sampled:	05/01/15
MSS Lab ID:	266535-001	Received:	05/01/15
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC786546	<0.02080	2.500	2.440	98	60-130		
MSD	QC786547		2.500	2.517	101	60-130	3	34

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786754	Batch#:	222890
Matrix:	Filtrate	Prepared:	05/05/15
Units:	ug/L	Analyzed:	05/06/15

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	5.0
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

102.0

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Filtrate	Batch#:	222890
Units:	ug/L	Prepared:	05/05/15
Diln Fac:	1.000	Analyzed:	05/06/15

Type: BS Lab ID: QC786755

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	114.2	114	79-120
Arsenic	100.0	111.6	112	80-120
Barium	100.0	103.4	103	80-120
Beryllium	100.0	105.8	106	80-120
Cadmium	100.0	111.0	111	80-120
Chromium	100.0	102.1	102	80-120
Cobalt	100.0	101.2	101	80-120
Copper	100.0	100.7	101	80-120
Lead	100.0	98.80	99	80-120
Molybdenum	100.0	101.3	101	80-120
Nickel	100.0	102.2	102	80-120
Selenium	100.0	109.9	110	80-120
Silver	100.0	108.0	108	77-120
Thallium	50.00	52.16	104	80-121
Vanadium	100.0	103.4	103	80-120
Zinc	100.0	106.0	106	80-120

Type: BSD Lab ID: QC786756

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	111.2	111	79-120	3	20
Arsenic	100.0	109.1	109	80-120	2	20
Barium	100.0	103.3	103	80-120	0	20
Beryllium	100.0	106.1	106	80-120	0	20
Cadmium	100.0	109.7	110	80-120	1	20
Chromium	100.0	101.8	102	80-120	0	20
Cobalt	100.0	100.9	101	80-120	0	20
Copper	100.0	101.1	101	80-120	0	20
Lead	100.0	98.22	98	80-120	1	20
Molybdenum	100.0	99.87	100	80-120	1	20
Nickel	100.0	101.2	101	80-120	1	20
Selenium	100.0	110.8	111	80-120	1	20
Silver	100.0	107.3	107	77-120	1	20
Thallium	50.00	52.75	106	80-121	1	20
Vanadium	100.0	102.9	103	80-120	0	20
Zinc	100.0	106.3	106	80-120	0	20

RPD= Relative Percent Difference

103.0

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266511	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-14(GW)	Batch#:	222890
MSS Lab ID:	266525-022	Sampled:	05/01/15
Matrix:	Filtrate	Received:	05/01/15
Units:	ug/L	Prepared:	05/05/15
Diln Fac:	1.000	Analyzed:	05/06/15

Type: MS Lab ID: QC786757

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.893	100.0	103.5	103	74-120
Arsenic	<1.538	100.0	108.4	108	80-127
Barium	766.1	100.0	854.6	89 NM	80-120
Beryllium	0.5013	100.0	105.8	105	80-120
Cadmium	<0.2919	100.0	99.18	99	80-120
Chromium	5.864	100.0	104.8	99	80-120
Cobalt	0.9768	100.0	94.67	94	80-120
Copper	<1.452	100.0	107.0	107	80-120
Lead	<1.190	100.0	89.01	89	67-120
Molybdenum	5.276	100.0	105.8	101	80-120
Nickel	1.370	100.0	93.56	92	80-120
Selenium	<3.146	100.0	138.5	138 *	73-132
Silver	<0.6588	100.0	117.3	117	67-120
Thallium	<0.9604	50.00	47.77	96	76-121
Vanadium	3.196	100.0	109.4	106	80-120
Zinc	6.967	100.0	106.8	100	80-122

Type: MSD Lab ID: QC786758

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	102.1	102	74-120	1	24
Arsenic	100.0	102.6	103	80-127	6	25
Barium	100.0	821.3	55 NM	80-120	4	20
Beryllium	100.0	102.5	102	80-120	3	20
Cadmium	100.0	94.90	95	80-120	4	20
Chromium	100.0	99.91	94	80-120	5	20
Cobalt	100.0	90.75	90	80-120	4	20
Copper	100.0	101.2	101	80-120	6	20
Lead	100.0	85.91	86	67-120	4	23
Molybdenum	100.0	101.5	96	80-120	4	20
Nickel	100.0	89.09	88	80-120	5	20
Selenium	100.0	141.2	141 *	73-132	2	30
Silver	100.0	108.1	108	67-120	8	22
Thallium	50.00	45.53	91	76-121	5	20
Vanadium	100.0	104.1	101	80-120	5	20
Zinc	100.0	104.4	97	80-122	2	20

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

104.0


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266525
ANALYTICAL REPORT

AMEC Environment & Infrastructure
1670 Corporate Circle
Petaluma, CA 94954

Project : OD14170810.03
Location : Port of Oakland
Level : III

Sample ID	Lab ID	Sample ID	Lab ID
APLB-14(2)	266525-001	APLB-3(2)	266525-016
APLB-14(4.5)	266525-002	APLB-3(5)	266525-017
APLB-14(8.4)	266525-003	APLB-3(8)	266525-018
APLB-13(2)	266525-004	APLB-2(2)	266525-019
APLB-13(4.5)	266525-005	APLB-2(5)	266525-020
APLB-13(8)	266525-006	APLB-2(8)	266525-021
APLB-20(1.5)	266525-007	APLB-14(GW)	266525-022
APLB-20(4.5)	266525-008	APLB-13(GW)	266525-023
APLB-20(8.5)	266525-009	APLB-20(GW)	266525-024
APLB-1(2)	266525-010	TB5-1-15	266525-025
APLB-1(4.5)	266525-011	RB5-1-15	266525-026
APLB-1(8.4)	266525-012	APLB-1(GW)	266525-027
APLB-4(2)	266525-013	APLB-4(GW)	266525-028
APLB-4(4.5)	266525-014	APLB-3(GW)	266525-029
APLB-4(7)	266525-015	APLB-2(GW)	266525-030

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 05/12/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266525**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Port of Oakland**
Request Date:	**05/01/15**
Samples Received:	**05/01/15**

This data package contains sample and QC results for twenty one soil samples and nine water samples, requested for the above referenced project on 05/01/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

Some sample preservation was done upon receipt; see the attached receipt form.

TPH-Extractables by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
Many samples were diluted due to the dark and viscous nature of the sample extracts.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:
High response was observed for hexachlorobutadiene in the CCV analyzed 05/04/15 13:39; this analyte was not detected at or above the RL in the associated samples.

High response was observed for vinyl acetate in the CCV analyzed 05/06/15 15:17; this analyte was not detected at or above the RL in the associated samples.

APLB-3(GW) (lab # 266525-029) and APLB-2(GW) (lab # 266525-030) were diluted due to foaming.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:
High responses were observed for bromomethane and methylene chloride in the CCV analyzed 05/08/15 10:42; these analytes were not detected at or above the RL in the associated samples.

Low response was observed for Freon 12 in the CCV analyzed 05/04/15 16:31; this analyte met minimum response criteria.

Low response was observed for Freon 12 in the CCV analyzed 05/05/15 09:06; this analyte met minimum response criteria.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266525**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Port of Oakland**
Request Date:	**05/01/15**
Samples Received:	**05/01/15**

Volatile Organics by GC/MS (EPA 8260B) Soil:
High response was observed for bromomethane in the CCV analyzed 05/07/15 13:26; this analyte was not detected at or above the RL in the associated samples.

Matrix spikes were not performed for this analysis in batch 222827 because of clock limitations; 5030 rushes were added to a 5035 batch.

Low recovery was observed for chlorobenzene in the MS for batch 222861; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits.

High recoveries were observed for trichloroethene in the MS/MSD for batch 222980; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Water:
No analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C) Soil:
High recovery was observed for pyrene in the MSD of APLB-2(5) (lab # 266525-020); the LCS was within limits. High RPD was also observed for pyrene in the MS/MSD of APLB-2(5) (lab # 266525-020).

Many samples were diluted due to the dark and viscous nature of the sample extracts.

APLB-3(5) (lab # 266525-017) was diluted due to high non-target analytes.

No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A) Soil:
No analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A) Filtrate:
High response was observed for copper in the CCV analyzed 05/06/15 10:54; this analyte was not detected at or above the RL in the associated samples.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266525**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Port of Oakland**
Request Date:	**05/01/15**
Samples Received:	**05/01/15**

Metals (EPA 6010B and EPA 7470A) Filtrate:

High recoveries were observed for selenium in the MS/MSD of APLB-14(GW) (lab # 266525-022); the BS/BSD were within limits, and the associated RPD was within limits.

High recovery was observed for selenium in the post digest spike of APLB-14(GW) (lab # 266525-022); the BS/BSD were within limits.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):

No analytical problems were encountered.

Chain of Custody

Seq. No. 3194

Lab: CBT

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

260575

amec

Samplers: Bill Kelly / Steve Kerbay

Job Number: 08141170810.03

Name/Location: Port of Oakland

Project Manager: MaryJo Harsh

Recorder: (Signature Required)

MATRIX			# CONTAINERS					SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED					
Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL	Tedlar (5)		YR	MO	DAY	TIME		DEPTH	8260	8270	TITLE 22 METALS	TPH diesel soil	Cstm 17 metals	
	X		1					APLB-14 (0)	15	05	01	0736						X	X	
	X		1					APLB-14 (4.5)	15	05	01	0738						X	X	
	X		1					APLB-14 (9.4)	15	05	01	0740						X	X	
	X		1					APLB-13 (2)	15	05	01	0815						X	X	
	X		1					APLB-13 (4.5)	15	05	01	0817						X	X	
	X		1					APLB-13 (9)	15	05	01	0820						X	X	
	X		1					APLB-20 (1.5)	15	05	01	0842						X	X	
	X		1					APLB-20 (4.5)	15	05	01	0845						X	X	
	X		1					APLB-20 (air)	15	05	01	0850						X	X	
								~~APLB-~~												

ADDITIONAL INFORMATION

REPORT TO: MaryJo Harsh

PO#:

TAT:

Comments: Field Filtered Y/N

CHAIN OF CUSTODY RECORD

Steve Kerbay	Steve Kerbay	Amec	5/1/15 1515
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Pat Glan	Pat Gonzalez	CH	5/1/15 1515
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Courier

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

6 of 598

Seq. No. 3195

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

260525

amec

Samplers: Bill Falk / Steve Kerbay

Job Number: 0D14170810.03

Name/Location: PAT or Oakland ARL

Project Manager: Mayo Hassle

Recorder: (Signature Required)

| MATRIX | | | # CONTAINERS | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | |

Seq. No. 3196

Lab: CET

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

260525

amec

Samplers: Billzell (Steve Kerby

Job Number: 08141208 10.03

Name/Location: Port of Oakland AFL

Project Manager: Mary Jo Hensler

Recorder: (Signature Required)

MATRIX			# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED		
Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL	Terra Core			YR	MO	DAY	TIME		DEPTH	8260B	8270C	TITLE 22 METALS
X			1				3		AFLA-2 (2)	15	05	01	1130			X	X	
X			1				3		AFLA-2 (5)	15	05	01	1130			X	X	
X			1				3		AFLA-2 (8)	15	05	01	1315			X	X	

ADDITIONAL INFORMATION

REPORT TO: Mary Jo Hensler

PO#:

TAT:

Comments: Field Filtered Y/N

CHAIN OF CUSTODY RECORD

Steve Kerby	Steve Kerby	Amec	5/1/15 1515
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Pat Gonzalez	Pat Gonzalez	CET	5/1/15 15:15
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Courier

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

8 of 598

Seq. No. 3165

Lab: CT&T

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

266525

amec

Samplers: Steve Korbay

Job Number: 0D14170810.03

Name/Location: Former APL Terminal, Oakland

Project Manager: Mary Jo Heasler

Recorder: Steve Korbay (Signature Required)

MATRIX				# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED					
Water	Soil	Air		Unpres.	H2SO4	HNO3	HCL				YR	MO	DAY	TIME		DEPTH	8260B	8270C	TITLE 22 METALS	TPH D, M.O.	CAM 17 Metals	
X				2						APLB-14(GW)	15	05	01	0818						X	X	
X				2						APLB-13(GW)	15	05	01	0853						X	X	
X				2						APLB-20(GW)	15	05	01	0933						X	X	
X							3			TBS-1-15	15	05	01	1020			X					
X				3			3			RBS-1-15	15	05	01	1035			X	X	X			
X				3			3			APLB-1(GW)	15	05	01	1106			X	X	X			
X				3			3			APLB-4(GW)	15	05	01	1209			X	X	X			
X				3			3			APLB-3(GW)	15	05	01	1244			X	X	X			
X				2			3			APLB-2(GW)	15	05	01	1352			X	X	X			

ADDITIONAL INFORMATION

REPORT TO: Mary Jo Heasler

PO#:

TAT:

Comments: Field Filtered (Y)N Cam 17 Metals

CHAIN OF CUSTODY RECORD

Steve Korbay	Steve Korbay	Amec	5/1/15 1515
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Pat Gonzalez	Pat Gonzalez	CTT	5/1/15 1515
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment:

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 266525 Date Received 5/1/15 Number of coolers 4
Client AMEC Project Port of Oakland

Date Opened 5/1 By (print) SL (sign)
Date Logged in 5/1 By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.9°, 5.7°, 4.3°, 4.7°

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO N/A
If YES, what time were they transferred to freezer? 1655
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? 5/1/15 YES NO N/A
17. Did you document your preservative check? YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS
15) Added HNO3 (5070) on 5/1/15 @ 1640 to -022, -023 & -024 to pH<2

Rev 10, 9/12

Curtis & Tompkins Sample Preservation for 266525

Sample	pH: <2	>9	>12	Other
-022a	[X]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
-023a	[X]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
-024a	[X]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____

Analyst: FO
Date: 5/11/15

Page 1 of 1

Subject: RE: Revisions to some Sample Number Depth Designations
From: "Feller, William J." <william.feller@amecfw.com>
Date: 5/5/2015 7:56 AM
To: "Feller, William J." <william.feller@amecfw.com>, Will Rice <will.rice@ctberk.com>
CC: "Heassler, Mary Jo" <maryjo.heassler@amecfw.com>, "Carroll, Zachary T" <zachary.carroll@amecfw.com>

Will, here are COC corrections to the 19 sample depth changes.

Thank you,

Bill

From: Feller, William J.
Sent: Monday, May 04, 2015 9:36 AM
To: 'Will Rice'
Cc: Heassler, Mary Jo; Carroll, Zachary T
Subject: Revisions to some Sample Number Depth Designations

Hello Will,

Please change the following sample number depth designations for the Port of Oakland APL project for all of your reporting.

4/27/15 Samples Starting with APLB-
5(6.5) to 5(6)
6(6.5) to 6(5.5)
7(7.5) to 7(6.5)
8(6.5) to 8(5.5)
9(9) to 9(8)
10(9.5) to 10(8.5)

4/28/15 Sample Starting with APLB-
21(9.5) to 1(8.5)

4/30/15 Samples Starting with APLB-
11(6) to 11(5)
12(8.8) to 12(7.8)
15(9.5) to 15(8)
16(8.6) to 16(7.6)
17(6) to 17(5)
17(7.5) to 17(6.5)
18(8.5) to 18(7.5)
19(9.5) to 19(8.5)

5/1/15 Samples Starting with APLB-
1(9.4) to 1(8.4)
13(9) to 13(8)
14(9.4) to 14(8.4)
20(9.5) to 20(8.5)

Sorry for the inconvenience.

Thank you,

Bill Feller
Senior Geology Professional
Amec Foster Wheeler plc

1670 Corporate Circle: Suite 101
Petaluma, CA 94954

D +01 (707) 793-3891
M +01 (707) 239-2066
E william.feller@amecfw.com

amec foster wheeler

This message is the property of Amec Foster Wheeler plc and/or its subsidiaries and/or affiliates and is intended only for the named recipient(s). Its contents (including any attachments) may be confidential, legally privileged or otherwise protected from disclosure by law. Unauthorised use, copying, distribution or disclosure of any of it may be unlawful and is strictly prohibited. We assume no responsibility to persons other than the intended named recipient(s) and do not accept liability for any errors or omissions which are a result of email transmission. If you have received this message in error, please notify us immediately by reply email to the sender and confirm that the original message and any attachments and copies have been destroyed and deleted from your system. This disclaimer applies to any and all messages originating from us and set out above. For Canada and the United States: If you believe this is an unsolicited email and do not wish to receive future commercial electronic messages from us, please click unsubscribe@amecfw.com and include "Unsubscribe" in the subject line.

Please click http://amecfw.com/email-disclaimer for notices and company information in relation to emails originating in the UK, Italy or France.

Attachments:

AMEC_Port_COC_Depth Corrections.pdf	880 KB

Curtis & Tompkins, Ltd.

Detections Summary for 266525

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Port of Oakland

Client Sample ID : APLB-14(2) Laboratory Sample ID : 266525-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	26	Y	5.4	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	260		27	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Arsenic	9.6		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	110		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.34		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	20		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.6		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	42		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.38		0.017	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.72		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	18		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	52		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	120		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-14(4.5) Laboratory Sample ID : 266525-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	140	Y	5.7	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	500		29	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Antimony	5.9		0.56	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	3.0		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	110		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.21		0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.63		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	54		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	6.9		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	39		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	360		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.30		0.018	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Nickel	41		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Silver	0.43		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	32		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	290		1.1	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-14(8.4) Laboratory Sample ID : 266525-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	390	Y	5.8	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	850		29	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Antimony	1.1		0.57	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	2.5		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	23		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.44		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	23		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	2.7		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	29		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	63		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.058		0.020	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Nickel	15		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	17		0.29	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	660		110	mg/Kg	Dry	100.0	EPA 6010B	EPA 3050B

Client Sample ID : APLB-13(2) Laboratory Sample ID : 266525-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	420	Y	53	mg/Kg	Dry	50.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	3,900		260	mg/Kg	Dry	50.00	EPA 8015B	EPA 3550B
Antimony	25		0.50	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	4.6		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	99		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.34		0.099	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	26		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.2		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	33		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	350		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.16		0.017	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.49		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	66		0.99	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-13(4.5) Laboratory Sample ID : 266525-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	84	Y	5.5	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	390		28	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Arsenic	7.1		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	95		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.30		0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.34		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	45		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	33		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.91		0.019	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.80		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	36		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Silver	0.28		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	120		1.1	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-13(8) Laboratory Sample ID : 266525-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.7		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	39		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	23		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	3.6		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	3.7		0.31	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	1.8		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	18		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	16		0.30	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	17		1.2	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-20(1.5) Laboratory Sample ID : 266525-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	190	Y	5.4	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	1,300		27	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Arsenic	5.8		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	100		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.35		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	25		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.4		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	27		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	37		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.34		0.018	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.39		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	28		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	34		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	81		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-20(4.5) Laboratory Sample ID : 266525-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Motor Oil C24-C36	6.2		5.3	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Arsenic	6.2		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	77		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.45		0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.67		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	7.1		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	16		0.28	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	14		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.017	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.43		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	7.6		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Silver	0.33		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	67		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	160		1.1	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-20(8.5) Laboratory Sample ID : 266525-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.2		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	25		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.10		0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	24		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	2.5		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	3.6		0.27	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	2.0		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	13		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	14		0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	9.3		1.0	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B

Client Sample ID : APLB-1(2) Laboratory Sample ID : 266525-010

No Detections

Client Sample ID : APLB-1(4.5) Laboratory Sample ID : 266525-011

No Detections

Client Sample ID : APLB-1(8.4) Laboratory Sample ID : 266525-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Acetone	37		17	ug/Kg	Dry	0.7052	EPA 8260B	EPA 5035
Phenanthrene	85		82	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Fluoranthene	130		82	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Pyrene	120		82	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-4(2) Laboratory Sample ID : 266525-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	2,200		250	ug/Kg	Dry	46.55	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	8,100		250	ug/Kg	Dry	46.55	EPA 8260B	EPA 5035
1,2,3-Trichlorobenzene	1,500		250	ug/Kg	Dry	46.55	EPA 8260B	EPA 5035

Client Sample ID : APLB-4(4.5) Laboratory Sample ID : 266525-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	110		5.3	ug/Kg	Dry	1.033	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	77		5.3	ug/Kg	Dry	1.033	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	200		5.3	ug/Kg	Dry	1.033	EPA 8260B	EPA 5035
1,2-Dichlorobenzene	32		5.3	ug/Kg	Dry	1.033	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	4,000		270	ug/Kg	Dry	52.00	EPA 8260B	EPA 5035
1,2,3-Trichlorobenzene	130		5.3	ug/Kg	Dry	1.033	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	530		350	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
1,2,4-Trichlorobenzene	3,400		350	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-4(7) Laboratory Sample ID : 266525-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	100,000		4,200	ug/Kg	Dry	702.0	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	98,000		4,200	ug/Kg	Dry	702.0	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	130,000		4,200	ug/Kg	Dry	702.0	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	120,000		4,200	ug/Kg	Dry	702.0	EPA 8260B	EPA 5035
1,2,3-Trichlorobenzene	11,000		4,200	ug/Kg	Dry	702.0	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	36,000		4,000	ug/Kg	Dry	10.00	EPA 8270C	EPA 3550B
1,4-Dichlorobenzene	40,000		4,000	ug/Kg	Dry	10.00	EPA 8270C	EPA 3550B
1,2,4-Trichlorobenzene	29,000		4,000	ug/Kg	Dry	10.00	EPA 8270C	EPA 3550B

Client Sample ID : APLB-3(2) Laboratory Sample ID : 266525-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	29		5.4	ug/Kg	Dry	1.027	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	8.8		5.4	ug/Kg	Dry	1.027	EPA 8260B	EPA 5035

Client Sample ID : APLB-3(5) Laboratory Sample ID : 266525-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	55,000		4,900	ug/Kg	Dry	898.0	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	57,000		4,900	ug/Kg	Dry	898.0	EPA 8260B	EPA 5035
1,2-Dichlorobenzene	62,000		4,900	ug/Kg	Dry	898.0	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	7,200,000		240,000	ug/Kg	Dry	44880	EPA 8260B	EPA 5035
1,2,3-Trichlorobenzene	1,300,000		240,000	ug/Kg	Dry	44880	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	6,000,000		720,000	ug/Kg	Dry	2000	EPA 8270C	EPA 3550B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-3(8) Laboratory Sample ID : 266525-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	97,000		3,900	ug/Kg	Dry	682.0	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	240,000		78,000	ug/Kg	Dry	13640	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	650,000		78,000	ug/Kg	Dry	13640	EPA 8260B	EPA 5035
1,2-Dichlorobenzene	26,000		3,900	ug/Kg	Dry	682.0	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	1,100,000		78,000	ug/Kg	Dry	13640	EPA 8260B	EPA 5035
1,2,3-Trichlorobenzene	210,000		78,000	ug/Kg	Dry	13640	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	220,000		78,000	ug/Kg	Dry	200.0	EPA 8270C	EPA 3550B
1,4-Dichlorobenzene	560,000		78,000	ug/Kg	Dry	200.0	EPA 8270C	EPA 3550B
1,2,4-Trichlorobenzene	2,300,000		390,000	ug/Kg	Dry	1000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-2(2) Laboratory Sample ID : 266525-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,2,4-Trichlorobenzene	430		250	ug/Kg	Dry	45.70	EPA 8260B	EPA 5035

Client Sample ID : APLB-2(5) Laboratory Sample ID : 266525-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	160		4.7	ug/Kg	Dry	0.8820	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	920		290	ug/Kg	Dry	54.00	EPA 8260B	EPA 5035
1,4-Dichlorobenzene	59		4.7	ug/Kg	Dry	0.8820	EPA 8260B	EPA 5035
1,2-Dichlorobenzene	15		4.7	ug/Kg	Dry	0.8820	EPA 8260B	EPA 5035
1,2,4-Trichlorobenzene	77		4.7	ug/Kg	Dry	0.8820	EPA 8260B	EPA 5035
1,3-Dichlorobenzene	520		360	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
1,2,4-Trichlorobenzene	360		360	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Fluoranthene	94		71	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Pyrene	110		71	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-2(8) Laboratory Sample ID : 266525-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Phenanthrene	210		100	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Fluoranthene	210		100	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Pyrene	200		100	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Chrysene	110		100	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B
Benzo(b)fluoranthene	110		100	ug/Kg	Dry	1.000	EPA 8270C	EPA 3550B

Client Sample ID : APLB-14(GW) Laboratory Sample ID : 266525-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,800	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	4,100		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Barium	770		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Chromium	5.9		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Molybdenum	5.3		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-13(GW) Laboratory Sample ID : 266525-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,800	Y	47	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,100		280	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Barium	190		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Chromium	16		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Molybdenum	7.6		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Selenium	52		10	ug/L	DISS.	1.000	EPA 6010B	METHOD
Vanadium	11		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD

Client Sample ID : APLB-20(GW) Laboratory Sample ID : 266525-024

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	920	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,300		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Barium	590		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Chromium	6.2		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD
Molybdenum	5.1		5.0	ug/L	DISS.	1.000	EPA 6010B	METHOD

Client Sample ID : TB5-1-15 Laboratory Sample ID : 266525-025

No Detections

Client Sample ID : RB5-1-15 Laboratory Sample ID : 266525-026

No Detections

Client Sample ID : APLB-1(GW) Laboratory Sample ID : 266525-027

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Benzene	110		10	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B
Chlorobenzene	1,200		10	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B

Client Sample ID : APLB-4(GW) Laboratory Sample ID : 266525-028

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	1,700		13	ug/L	As Recd	25.00	EPA 8260B	EPA 5030B
1,4-Dichlorobenzene	15		13	ug/L	As Recd	25.00	EPA 8260B	EPA 5030B
1,2,4-Trichlorobenzene	15		13	ug/L	As Recd	25.00	EPA 8260B	EPA 5030B

Curtis & Tompkins, Ltd.

Client Sample ID : APLB-3(GW) Laboratory Sample ID : 266525-029

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Benzene	280		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
Chlorobenzene	15,000		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
1,3-Dichlorobenzene	290		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
1,4-Dichlorobenzene	1,000		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
1,2,4-Trichlorobenzene	490		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
1,2,3-Trichlorobenzene	110		100	ug/L	As Recd	200.0	EPA 8260B	EPA 5030B
2-Chlorophenol	35		13	ug/L	As Recd	1.000	EPA 8270C	EPA 3520C
1,3-Dichlorobenzene	300		130	ug/L	As Recd	10.00	EPA 8270C	EPA 3520C
1,4-Dichlorobenzene	970		130	ug/L	As Recd	10.00	EPA 8270C	EPA 3520C
1,2-Dichlorobenzene	34		13	ug/L	As Recd	1.000	EPA 8270C	EPA 3520C
1,2,4-Trichlorobenzene	450		130	ug/L	As Recd	10.00	EPA 8270C	EPA 3520C
Naphthalene	19		13	ug/L	As Recd	1.000	EPA 8270C	EPA 3520C

Client Sample ID : APLB-2(GW) Laboratory Sample ID : 266525-030

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Chlorobenzene	200		2.0	ug/L	As Recd	4.000	EPA 8260B	EPA 5030B
1,3-Dichlorobenzene	14		2.0	ug/L	As Recd	4.000	EPA 8260B	EPA 5030B
1,4-Dichlorobenzene	4.6		2.0	ug/L	As Recd	4.000	EPA 8260B	EPA 5030B
1,2,4-Trichlorobenzene	7.2		2.0	ug/L	As Recd	4.000	EPA 8260B	EPA 5030B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 266525

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/01/15
Units:	ug/L	Received:	05/01/15
Diln Fac:	1.000		

Field ID:	APLB-14(GW)	Batch#:	222839
Type:	SAMPLE	Prepared:	05/04/15
Lab ID:	266525-022	Analyzed:	05/05/15

Analyte	Result	RL
Diesel C10-C24	2,800 Y	50
Motor Oil C24-C36	4,100	300

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Field ID:	APLB-13(GW)	Batch#:	222914
Type:	SAMPLE	Prepared:	05/06/15
Lab ID:	266525-023	Analyzed:	05/07/15

Analyte	Result	RL
Diesel C10-C24	2,800 Y	47
Motor Oil C24-C36	1,100	280

Surrogate	%REC	Limits
o-Terphenyl	88	67-136

Field ID:	APLB-20(GW)	Batch#:	222839
Type:	SAMPLE	Prepared:	05/04/15
Lab ID:	266525-024	Analyzed:	05/05/15

Analyte	Result	RL
Diesel C10-C24	920 Y	50
Motor Oil C24-C36	1,300	300

Surrogate	%REC	Limits
o-Terphenyl	78	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/01/15
Units:	ug/L	Received:	05/01/15
Diln Fac:	1.000		

Field ID:	RB5-1-15	Batch#:	222839
Type:	SAMPLE	Prepared:	05/04/15
Lab ID:	266525-026	Analyzed:	05/05/15

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	104	67-136

Type:	BLANK	Prepared:	05/04/15
Lab ID:	QC786549	Analyzed:	05/06/15
Batch#:	222839		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	100	67-136

Type:	BLANK	Prepared:	05/06/15
Lab ID:	QC786845	Analyzed:	05/07/15
Batch#:	222914		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222839
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/07/15

Type: BS Lab ID: QC786550

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,248	90	60-121

Surrogate	%REC	Limits
o-Terphenyl	104	67-136

Type: BSD Lab ID: QC786551

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,232	89	60-121	1	32

Surrogate	%REC	Limits
o-Terphenyl	102	67-136

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	222914
Units:	ug/L	Prepared:	05/06/15
Diln Fac:	1.000	Analyzed:	05/07/15

Type: BS Lab ID: QC786846

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,065	83	60-121

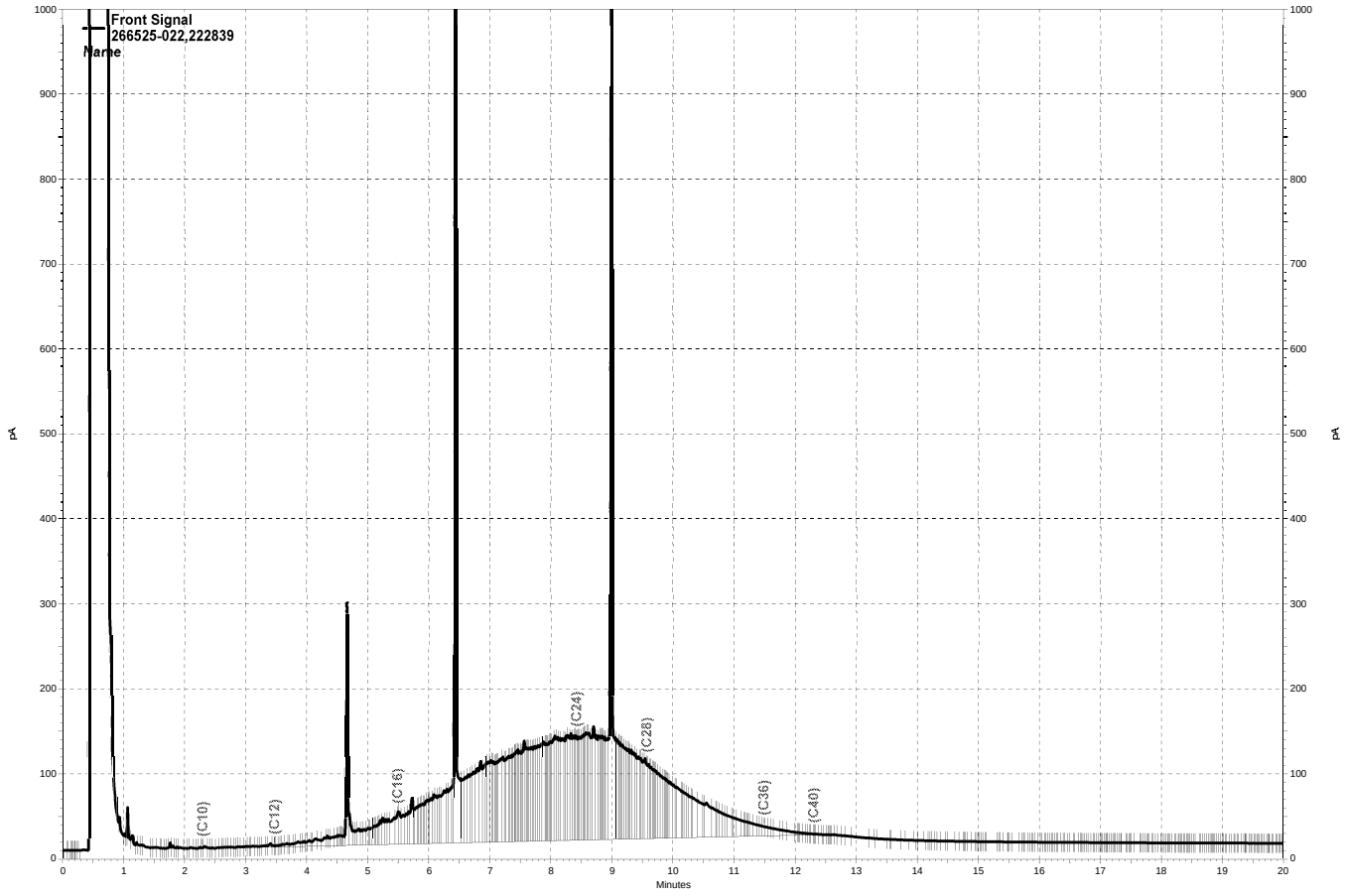
Surrogate	%REC	Limits
o-Terphenyl	107	67-136

Type: BSD Lab ID: QC786847

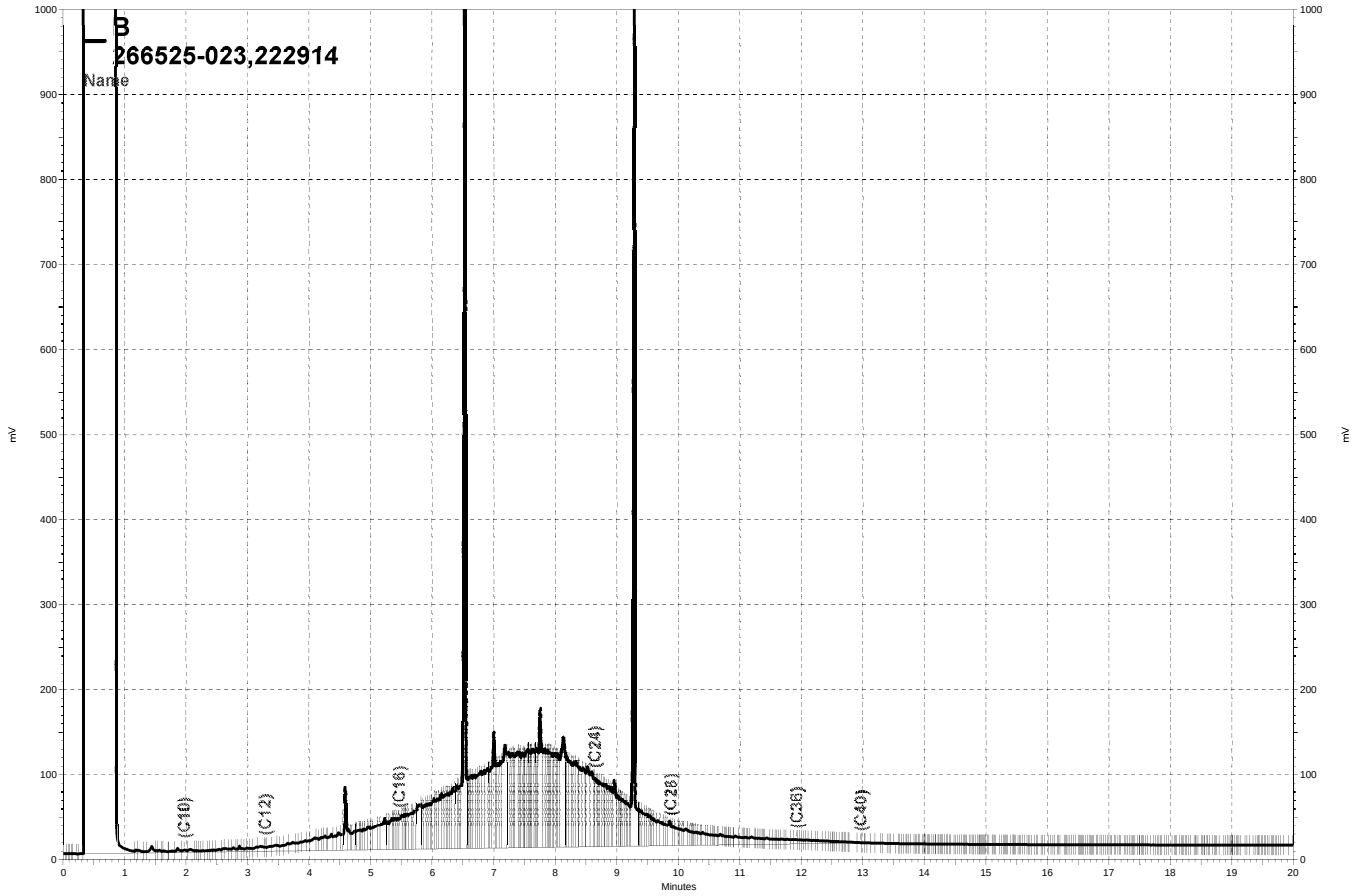
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,274	91	60-121	10	32

Surrogate	%REC	Limits
o-Terphenyl	111	67-136

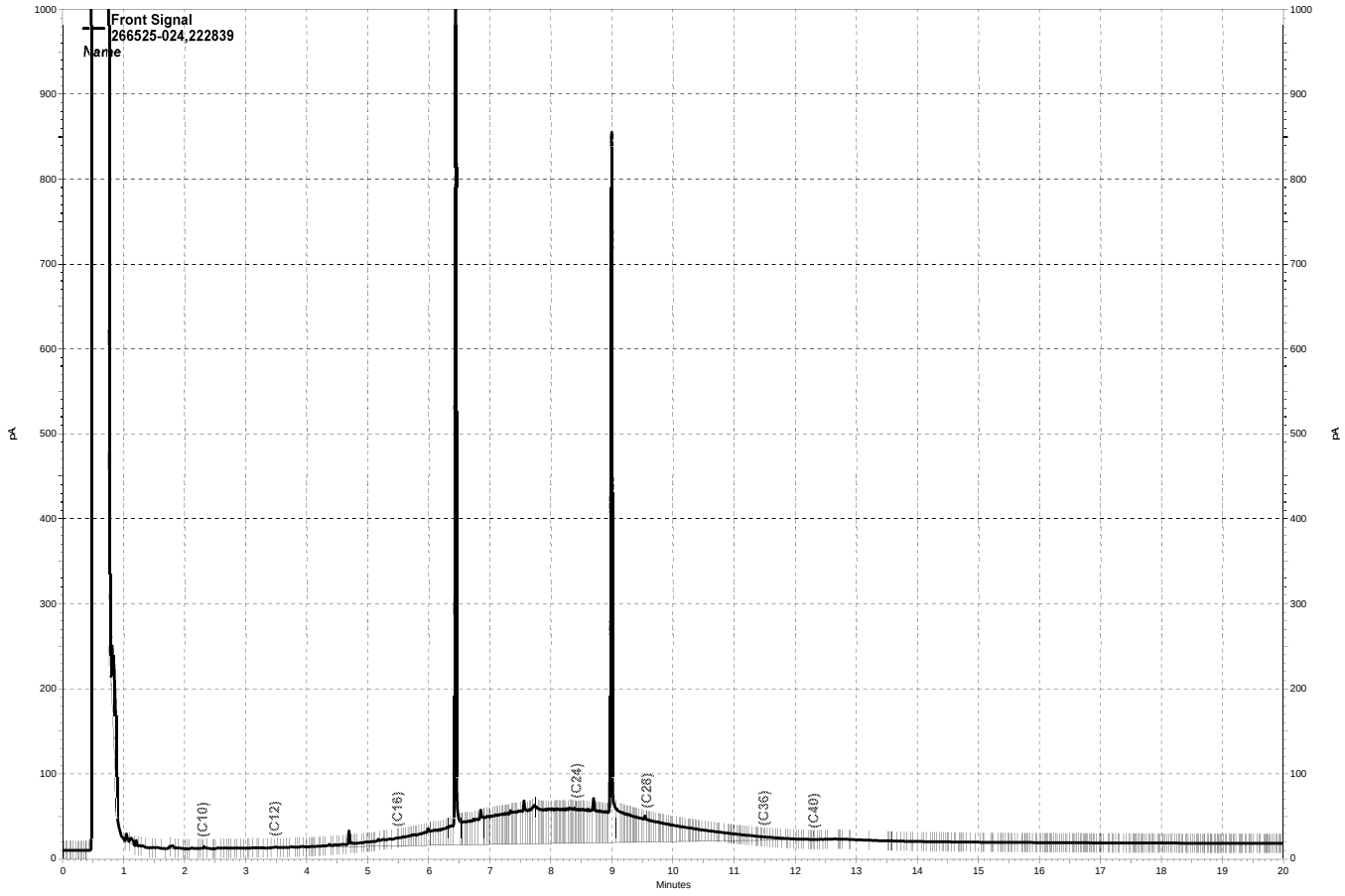
RPD= Relative Percent Difference



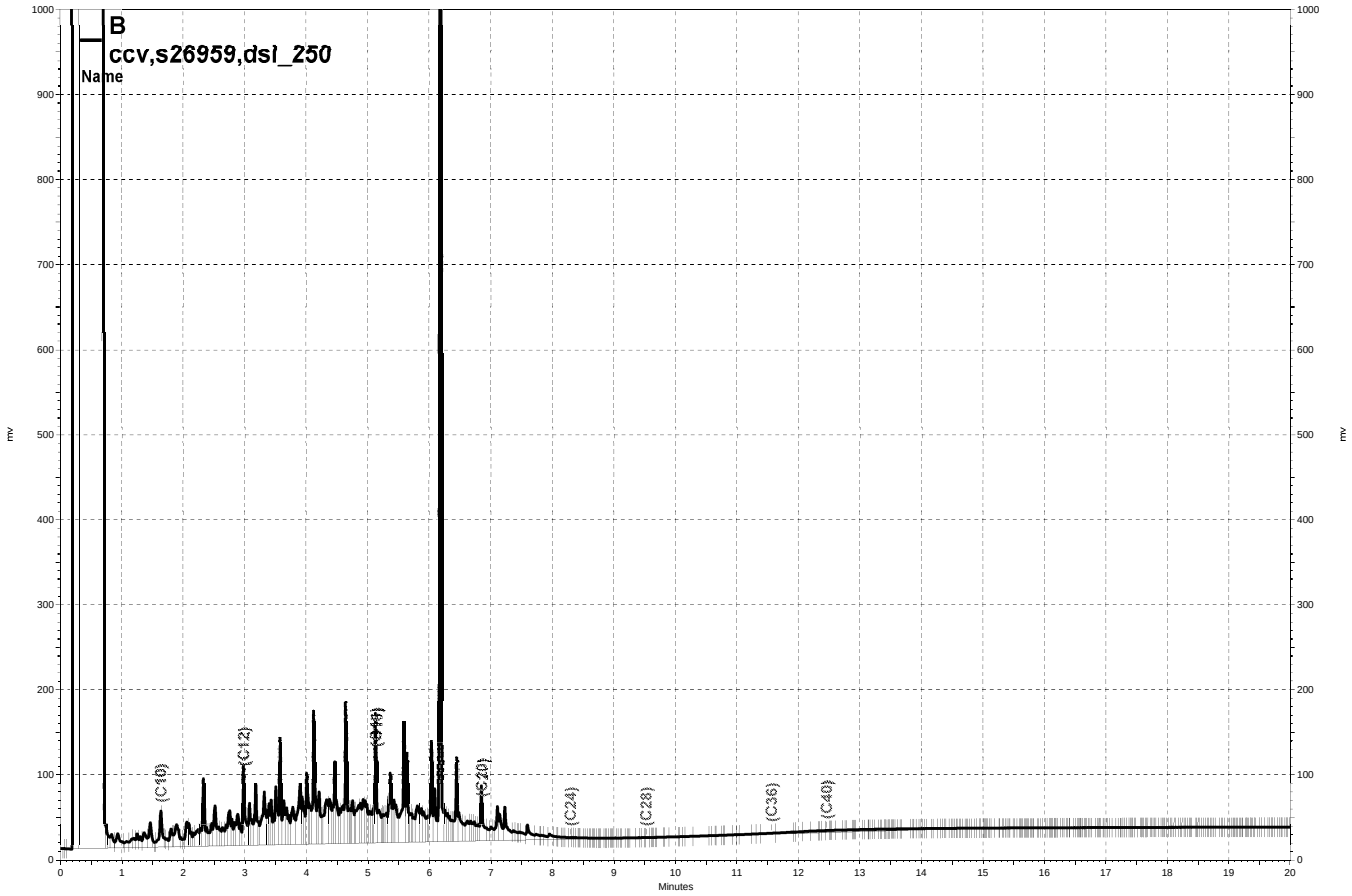
\\lims\gdrive\ezchrom\Projects\GC27\Data\125a017.dat, Front Signal



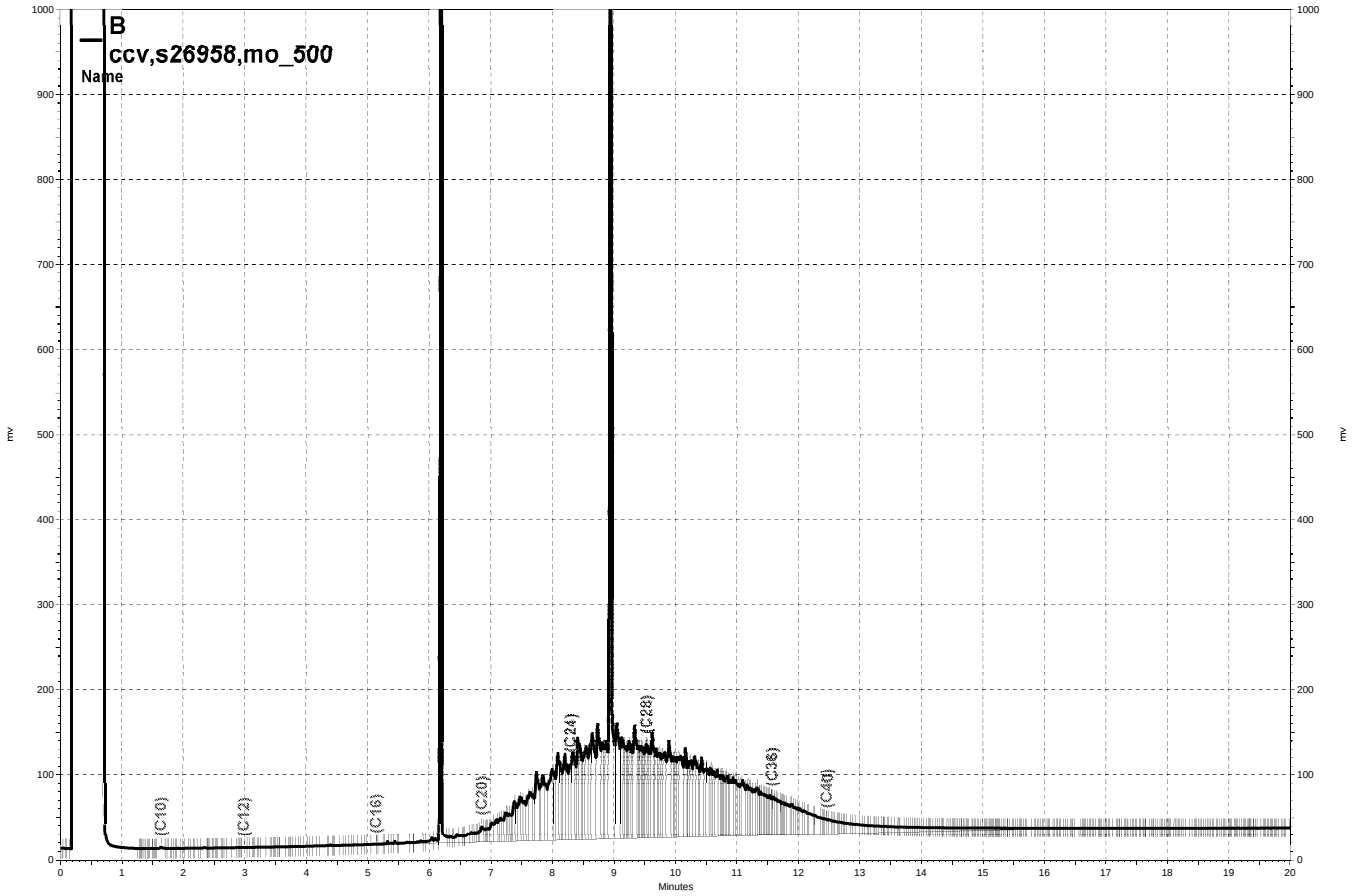
\\Lims\gdrive\ezchrom\Projects\GC14B\Data\127b027, B



\\lims\gdrive\ezchrom\Projects\GC27\Data\125a019.dat, Front Signal



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b031, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\125b030, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 224523202001
Units : mg/L

Name : DSL_364
Date : 29-DEC-2014 15:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	364_009	224523202009	DSL_10	29-DEC-2014 15:35	S26213
L2	364_010	224523202010	DSL_100	29-DEC-2014 16:04	S25844
L3	364_011	224523202011	DSL_500	29-DEC-2014 16:32	S25845
L4	364_012	224523202012	DSL_1000	29-DEC-2014 17:00	S25846
L5	364_013	224523202013	DSL_5000	29-DEC-2014 17:28	S25842

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	B	22270	35068	37375	37151	34353	AVRG		3.01E-5		33243	19	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	B	10.000	**-33**	100.00	5	500.00	12	1000.0	12	5000.0	3

SFL 12/30/14 : Samples that require carbon ranges Diesel C16-C24 will not be loaded on this instrument.

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Water
EPA 8015B

Inst : GC14B Name : DSL_364
Calnum : 224523202001 Cal Date : 29-DEC-2014

ICV 224523202016 (364_016 29-DEC-2014) stds: S25996

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	B	500.0	543.3	mg/L	9	15	

Analyst: SFL Date: 12/30/14 Reviewer: EAH Date: 12/30/14

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742001
Units : mg/L

Name : OTPHEX_112
Date : 22-APR-2015 17:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_013	225161742013	HEX OTP_5	22-APR-2015 17:35	S26468
L2	112_014	225161742014	HEX OTP_10	22-APR-2015 18:02	S26469
L3	112_015	225161742015	HEX OTP_25	22-APR-2015 18:30	S26470
L4	112_016	225161742016	HEX OTP_50	22-APR-2015 18:59	S26471
L5	112_017	225161742017	HEX OTP_100	22-APR-2015 19:27	S26472
L6	112_018	225161742018	HEX OTP_200	22-APR-2015 19:55	S26473

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	41558	43661	41740	41428	40639	40974	AVRG		2.40E-5		41667	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.0000	0	10.000	5	25.000	0	50.000	-1	100.00	-2	200.00	-2

JDG 04/23/15 [Hexacosane B]: Samples requiring Hexacosane will not be analyzed on this instrument.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 225161742002
Units : mg/L

Name : MO_112
Date : 22-APR-2015 20:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	112_020	225161742020	MO_50	22-APR-2015 20:52	S26392
L2	112_021	225161742021	MO_250	22-APR-2015 21:21	S26393
L3	112_022	225161742022	MO_500	22-APR-2015 21:49	S26394
L4	112_023	225161742023	MO_1000	22-APR-2015 22:17	S26395
L5	112_024	225161742024	MO_2500	22-APR-2015 22:46	S26389 (2X)
L6	112_025	225161742025	MO_5000	22-APR-2015 23:14	S26389

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	18614	22373	22608	22415	23777	21336	AVRG		4.58E-5		21854	8	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.000	-15	250.00	2	500.00	3	1000.0	3	2500.0	9	5000.0	-2

JDG 04/23/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/23/15 Reviewer: EAH Date: 04/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Water
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439001
Units : mg/L

Name : OTPHEX_125
Date : 05-MAY-2015 12:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a007	175180439007	HEXOTP_5	05-MAY-2015 12:49	S26468
L2	125a008	175180439008	HEXOTP_10	05-MAY-2015 13:17	S26469
L3	125a009	175180439009	HEXOTP_25	05-MAY-2015 13:45	S26470
L4	125a010	175180439010	HEXOTP_50	05-MAY-2015 14:13	S26471
L5	125a011	175180439011	HEXOTP_100	05-MAY-2015 14:41	S26472
L6	125a012	175180439012	HEXOTP_200	05-MAY-2015 15:09	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71436	72399	70812	70604	71499	69719	AVRG		1.41E-5		71078	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	1	10.000	2	25.000	0	50.000	-1	100.00	1	200.00	-2

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

175180439001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439002
Units : mg/L

Name : DSL_125
Date : 05-MAY-2015 16:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a014	175180439014	DSL_10	05-MAY-2015 16:05	S27111
L2	125a015	175180439015	DSL_100	05-MAY-2015 16:33	S27112
L3	125a016	175180439016	DSL_500	05-MAY-2015 17:01	S27113
L4	125a017	175180439017	DSL_1000	05-MAY-2015 17:29	S27114
L5	125a018	175180439018	DSL_5000	05-MAY-2015 17:56	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	76763	63180	62015	63432	62838	AVRG		1.52E-5		65646	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	17	100.00	-4	500.00	-6	1000.0	-3	5000.0	-4

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Name : DSL_125
Calnum : 175180439002 Cal Date : 05-MAY-2015

ICV 175180439020 (125a020 05-MAY-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	514.3	mg/L	3	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439003
Units : mg/L

Name : MO_500
Date : 05-MAY-2015 20:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a023	175180439023	MO_50	05-MAY-2015 20:16	S26392
L2	125a024	175180439024	MO_250	05-MAY-2015 20:44	S26393
L3	125a025	175180439025	MO_500	05-MAY-2015 21:12	S26394
L4	125a026	175180439026	MO_1000	05-MAY-2015 21:40	S26395
L5	125a027	175180439027	MO_2500	05-MAY-2015 22:08	S26389 (2X)
L6	125a028	175180439028	MO_5000	05-MAY-2015 22:36	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	43142	43279	40585	39032	34696	33194	AVRG		2.56E-5		38988	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	11	250.00	11	500.00	4	1000.0	0	2500.0	-11	5000.0	-15

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024001
Units : mg/L

Name : OTPHEX_092
Date : 02-APR-2015 13:34
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a008	975133024008	HEXOTP_5	02-APR-2015 13:34	S26468
L2	092a009	975133024009	HEXOTP_10	02-APR-2015 13:59	S26469
L3	092a010	975133024010	HEXOTP_25	02-APR-2015 14:23	S26470
L4	092a011	975133024011	HEXOTP_50	02-APR-2015 14:47	S26471
L5	092a012	975133024012	HEXOTP_100	02-APR-2015 15:12	S26472
L6	092a013	975133024013	HEXOTP_200	02-APR-2015 15:36	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	276330	267031	256097	263981	226521	205054	AVRG		4.01E-6		249169	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	11	10.000	7	25.000	3	50.000	6	100.00	-9	200.00	-18

JDG 04/03/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

975133024001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024002
Units : mg/L

Name : DSL_092
Date : 02-APR-2015 16:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a015	975133024015	DSL_10	02-APR-2015 16:26	S26213
L2	092a016	975133024016	DSL_100	02-APR-2015 16:50	S25844
L3	092a017	975133024017	DSL_500	02-APR-2015 17:15	S25845
L4	092a018	975133024018	DSL_1000	02-APR-2015 17:40	S25846
L5	092a019	975133024019	DSL_5000	02-APR-2015 18:04	S25842

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	228683	254586	249023	238953	236415	AVRG		4.14E-6		241532	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-5	100.00	5	500.00	3	1000.0	-1	5000.0	-2

JDG 04/03/15 : Corrected automatically drawn baseline in all levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

975133024002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Water
EPA 8015B

Inst : GC27A Name : DSL_092
Calnum : 975133024002 Cal Date : 02-APR-2015

ICV 975133024021 (092a021 02-APR-2015) stds: S26623

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	468.2	mg/L	-6	15	

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Water: EPA 8015B

Inst : GC27A
Calnum : 975133024003
Units : mg/L

Name : MO_092
Date : 02-APR-2015 20:07
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	092a024	975133024024	MO_50	02-APR-2015 20:07	S26392
L2	092a025	975133024025	MO_250	02-APR-2015 20:32	S26393
L3	092a026	975133024026	MO_500	02-APR-2015 20:56	S26394
L4	092a027	975133024027	MO_1000	02-APR-2015 21:21	S26395
L5	092a028	975133024028	MO_2500	02-APR-2015 21:45	S26389 (2X)
L6	092a029	975133024029	MO_5000	02-APR-2015 22:09	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	77641	112933	129532	135304	134900	142994	AVRG		8.18E-6		122217	20	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	**-36**	250.00	-8	500.00	6	1000.0	11	2500.0	10	5000.0	17

JDG 04/03/15 : Manually integrated fuel hump in multiple levels.

Analyst: JDG Date: 04/03/15 Reviewer: TKM Date: 04/03/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

975133024003

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225183298017 File : 127_017 Time : 07-MAY-2015 14:34
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	21276	500.0	486.8	mg/L	-3	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	39319	50.00	47.18	mg/L	-6	15	

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
Seqnum : 225183298018 File : 127_018 Time : 07-MAY-2015 15:02
Standards: S26960

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35644	500.0	536.1	mg/L	7	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	40019	50.00	48.02	mg/L	-4	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 225183298033 File : 127_033 Time : 07-MAY-2015 22:08
Standards: S26958

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	225161742002	22-APR-2015	21854	20044	500.0	458.6	mg/L	-8	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	38262	50.00	45.91	mg/L	-8	15	

JDG: 05/08/15 SFL: 05/08/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
Seqnum : 225183298034 File : 127_034 Time : 07-MAY-2015 22:36
Standards: S26959

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	B	224523202001	29-DEC-2014	33243	35621	250.0	267.9	mg/L	7	15	
o-Terphenyl	B	225161742001	22-APR-2015	41667	37490	50.00	44.99	mg/L	-10	15	

JDG 05/08/15 : Corrected automatically drawn baseline.

JDG: 05/08/15 SFL: 05/08/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165180551030 File : 125b030 Time : 06-MAY-2015 00:23
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	35646	500.0	513.7	mg/L	3	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60620	50.00	53.85	mg/L	8	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165180551031 File : 125b031 Time : 06-MAY-2015 00:50
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	47903	250.0	258.8	mg/L	4	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	58149	50.00	51.66	mg/L	3	15	

JDG 05/06/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165180551049 File : 125b049 Time : 06-MAY-2015 09:10
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	34141	500.0	492.0	mg/L	-2	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61828	50.00	54.93	mg/L	10	15	

JDG 05/06/15 : Separated from coeluting peak.

Analyst: JDG Date: 05/06/15 Reviewer: SFL Date: 05/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165180551050 File : 125b050 Time : 06-MAY-2015 09:38
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50333	1000	1088	mg/L	9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61426	50.00	54.57	mg/L	9	15	

JDG 05/06/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/06/15 Reviewer: SFL Date: 05/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175183299003 File : 127a003 Time : 07-MAY-2015 07:55
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38498	500.0	493.7	mg/L	-1	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74026	50.00	52.07	mg/L	4	15	

JDG 05/07/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175183299004 File : 127a004 Time : 07-MAY-2015 08:23
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	64696	1000	985.5	mg/L	-1	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	81352	50.00	57.23	mg/L	14	15	

JDG 05/07/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175183299020 File : 127a020 Time : 07-MAY-2015 16:01
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38161	500.0	489.4	mg/L	-2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74577	50.00	52.46	mg/L	5	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

SFL: 05/07/15 EAH: 05/07/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175183299021 File : 127a021 Time : 07-MAY-2015 16:29
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	62282	250.0	237.2	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72933	50.00	51.30	mg/L	3	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

SFL: 05/07/15 EAH: 05/07/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175183299037 File : 127a037 Time : 07-MAY-2015 23:57
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	41606	500.0	533.6	mg/L	7	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	75309	50.00	52.98	mg/L	6	15	

JDG 05/08/15 : Manually integrated fuel hump.

JDG: 05/08/15 SFL: 05/08/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175183299038 File : 127a038 Time : 08-MAY-2015 00:25
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	61190	500.0	466.1	mg/L	-7	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	71447	50.00	50.26	mg/L	1	15	

JDG 05/08/15 : Corrected automatically drawn baseline.

JDG: 05/08/15 SFL: 05/08/15 TKM: 05/08/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975180520012 File : 125a012 Time : 05-MAY-2015 13:17
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	117914	500.0	482.4	mg/L	-4	15	
o-Terphenyl	975133024001	02-APR-2015	249169	239895	50.00	48.14	mg/L	-4	15	

SFL 05/05/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/05/15 Reviewer: EAH Date: 05/05/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_500 IDF : 1.0
Seqnum : 975180520013 File : 125a013 Time : 05-MAY-2015 13:42
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	226853	500.0	469.6	mg/L	-6	15	
o-Terphenyl	975133024001	02-APR-2015	249169	250486	50.00	50.26	mg/L	1	15	

SFL 05/05/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/05/15 Reviewer: EAH Date: 05/05/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 975180520026 File : 125a026 Time : 05-MAY-2015 21:40
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	975133024003	02-APR-2015	122217	122470	500.0	501.0	mg/L	0	15	
o-Terphenyl	975133024001	02-APR-2015	249169	250247	50.00	50.22	mg/L	0	15	

SFL 05/06/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_1000 IDF : 1.0
Seqnum : 975180520027 File : 125a027 Time : 05-MAY-2015 22:05
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	975133024002	02-APR-2015	241532	219751	1000	909.8	mg/L	-9	15	
o-Terphenyl	975133024001	02-APR-2015	249169	246912	50.00	49.55	mg/L	-1	15	

SFL 05/06/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165180551

Instrument : GC15B
Method : EPA 8015B

Begun : 05/05/15 08:43
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	125b001	X	IB				05/05/15 08:43	1.0	
002	125b002	X	CMARKER				05/05/15 09:11	1.0	1
003	125b003	CCV	MO_500				05/05/15 09:39	1.0	2
004	125b004	CCV	DSL_1000				05/05/15 10:07	1.0	3
005	125b005	CCV	HYFL_500				05/05/15 10:35	1.0	4
006	125b006	SAMPLE	266401-004	S	Water	222708	05/05/15 11:03	1.0	
007	125b007	SAMPLE	266457-001	S	Water	222708	05/05/15 11:31	1.0	
008	125b008	SAMPLE	266457-002	S	Water	222708	05/05/15 11:58	1.0	
009	125b009	SAMPLE	266401-004	S	Water	222708	05/05/15 13:49	1.0	
010	125b010	SAMPLE	266457-002	S	Water	222708	05/05/15 14:17	1.0	
011	125b011	CCV	MO_500				05/05/15 15:21	1.0	2
012	125b012	CCV	DSL_500				05/05/15 15:49	1.0	5
013	125b013	CCV	HYFL_500				05/05/15 16:17	1.0	4
014	125b014	BLANK	QC786580		Water	222848	05/05/15 16:57	1.0	
015	125b015	BLANK	QC786580	S	Water	222848	05/05/15 17:25	1.0	
016	125b016	BLANK	QC786549	S	Water	222839	05/05/15 17:53	1.0	
017	125b017	BS	QC786581	S	Water	222848	05/05/15 18:20	1.0	
018	125b018	BSD	QC786582	S	Water	222848	05/05/15 18:48	1.0	
019	125b019	SAMPLE	266373-002	S	Water	222848	05/05/15 19:15	1.0	
020	125b020	SAMPLE	266373-003	S	Water	222848	05/05/15 19:43	1.0	
021	125b021	SAMPLE	266373-005	S	Water	222848	05/05/15 20:11	1.0	
022	125b022	SAMPLE	266523-001	S	Water	222839	05/05/15 20:40	1.0	
023	125b023	SAMPLE	266523-002	S	Water	222839	05/05/15 21:08	1.0	
024	125b024	SAMPLE	266523-003	S	Water	222839	05/05/15 21:36	1.0	
025	125b025	SAMPLE	266523-004	S	Water	222839	05/05/15 22:04	1.0	
026	125b026	SAMPLE	266523-005	S	Water	222839	05/05/15 22:31	1.0	
027	125b027	SAMPLE	266523-006	S	Water	222839	05/05/15 22:59	1.0	
028	125b028	SAMPLE	266523-007	S	Water	222839	05/05/15 23:27	1.0	
029	125b029	X	CMARKER				05/05/15 23:55	1.0	1
030	125b030	CCV	MO_500				05/06/15 00:23	1.0	2
031	125b031	CCV	DSL_250				05/06/15 00:50	1.0	6
032	125b032	CCV	HYFL_500				05/06/15 01:18	1.0	4
033	125b033	X	CCV				05/06/15 01:46	1.0	2
034	125b034	X	CCV				05/06/15 02:14	1.0	6
035	125b035	X	CCV				05/06/15 02:41	1.0	4
036	125b036	BLANK	QC786549		Water	222839	05/06/15 03:09	1.0	
037	125b037	BS	QC786550	S	Water	222839	05/06/15 03:37	1.0	
038	125b038	BSD	QC786551	S	Water	222839	05/06/15 04:04	1.0	
039	125b039	SAMPLE	266472-003		Water	222839	05/06/15 04:32	1.0	
040	125b040	SAMPLE	266472-006		Water	222839	05/06/15 05:00	1.0	
041	125b041	SAMPLE	266476-001		Water	222839	05/06/15 05:27	1.0	
042	125b042	SAMPLE	266476-002		Water	222839	05/06/15 05:55	1.0	
043	125b043	SAMPLE	266511-008		Water	222839	05/06/15 06:23	1.0	
044	125b044	SAMPLE	266511-009		Water	222839	05/06/15 06:51	1.0	
045	125b045	SAMPLE	266501-001	S	Water	222839	05/06/15 07:19	1.0	
046	125b046	SAMPLE	266501-002	S	Water	222839	05/06/15 07:46	1.0	
047	125b047	SAMPLE	266556-005		Water	222848	05/06/15 08:14	1.0	
048	125b048	SAMPLE	266556-008		Water	222848	05/06/15 08:43	1.0	
049	125b049	CCV	MO_500				05/06/15 09:10	1.0	2
050	125b050	CCV	DSL_1000				05/06/15 09:38	1.0	3
051	125b051	CCV	HYFL_500				05/06/15 10:27	1.0	4
052	125b052	CCV	BUNK_500				05/06/15 10:56	1.0	7

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165180551

Instrument : GC15B
Method : EPA 8015B
Begun : 05/05/15 08:43
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	125b053	BLANK	QC786736		Soil	222887	05/06/15 11:24	1.0		
054	125b054	SAMPLE	266523-005	S	Water	222839	05/06/15 11:51	1.0		
055	125b055	CCV	BUNK_500				05/06/15 12:23	1.0	7	
056	125b056	X	CMARKER				05/06/15 12:51	1.0	1	

SFL 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 50.

SFL 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 51 through 56.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960 6=S26959 7=S26288

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175180439

Instrument : GC17A
Method : EPA 8015B
Begun : 05/05/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 07:19	1.0		
002	125a002	CHECK	CMARKER			05/05/15 07:48	1.0	1	
003	125a003	CHECK	CMARKER			05/05/15 08:46	1.0	1	
004	125a004	CHECK	CMARKER			05/05/15 11:25	1.0	1	
005	125a005	X	IB			05/05/15 11:53	1.0		
006	125a006	IB	CALIB			05/05/15 12:21	1.0		
007	125a007	ICAL	HEXOTP_5			05/05/15 12:49	1.0	2	
008	125a008	ICAL	HEXOTP_10			05/05/15 13:17	1.0	3	
009	125a009	ICAL	HEXOTP_25			05/05/15 13:45	1.0	4	
010	125a010	ICAL	HEXOTP_50			05/05/15 14:13	1.0	5	
011	125a011	ICAL	HEXOTP_100			05/05/15 14:41	1.0	6	
012	125a012	ICAL	HEXOTP_200			05/05/15 15:09	1.0	7	
013	125a013	IB	CALIB			05/05/15 15:37	1.0		
014	125a014	ICAL	DSL_10			05/05/15 16:05	1.0	8	
015	125a015	ICAL	DSL_100			05/05/15 16:33	1.0	9	
016	125a016	ICAL	DSL_500			05/05/15 17:01	1.0	10	
017	125a017	ICAL	DSL_1000			05/05/15 17:29	1.0	11	
018	125a018	ICAL	DSL_5000			05/05/15 17:56	1.0	12	
019	125a019	IB	CALIB			05/05/15 18:24	1.0		
020	125a020	ICV	DSL_500			05/05/15 18:52	1.0	13	
021	125a021	X	ICV			05/05/15 19:20	1.0	13	
022	125a022	IB	CALIB			05/05/15 19:48	1.0		
023	125a023	ICAL	MO_50			05/05/15 20:16	1.0	14	
024	125a024	ICAL	MO_250			05/05/15 20:44	1.0	15	
025	125a025	ICAL	MO_500			05/05/15 21:12	1.0	16	
026	125a026	ICAL	MO_1000			05/05/15 21:40	1.0	17	
027	125a027	ICAL	MO_2500			05/05/15 22:08	1.0	18	
028	125a028	ICAL	MO_5000			05/05/15 22:36	1.0	18	
029	125a029	IB	CALIB			05/05/15 23:05	1.0		
030	125a030	CMARKER	C8-C50			05/05/15 23:33	1.0	1	
031	125a031	IB	CALIB			05/06/15 00:01	1.0		

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S26646 2=S26468 3=S26469 4=S26470 5=S26471 6=S26472 7=S26473 8=S27111 9=S27112 10=S27113 11=S27114 12=S27110 13=S26960 14=S26392 15=S26393 16=S26394 17=S26395 18=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175183299

Instrument : GC17A
Method : EPA 8015B
Begun : 05/07/15 06:59
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	127a001	X	IB			05/07/15 06:59	1.0	
002	127a002	X	CMARKER			05/07/15 07:27	1.0	1
003	127a003	CCV	MO_500			05/07/15 07:55	1.0	2
004	127a004	CCV	DSL_1000			05/07/15 08:23	1.0	3
005	127a005	BLANK	QC786549	Water	222839	05/07/15 09:00	1.0	
006	127a006	BS	QC786550	Water	222839	05/07/15 09:28	1.0	
007	127a007	BSD	QC786551	Water	222839	05/07/15 09:56	1.0	
008	127a008	SAMPLE	266476-001	Water	222839	05/07/15 10:25	1.0	
009	127a009	SAMPLE	266476-002	Water	222839	05/07/15 10:53	1.0	
010	127a010	SAMPLE	266516-001	Soil	222921	05/07/15 11:21	1.0	
012	127a012	MSS	266562-001	Soil	222921	05/07/15 12:17	1.0	
013	127a013	MS	QC786877	Soil	222921	05/07/15 12:45	1.0	
014	127a014	MSD	QC786878	Soil	222921	05/07/15 13:13	1.0	
015	127a015	SAMPLE	266576-001	Soil	222921	05/07/15 13:42	3.0	
016	127a016	X	IB			05/07/15 14:10	1.0	
017	127a017	SAMPLE	266525-001	Soil	222915	05/07/15 14:37	5.0	
018	127a018	SAMPLE	266525-002	Soil	222915	05/07/15 15:05	5.0	
019	127a019	SAMPLE	266525-003	Soil	222915	05/07/15 15:33	5.0	
020	127a020	CCV	MO_500			05/07/15 16:01	1.0	2
021	127a021	CCV	DSL_250			05/07/15 16:29	1.0	4
022	127a022	X	CMARKER			05/07/15 16:57	1.0	1
023	127a023	BLANK	QC786845	Water	222914	05/07/15 17:25	1.0	
024	127a024	BS	QC786846	Water	222914	05/07/15 17:53	1.0	
025	127a025	BSD	QC786847	Water	222914	05/07/15 18:20	1.0	
026	127a026	IDOC	QC786849	Water	222914	05/07/15 18:48	1.0	
027	127a027	IDOC	QC786850	Water	222914	05/07/15 19:16	1.0	
028	127a028	IDOC	QC786851	Water	222914	05/07/15 19:44	1.0	
029	127a029	SAMPLE	266476-003	Water	222914	05/07/15 20:12	1.0	
030	127a030	SAMPLE	266476-004	Water	222914	05/07/15 20:40	1.0	
031	127a031	SAMPLE	266476-005	Water	222914	05/07/15 21:08	1.0	
032	127a032	SAMPLE	266476-006	Water	222914	05/07/15 21:36	1.0	
033	127a033	SAMPLE	266476-007	Water	222914	05/07/15 22:05	1.0	
034	127a034	SAMPLE	266476-008	Water	222914	05/07/15 22:33	1.0	
035	127a035	SAMPLE	266476-009	Water	222914	05/07/15 23:01	1.0	
036	127a036	SAMPLE	266476-010	Water	222914	05/07/15 23:29	1.0	
037	127a037	CCV	MO_500			05/07/15 23:57	1.0	2
038	127a038	CCV	DSL_500			05/08/15 00:25	1.0	5
039	127a039	X	CCV			05/08/15 00:53	1.0	2
040	127a040	X	CCV			05/08/15 01:21	1.0	5

SFL 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

JDG 05/08/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 22 through 40.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959 5=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 224523202

Instrument : GC14B
Method : EPA 8015B
Begun : 12/29/14 08:02
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	364_001	X	IB			12/29/14 08:02	1.0		
002	364_002	X	CMARKER			12/29/14 08:30	1.0	1	
003	364_003	X	MO_500			12/29/14 08:58	1.0	2	
004	364_004	X	DSL_1000			12/29/14 09:26	1.0	3	
005	364_005	X	DSL_1000			12/29/14 10:12	1.0	3	
006	364_006	X	DSL_500			12/29/14 11:56	1.0	4	
007	364_007	X	IB			12/29/14 14:39	1.0		
008	364_008	IB	CALIB			12/29/14 15:07	1.0		
009	364_009	ICAL	DSL_10			12/29/14 15:35	1.0	5	
010	364_010	ICAL	DSL_100			12/29/14 16:04	1.0	6	
011	364_011	ICAL	DSL_500			12/29/14 16:32	1.0	7	
012	364_012	ICAL	DSL_1000			12/29/14 17:00	1.0	8	
013	364_013	ICAL	DSL_5000			12/29/14 17:28	1.0	9	
014	364_014	IB	CALIB			12/29/14 17:56	1.0		
015	364_015	X	DSL_500			12/29/14 18:24	1.0	4	
016	364_016	ICV	DSL_500			12/29/14 18:52	1.0	4	
017	364_017	IB	CALIB			12/29/14 19:20	1.0		
018	364_018	CMARKER	C8-C50			12/29/14 19:49	1.0	1	
019	364_019	IB	CALIB			12/29/14 20:17	1.0		

SFL 12/30/14 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26087 2=S26284 3=S25997 4=S25996 5=S26213 6=S25844 7=S25845 8=S25846 9=S25842

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225161742

Instrument : GC14B
Method : EPA 8015B
Begun : 04/22/15 07:42
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	112_001	X	IB			04/22/15 07:42	1.0		
002	112_002	X	C8-C50			04/22/15 08:10	1.0	1	
003	112_003	X	MO_500			04/22/15 08:39	1.0	2	
004	112_004	X	DSL_500			04/22/15 09:08	1.0	3	
005	112_005	X	JP5_250			04/22/15 11:07	1.0	4	
006	112_006	X	IB			04/22/15 13:08	1.0		
007	112_007	X	C8-C50			04/22/15 13:36	1.0	1	
008	112_008	X	MO_500			04/22/15 14:04	1.0	2	
009	112_009	X	DSL_250			04/22/15 14:32	1.0	5	
010	112_010	X	MO_500			04/22/15 15:57	1.0	2	
011	112_011	X	DSL_250			04/22/15 16:25	1.0	5	
012	112_012	IB	CALIB			04/22/15 17:07	1.0		
013	112_013	ICAL	HEX OTP_5			04/22/15 17:35	1.0	6	
014	112_014	ICAL	HEX OTP_10			04/22/15 18:02	1.0	7	
015	112_015	ICAL	HEX OTP_25			04/22/15 18:30	1.0	8	
016	112_016	ICAL	HEX OTP_50			04/22/15 18:59	1.0	9	
017	112_017	ICAL	HEX OTP_100			04/22/15 19:27	1.0	10	
018	112_018	ICAL	HEX OTP_200			04/22/15 19:55	1.0	11	
019	112_019	IB	CALIB			04/22/15 20:23	1.0		
020	112_020	ICAL	MO_50			04/22/15 20:52	1.0	12	
021	112_021	ICAL	MO_250			04/22/15 21:21	1.0	13	
022	112_022	ICAL	MO_500			04/22/15 21:49	1.0	14	
023	112_023	ICAL	MO_1000			04/22/15 22:17	1.0	15	
024	112_024	ICAL	MO_2500			04/22/15 22:46	1.0	16	
025	112_025	ICAL	MO_5000			04/22/15 23:14	1.0	16	
026	112_026	IB	CALIB			04/22/15 23:43	1.0		
027	112_027	CMARKER	C8-C50			04/23/15 00:11	1.0	1	
028	112_028	IB	CALIB			04/23/15 00:39	1.0		

JDG 04/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26646 2=S26958 3=S26960 4=S26748 5=S26959 6=S26468 7=S26469 8=S26470 9=S26471 10=S26472 11=S26473 12=S26392 13=S26393 14=S26394 15=S26395 16=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 225183298

Instrument : GC14B
Method : EPA 8015B

Begun : 05/07/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	127_001	X	IB			05/07/15 06:58	1.0		
002	127_002	X	CMARKER			05/07/15 07:26	1.0	1	
003	127_003	CCV	MO_500			05/07/15 07:54	1.0	2	
004	127_004	CCV	DSL_1000			05/07/15 08:23	1.0	3	
005	127_005	BLANK	QC786873	Soil	222921	05/07/15 08:52	1.0		
006	127_006	LCS	QC786874	Soil	222921	05/07/15 09:21	1.0		
007	127_007	SAMPLE	266518-001	Soil	222921	05/07/15 09:49	1.0		
008	127_008	SAMPLE	266518-002	Soil	222921	05/07/15 10:18	1.0		
009	127_009	SAMPLE	266518-004	Soil	222921	05/07/15 10:46	1.0		
010	127_010	SAMPLE	266518-005	Soil	222921	05/07/15 11:15	1.0		
011	127_011	SAMPLE	266518-006	Soil	222921	05/07/15 11:44	1.0		
012	127_012	SAMPLE	266518-008	Soil	222921	05/07/15 12:12	1.0		
013	127_013	SAMPLE	266518-010	Soil	222921	05/07/15 12:41	1.0		
014	127_014	SAMPLE	266518-003	Soil	222921	05/07/15 13:09	1.0		
015	127_015	SAMPLE	266518-007	Soil	222921	05/07/15 13:38	1.0		
016	127_016	SAMPLE	266518-009	Soil	222921	05/07/15 14:06	1.0		
017	127_017	CCV	MO_500			05/07/15 14:34	1.0	2	
018	127_018	CCV	DSL_500			05/07/15 15:02	1.0	4	
019	127_019	IDOC	QC786875	Soil	222921	05/07/15 15:32	1.0		
020	127_020	IDOC	QC786876	Soil	222921	05/07/15 16:00	1.0		
021	127_021	SAMPLE	266531-008	Soil	222915	05/07/15 16:28	1.0		
022	127_022	SAMPLE	266531-009	Soil	222915	05/07/15 16:56	1.0		
023	127_023	SAMPLE	266531-012	Soil	222915	05/07/15 17:25	1.0		
024	127_024	SAMPLE	266583-001	Soil	222921	05/07/15 17:53	1.0		
025	127_025	SAMPLE	266583-002	Soil	222921	05/07/15 18:21	1.0		6:BUNKC:10-40=22000
026	127_026	X	IB			05/07/15 18:49	1.0		
027	127_027	SAMPLE	266525-023	Water	222914	05/07/15 19:17	1.0		
028	127_028	SAMPLE	266542-002	Water	222914	05/07/15 19:45	1.0		
029	127_029	SAMPLE	266542-003	Water	222914	05/07/15 20:13	1.0		
030	127_030	SAMPLE	266565-001	Water	222914	05/07/15 20:42	1.0		
031	127_031	SAMPLE	266566-001	Water	222914	05/07/15 21:10	1.0		
032	127_032	X	CMARKER			05/07/15 21:39	1.0	1	
033	127_033	CCV	MO_500			05/07/15 22:08	1.0	2	
034	127_034	CCV	DSL_250			05/07/15 22:36	1.0	5	
035	127_035	X	CCV			05/07/15 23:05	1.0	2	
036	127_036	X	CCV			05/07/15 23:33	1.0	5	
037	127_037	IDOC	QC786848	Water	222914	05/08/15 00:02	1.0		
038	127_038	SAMPLE	266594-001	Water	222914	05/08/15 00:30	1.0		
039	127_039	SAMPLE	266567-001	Water	222914	05/08/15 00:58	1.0		
040	127_040	SAMPLE	266568-001	Water	222914	05/08/15 01:27	1.0		
041	127_041	SAMPLE	266574-001	Water	222914	05/08/15 01:55	1.0		
042	127_042	SAMPLE	266574-002	Water	222914	05/08/15 02:23	1.0		
043	127_043	CCV	MO_500			05/08/15 02:52	1.0	2	
044	127_044	CCV	DSL_500			05/08/15 03:20	1.0	4	

SFL 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

JDG 05/08/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 19 through 44.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26960 5=S26959

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975133024

Instrument : GC27A
Method : EPA 8015B
Begun : 04/02/15 09:04
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	092a001	X	IB			04/02/15 09:04	1.0		
002	092a002	X	IB			04/02/15 09:29	1.0		
003	092a003	X	C8-C50			04/02/15 09:53	1.0	1	
004	092a004	X	MO_500			04/02/15 10:18	1.0	2	
005	092a005	X	DSL_1000			04/02/15 10:42	1.0	3	2:BUNKC:10-40=5700
007	092a007	IB	CALIB			04/02/15 13:10	1.0		
008	092a008	ICAL	HEXOTP_5			04/02/15 13:34	1.0	4	
009	092a009	ICAL	HEXOTP_10			04/02/15 13:59	1.0	5	
010	092a010	ICAL	HEXOTP_25			04/02/15 14:23	1.0	6	
011	092a011	ICAL	HEXOTP_50			04/02/15 14:47	1.0	7	
012	092a012	ICAL	HEXOTP_100			04/02/15 15:12	1.0	8	
013	092a013	ICAL	HEXOTP_200			04/02/15 15:36	1.0	9	
014	092a014	IB	CALIB			04/02/15 16:01	1.0		
015	092a015	ICAL	DSL_10			04/02/15 16:26	1.0	10	
016	092a016	ICAL	DSL_100			04/02/15 16:50	1.0	11	
017	092a017	ICAL	DSL_500			04/02/15 17:15	1.0	12	
018	092a018	ICAL	DSL_1000			04/02/15 17:40	1.0	13	
019	092a019	ICAL	DSL_5000			04/02/15 18:04	1.0	14	
020	092a020	IB	CALIB			04/02/15 18:29	1.0		
021	092a021	ICV	DSL_500			04/02/15 18:53	1.0	15	
022	092a022	X	ICV			04/02/15 19:18	1.0	15	
023	092a023	IB	CALIB			04/02/15 19:42	1.0		
024	092a024	ICAL	MO_50			04/02/15 20:07	1.0	16	
025	092a025	ICAL	MO_250			04/02/15 20:32	1.0	17	
026	092a026	ICAL	MO_500			04/02/15 20:56	1.0	18	
027	092a027	ICAL	MO_1000			04/02/15 21:21	1.0	19	
028	092a028	ICAL	MO_2500			04/02/15 21:45	1.0	20	
029	092a029	ICAL	MO_5000			04/02/15 22:09	1.0	20	
030	092a030	IB	CALIB			04/02/15 22:34	1.0		
031	092a031	CMARKER	C8-C50			04/02/15 22:58	1.0	1	
032	092a032	IB	CALIB			04/02/15 23:23	1.0		

JDG 04/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26883 3=S26624 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26623 16=S26392 17=S26393 18=S26394 19=S26395 20=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975180520

Instrument : GC27A
Method : EPA 8015B

Begun : 05/05/15 08:40
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 08:40	1.0		
002	125a002	X	CMARKER			05/05/15 09:05	1.0	1	
003	125a003	CCV	MO_500			05/05/15 09:29	1.0	2	
004	125a004	CCV	DSL_1000			05/05/15 09:54	1.0	3	
005	125a005	CCV	BUNK_500			05/05/15 10:18	1.0	4	
006	125a006	BLANK	QC786584	Soil	222849	05/05/15 10:51	1.0		
007	125a007	SAMPLE	266553-001	Soil	222849	05/05/15 11:16	50.0		
008	125a008	SAMPLE	266553-002	Soil	222849	05/05/15 11:40	50.0		
009	125a009	MSS	266485-003	Soil	222849	05/05/15 12:04	1.0		
010	125a010	MS	QC786586	Soil	222849	05/05/15 12:29	1.0		
011	125a011	MSD	QC786587	Soil	222849	05/05/15 12:53	1.0		
012	125a012	CCV	MO_500			05/05/15 13:17	1.0	2	
013	125a013	CCV	DSL_500			05/05/15 13:42	1.0	5	
014	125a014	CCV	BUNK_500			05/05/15 14:06	1.0	4	
015	125a015	X	CMARKER			05/05/15 17:12	1.0	1	
016	125a016	SAMPLE	266511-010	Water	222839	05/05/15 17:36	1.0		
017	125a017	SAMPLE	266525-022	Water	222839	05/05/15 18:01	1.0		
018	125a018	SAMPLE	266525-023	Water	222839	05/05/15 18:25	1.0		1:BUNKC:10-40=5200
019	125a019	SAMPLE	266525-024	Water	222839	05/05/15 18:49	1.0		
020	125a020	SAMPLE	266525-026	Water	222839	05/05/15 19:14	1.0		
021	125a021	SAMPLE	266575-001	Soil	222887	05/05/15 19:38	1.0		
022	125a022	SAMPLE	266575-002	Soil	222887	05/05/15 20:02	1.0		
023	125a023	SAMPLE	266575-003	Soil	222887	05/05/15 20:26	1.0		
024	125a024	SAMPLE	266575-004	Soil	222887	05/05/15 20:51	1.0		
025	125a025	SAMPLE	266511-016	Soil	222887	05/05/15 21:15	1.0		
026	125a026	CCV	MO_500			05/05/15 21:40	1.0	2	
027	125a027	CCV	DSL_1000			05/05/15 22:05	1.0	3	
028	125a028	CCV	BUNK_500			05/05/15 22:29	1.0	4	
029	125a029	X	CCV			05/05/15 22:54	1.0	2	
030	125a030	X	CCV			05/05/15 23:18	1.0	3	
031	125a031	X	CCV			05/05/15 23:43	1.0	4	
032	125a032	BLANK	QC786736	Soil	222887	05/06/15 00:07	1.0		
033	125a033	LCS	QC786737	Soil	222887	05/06/15 00:32	1.0		
034	125a034	MSS	266511-031	Soil	222887	05/06/15 00:56	1.0		
035	125a035	MS	QC786738	Soil	222887	05/06/15 01:20	1.0		
036	125a036	MSD	QC786739	Soil	222887	05/06/15 01:45	1.0		
037	125a037	SAMPLE	266511-018	Soil	222887	05/06/15 02:09	1.0		
038	125a038	SAMPLE	266511-019	Soil	222887	05/06/15 02:34	1.0		
039	125a039	SAMPLE	266511-020	Soil	222887	05/06/15 02:58	1.0		
040	125a040	SAMPLE	266511-021	Soil	222887	05/06/15 03:23	1.0		
041	125a041	SAMPLE	266511-022	Soil	222887	05/06/15 03:47	1.0		
042	125a042	SAMPLE	266511-023	Soil	222887	05/06/15 04:12	1.0		
043	125a043	SAMPLE	266511-024	Soil	222887	05/06/15 04:36	1.0		
044	125a044	X	CMARKER			05/06/15 05:00	1.0	1	
045	125a045	CCV	MO_500			05/06/15 05:25	1.0	2	
046	125a046	CCV	DSL_500			05/06/15 05:50	1.0	5	
047	125a047	X	CCV			05/06/15 06:14	1.0	2	
048	125a048	X	CCV			05/06/15 06:38	1.0	5	
049	125a049	SAMPLE	266511-017	Soil	222887	05/06/15 07:03	3.0		
050	125a050	SAMPLE	266511-027	Soil	222887	05/06/15 07:27	3.0		
051	125a051	SAMPLE	266511-025	Soil	222887	05/06/15 07:52	5.0		2:BUNKC:12-40=8300
052	125a052	SAMPLE	266511-029	Soil	222887	05/06/15 08:16	10.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 975180520

Instrument : GC27A
Method : EPA 8015B
Begun : 05/05/15 08:40
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	125a053	X	IB			05/06/15 08:41	1.0		
054	125a054	SAMPLE	266511-026	Soil	222887	05/06/15 09:05	1.0		
055	125a055	SAMPLE	266511-028	Soil	222887	05/06/15 09:30	1.0		
056	125a056	SAMPLE	266511-030	Soil	222887	05/06/15 09:55	1.0		
057	125a057	SAMPLE	266505-008	Soil	222867	05/06/15 10:21	10.0		2:BUNKC:10-40=7900
058	125a058	MSD	QC786739	Soil	222887	05/06/15 10:46	1.0		
059	125a059	SAMPLE	266511-019	Soil	222887	05/06/15 11:10	1.0		
060	125a060	CCV	MO_500			05/06/15 11:35	1.0	2	
061	125a061	CCV	DSL_250			05/06/15 11:59	1.0	6	
062	125a062	X	TANKCHECK			05/06/15 12:43	1.0		
063	125a063	X	TEST			05/06/15 13:08	1.0		

SFL 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

SFL 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 61.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26288 5=S26960 6=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 222839
Started By : ARG
Method : 3520C
Spike #1 ID : S26901
Prep Date : 04-MAY-2015 14:35
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : LEB
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266472-003		Water	500	2.5	1	0.005	7	.5				TEHM	
266472-006		Water	510	2.5	1	0.004902	7	.5				TEHM	
266476-001		Water	500	2.5	1	0.005	7	.5				TEH	
266476-002		Water	500	2.5	1	0.005	7	.5				TEH	
266501-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266501-002		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266511-008		Water	500	2.5	1	0.005	7	.5				TEHM	
266511-009		Water	500	2.5	1	0.005	7	.5				TEHM	
266511-010		Water	500	2.5	1	0.005	7	.5				TEHM	
266523-001		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-002		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-003		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-004		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-005		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-006		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
266523-007		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
266525-022		Water	500	2.5	1	0.005	7	.5				TEHM	
266525-023		Water	500	2.5	1	0.005	7	.5				(rebatched)	
266525-024		Water	500	2.5	1	0.005	7	.5				TEHM	
266525-026		Water	500	2.5	1	0.005	7	.5				TEHM	
QC786549	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC786550	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC786551	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

JDG 05/06/15 : Matrix spikes were not performed for this analysis in batch 222839 due to insufficient sample amount.

EAH 05/06/15 : Batch has been reviewed for all jobs except 266476.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: LEB
Cleanup Date: 5/5/15

Benchbook # **BK 3677**
Page 51

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
266501-001	227839	☒ 1.0 ☐	☒ 1.0 ☐	
↓ 2		☒ 1.0 ☐	☒ 1.0 ☐	
266523-001		☒ 1.0 ☐	☒ 1.0 ☐	
2		☒ 1.0 ☐	☒ 1.0 ☐	
3		☒ 1.0 ☐	☒ 1.0 ☐	
4		☒ 1.0 ☐	☒ 1.0 ☐	
5		☒ 1.0 ☐	☒ 1.0 ☐	
6		☒ 1.0 ☐	☒ 1.0 ☐	
7		☒ 1.0 ☐	☒ 1.0 ☐	
MB QC7866549		☒ 1.0 ☐	☒ 1.0 ☐	
BS 50		☒ 1.0 ☐	☒ 1.0 ☐	
BSD ↓ 51	↓	☒ 1.0 ☐	☒ 1.0 ☐	
266373-002	227846	☒ 1.0 ☐	☒ 1.0 ☐	
3		☒ 1.0 ☐	☒ 1.0 ☐	
↓ 5		☒ 1.0 ☐	☒ 1.0 ☐	
MB QC7866580		☒ 1.0 ☐	☒ 1.0 ☐	
LCS 1		☒ 1.0 ☐	☒ 1.0 ☐	
LCSD ↓ 2	↓	☒ 1.0 ☐	☒ 1.0 ☐	
~~266591-001~~ LEB 5/5	227867	☒ 1.0 ☐	☒ 1.0 ☐	~~2665~~ LEB 5/5/15 266491-001
MB QC7866653		☒ 1.0 ☐	☒ 1.0 ☐	
LCS ↓ 4	↓	☒ 1.0 ☐	☒ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	JCD 5/5/15

	Mfg & Lot # / Time / Program	Initials / Date
☒ Extracts were cleaned up using C&T assembled 1.0 g columns	RSA003	LEB 5/5/15
☐ Extracts were cleaned up using ____ g cartridges	NA	↓
Extracts were eluted with 40 mL CH_2Cl_2	EMS4351	
Concentrated to volumes as noted above		

Lauren Proughram 5/5/15
Extraction Chemist / Date

Continued from page ____
Continued on page 1

Jamie Daughtry 5/5/15
Reviewed by / Date

TEH (8015) Water Prep Log — Curtis & Tompkins, Ltd.

Page 29 — BK 3668

LIMS Batch No: 222839 — Extraction Method:
LIMS Analysis: TEH — ☑ EPA 3520c cont. L/L — Cleanup Method (if needed):
Date Extracted: 5415 — ☐ _____ — ☒ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
266472-003	D	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
6	D	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
266476-001	E	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
2	F	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
266501-001	G	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐	X	☒ ≤2pH
2	H	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐	X	☒ ≤2pH
266511-008	H	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
9	H	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
10	B	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
266523-001	F	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐	X	☒ ≤2pH
2	G	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
3	F	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
4	D	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
5	D	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
6	E	☐ 500 ☒ 510	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
7	F	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
266525-022	B	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
23		☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
24		☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
26	F	☒ 500 ☐	☒7 ☐	☒ 2.5 ☐		☒ ≤2pH
MB 786549	MA	☒ 500 ☐	☐7 ☒ NA	☒ 2.5 ☐	X	☒ ≤2pH
BS 50		☒ 500 ☐	☐7 ☐	☒ 2.5 ☐	X	☒ ≤2pH
BSD 51		☒ 500 ☐	☐7 ☒	☒ 2.5 ☐	X	☒ ≤2pH
		☐ 500 ☐	☐7 ☐	☐ 2.5 ☐		☐ ≤2pH — SCD 5/5/15

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S26901	AR 5415
0.5 mL of TEH_SP was added to all spikes	S26964	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133088	
☒ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EMS4531	
Extraction Start Time:	1435	
Extraction End Time:	0835	CDJ 5/5/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	LEB 5/5/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	V	

5415
Extraction Chemist **Date**

Contined from Page 1
Continued on Page _____

Jamie Daugherty 5/5/15
Reviewed by **Date**

SAMPLE PREPARATION SUMMARY

Batch # : 222914 Analysis : TEHM
Started By : ARG Prep Date : 06-MAY-2015 13:20 Finished By : ARG
Method : 3520C Units : mL
Spike #1 ID : S27144 Spike #2 ID : S26964

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266476-003		Water	500	2.5	1	0.005	7	.5				TEH	
266476-004		Water	500	2.5	1	0.005	7	.5				TEH	
266476-005		Water	500	2.5	1	0.005	7	.5				TEH	
266476-006		Water	500	2.5	1	0.005	7	.5				TEH	
266476-007		Water	500	2.5	1	0.005	7	.5				TEH	
266476-008		Water	500	2.5	1	0.005	7	.5				TEH	
266476-009		Water	500	2.5	1	0.005	7	.5				TEH	
266476-010		Water	500	2.5	1	0.005	7	.5				TEH	
266525-023		Water	530	2.5	1	0.004717	7	.5				TEHM	
266542-002		Water	500	2.5	1	0.005	7	.5				TEH	
266542-003		Water	510	2.5	1	0.004902	7	.5				TEH	
266565-001		Water	490	2.5	1	0.005102	7	.5				TEHM	
266566-001		Water	500	2.5	1	0.005	7	.5				TEHM	
266567-001		Water	500	2.5	1	0.005	7	.5				TEHM	
266568-001		Water	510	2.5	1	0.004902	7	.5				TEHM	
266574-001		Water	510	2.5	1	0.004902	7	.5				TEHM	
266574-002		Water	510	2.5	1	0.004902	7	.5				TEHM	
266594-001		Water	500	2.5	1	0.005	7	.5				TEHM	Prepped 06-MAY-2015 16:20
QC786845	BLANK	Water	500	2.5	1	0.005		.5				TEHM	
QC786846	BS	Water	500	2.5	1	0.005		.5	.5			TEHM	arg
QC786847	BSD	Water	500	2.5	1	0.005		.5	.5			TEHM	arg
QC786848	IDOC	Water	500	2.5	1	0.005		.5	.5			TEHM	arg
QC786849	IDOC	Water	500	2.5	1	0.005		.5	.5			TEHM	kkl
QC786850	IDOC	Water	500	2.5	1	0.005		.5	.5			TEHM	kkl
QC786851	IDOC	Water	500	2.5	1	0.005		.5	.5			TEHM	kkl

SFL 05/08/15 : Matrix spikes were not performed for this analysis in batch 222914 due to insufficient sample amount.

SFL 05/08/15 : Sample 222594 was canceled for 3630c cleanup per PM request.

Analyst: SFL Date: 05/08/15 Reviewer: TKM Date: 05/08/15

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: AR6
Cleanup Date: 5715

Benchbook # **BK 3677**
Page 53

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
~~222914~~ AR6 5714		□ 1.0 □	□ 1.0 □	
MBQC 786845	222914	☑ 1.0 □	☑ 1.0 □	
BS 6		☑ 1.0 □	☑ 1.0 □	
BSD 7		☑ 1.0 □	☑ 1.0 □	
		~~□ 1.0 □~~	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	
		□ 1.0 □	□ 1.0 □	AR6 5715

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	R15A003	AR6 5715
☐ Extracts were cleaned up using ____ g cartridges		
Extracts were eluted with 4.0 mL CH_2Cl_2		
Concentrated to volumes as noted above		

5715
Extraction Chemist / Date

Continued from page ____
Continued on page 1

5715
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: JCD
Cleanup Date: 5/7/15

Benchbook # **BK 3677**
Page 52

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
2166594	222914	☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	AR 6 5715

☑ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using ____ g cartridges
Extracts were eluted with 4.0 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
R15A003	JCD 5/7/15
NA	↓
EM54351	
✓	↓

Jamie Dougherty 5/7/15
Extraction Chemist / Date

Continued from page ____
Continued on page ____

AR 6 5715
Reviewed by / Date

TEH (8015) Water Prep Log — Curtis & Tompkins, Ltd.

Page 31 — BK 3668

LIMS Batch No: 222914
LIMS Analysis: TEH
Date Extracted: 5 6 15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Cleanup Method (if needed):
☐ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)		Comments
266476-003	E	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
4	F	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
5	E	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
6	E	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
7	F	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
8	F	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
9	E	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
10	E	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266542-002	L	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
3	G	☐500 ☑510	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266565-001	I/H	☐500 ☑490	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266566-001	I/H	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266567-001	H/G	☑500 ☐____	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266568-001	H/I	☐500 ☑510	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
266574-001	G	☐500 ☑510	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
2	G	☐500 ☑510	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
MB QC766845	NA	☑500 ☐____	☐7 ☑NA	☑2.5 ☐____	X	☑≤2pH	
BS 6		☑500 ☐____	☐7 ☑____	☑2.5 ☐____	X	☑≤2pH	ARG, IPOC
BSD 7		☑500 ☐____	☐7 ☑____	☑2.5 ☐____	X	☑≤2pH	
IDOC 8		☑500 ☐____	☐7 ☑____	☑2.5 ☐____		☑≤2pH	
266525-023	B	☐500 ☑530	☑7 ☐____	☑2.5 ☐____		☑≤2pH	
IDOC QC766849	NA	☑500 ☐____	☐7 ☑NA	☐2.5 ☐____		☑≤2pH	BM KKL
IDOC 50		☑500 ☐____	☐7 ☑NA	☐2.5 ☐____		☑≤2pH	
IDOC 51		☑500 ☐____	☐7 ☑NA	☐2.5 ☐____		☑≤2pH	

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

266594-001 L 500 7 ☑2.5 X ~~≤2pH~~ a/o @ ~~16:20~~ 5/6/15 by KKL

	Mfg & Lot# / ~~LIMS #~~ / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S27144	ARG 5615
0.5 mL of TEH_SP was added to all spikes	S2696 4E	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133088	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EM54351	
Extraction Start Time:	13:20 / 16:20	
Extraction End Time:	7:20	VEB 5/7/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	NA	ARG 5.7.15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	

5/7/15 ARG

5615

Extraction Chemist **Date**

Contined from Page 1
Continued on Page _____

Reviewed by **Date** 5/7/2015

Laboratory Job Number 266525

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15
Basis:	dry	Prepared:	05/06/15
Batch#:	222915	Analyzed:	05/07/15

Field ID: APLB-14(2) Moisture: 7%
Type: SAMPLE Diln Fac: 5.000
Lab ID: 266525-001

Analyte	Result	RL
Diesel C10-C24	26 Y	5.4
Motor Oil C24-C36	260	27

Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Field ID: APLB-14(4.5) Moisture: 12%
Type: SAMPLE Diln Fac: 5.000
Lab ID: 266525-002

Analyte	Result	RL
Diesel C10-C24	140 Y	5.7
Motor Oil C24-C36	500	29

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

Field ID: APLB-14(8.4) Moisture: 13%
Type: SAMPLE Diln Fac: 5.000
Lab ID: 266525-003

Analyte	Result	RL
Diesel C10-C24	390 Y	5.8
Motor Oil C24-C36	850	29

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

Field ID: APLB-13(2) Moisture: 5%
Type: SAMPLE Diln Fac: 50.00
Lab ID: 266525-004

Analyte	Result	RL
Diesel C10-C24	420 Y	53
Motor Oil C24-C36	3,900	260

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15
Basis:	dry	Prepared:	05/06/15
Batch#:	222915	Analyzed:	05/07/15

Field ID: APLB-13(4.5)
Type: SAMPLE
Lab ID: 266525-005

Moisture: 9%
Diln Fac: 5.000

Analyte	Result	RL
Diesel C10-C24	84 Y	5.5
Motor Oil C24-C36	390	28

Surrogate	%REC	Limits
o-Terphenyl	103	59-140

Field ID: APLB-13(8)
Type: SAMPLE
Lab ID: 266525-006

Moisture: 13%
Diln Fac: 1.000

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.7

Surrogate	%REC	Limits
o-Terphenyl	108	59-140

Field ID: APLB-20(1.5)
Type: SAMPLE
Lab ID: 266525-007

Moisture: 7%
Diln Fac: 5.000

Analyte	Result	RL
Diesel C10-C24	190 Y	5.4
Motor Oil C24-C36	1,300	27

Surrogate	%REC	Limits
o-Terphenyl	88	59-140

Field ID: APLB-20(4.5)
Type: SAMPLE
Lab ID: 266525-008

Moisture: 6%
Diln Fac: 1.000

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	6.2	5.3

Surrogate	%REC	Limits
o-Terphenyl	116	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15
Basis:	dry	Prepared:	05/06/15
Batch#:	222915	Analyzed:	05/07/15

Field ID:	APLB-20(8.5)	Moisture:	9%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	266525-009		

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.5

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786852		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786853	Batch#:	222915
Matrix:	Soil	Prepared:	05/06/15
Units:	mg/Kg	Analyzed:	05/07/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.88	53.54	107	58-137

Surrogate	%REC	Limits
o-Terphenyl	109	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	222915
MSS Lab ID:	266531-006	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg	Prepared:	05/06/15
Basis:	as received	Analyzed:	05/07/15
Diln Fac:	1.000		

Type: MS Lab ID: QC786854

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	28.98	50.09	103.2	148	46-154

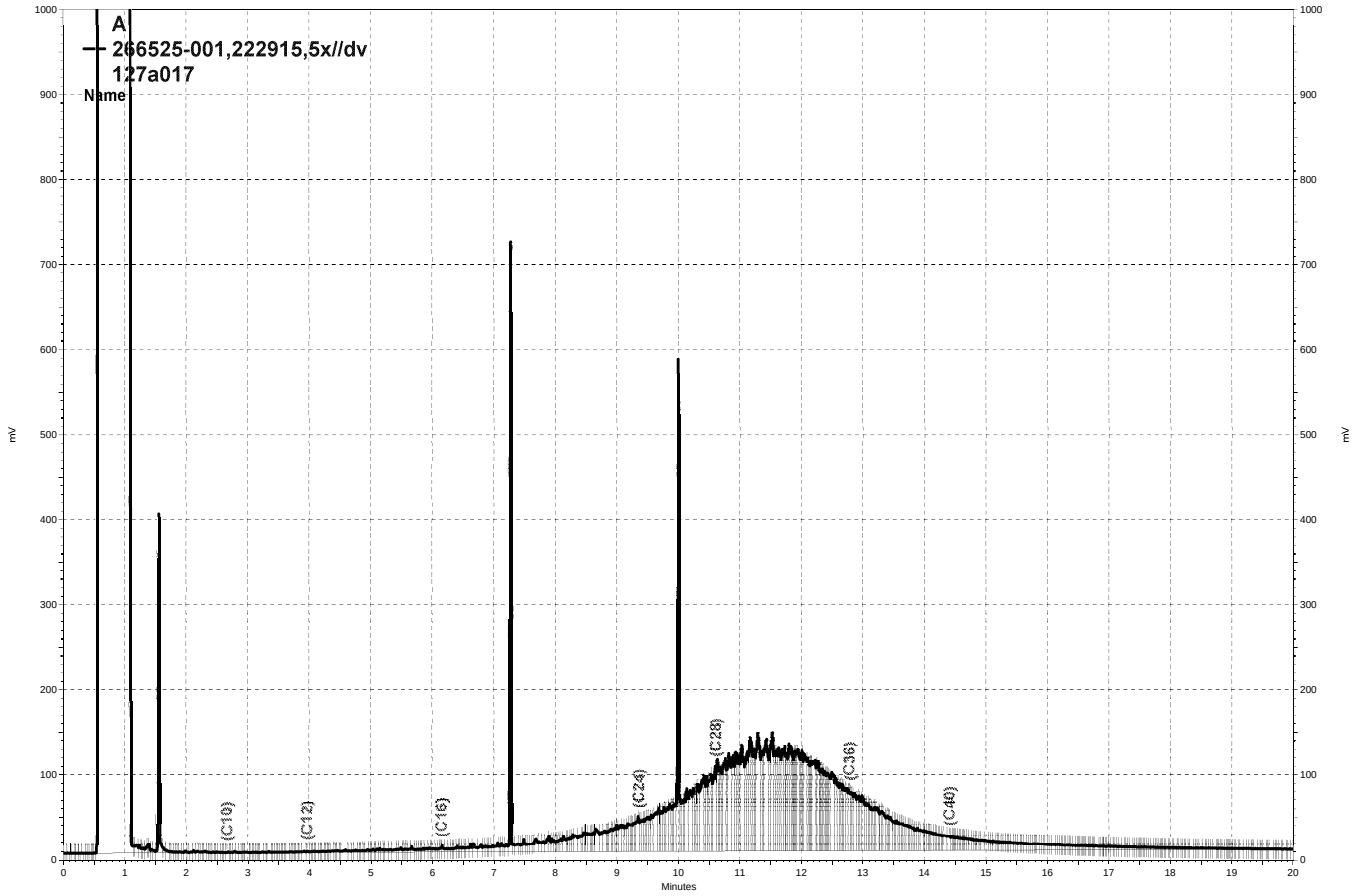
Surrogate	%REC	Limits
o-Terphenyl	104	59-140

Type: MSD Lab ID: QC786855

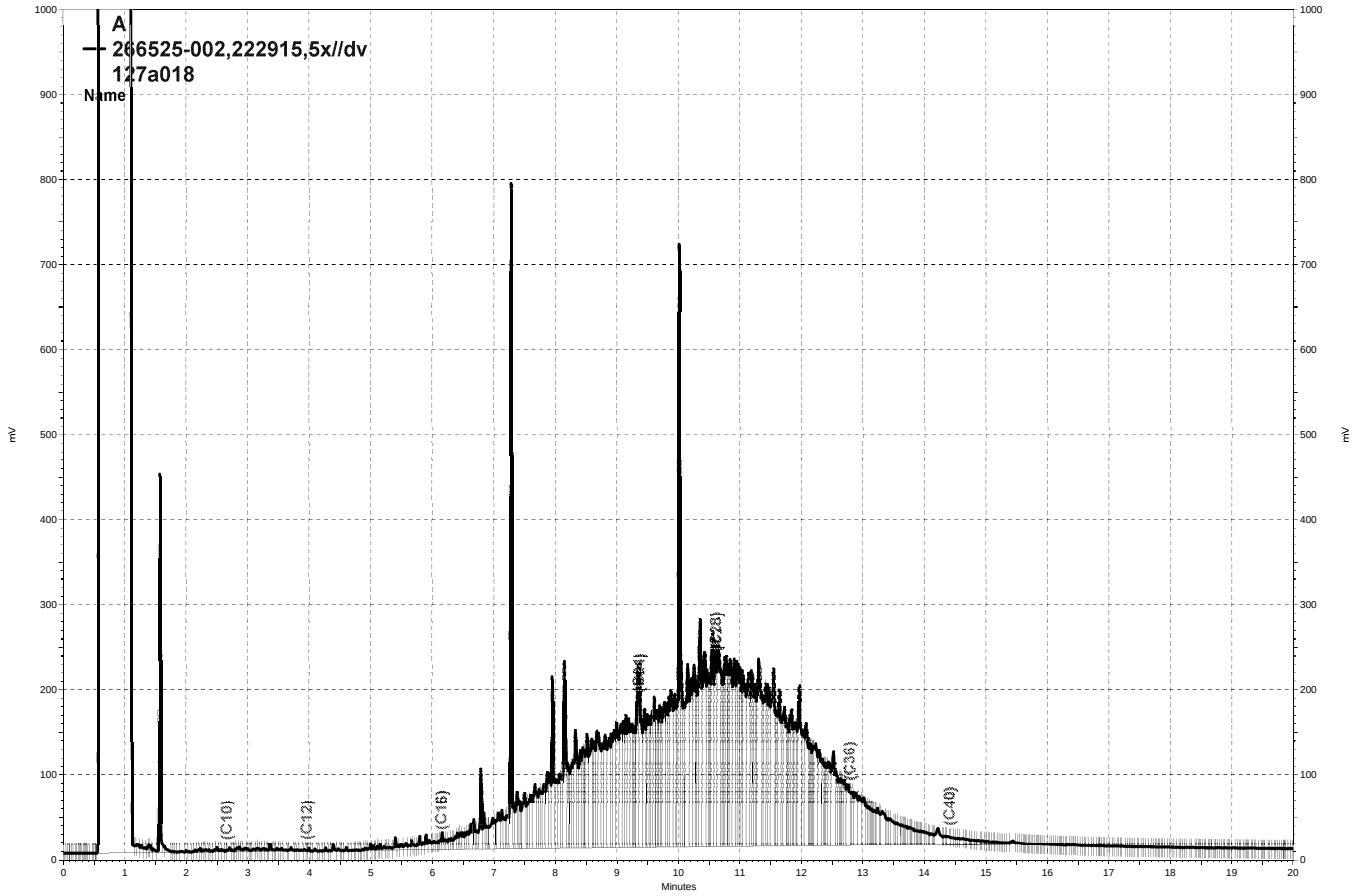
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.78	98.72	140	46-154	4	50

Surrogate	%REC	Limits
o-Terphenyl	103	59-140

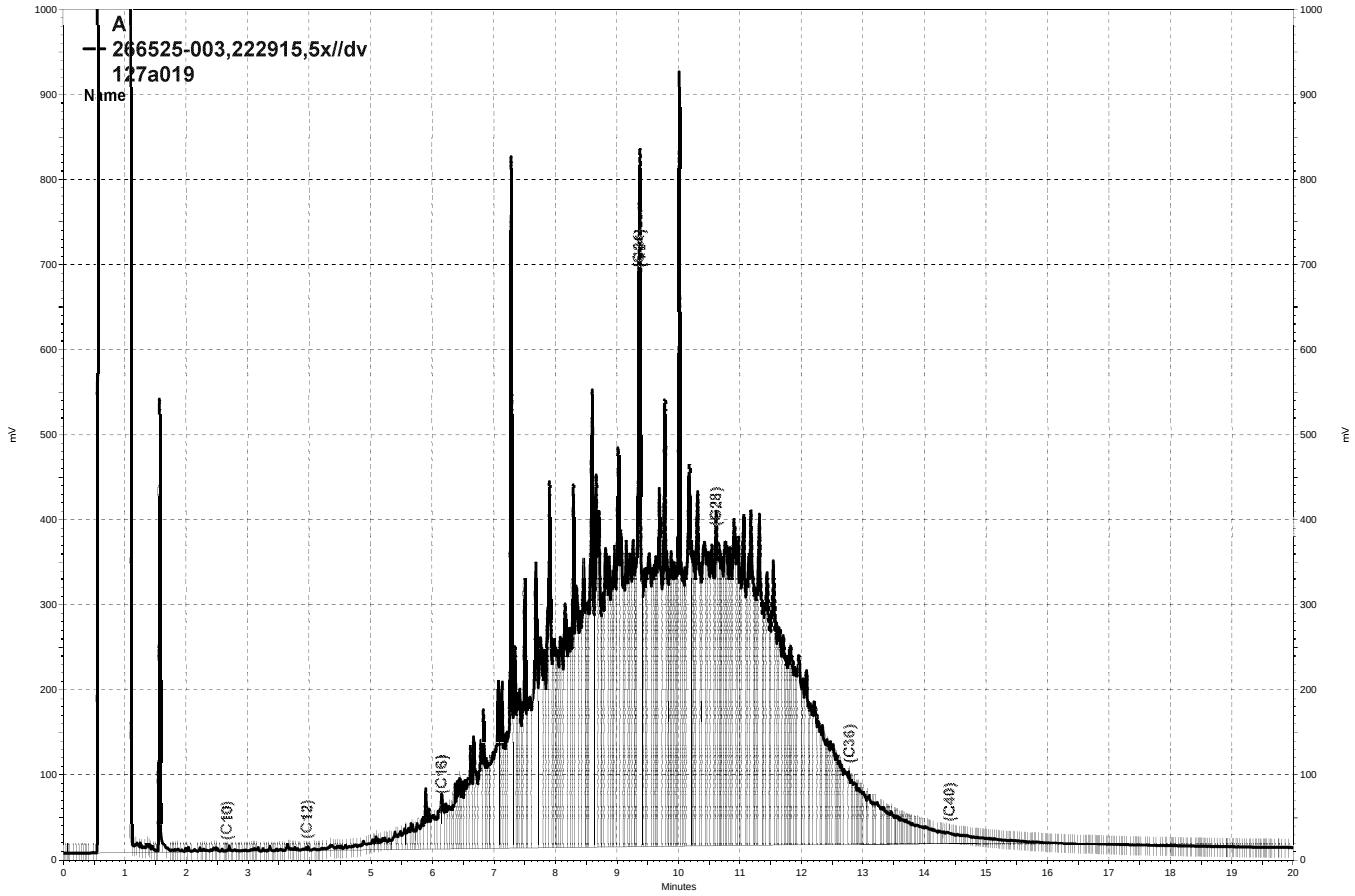
RPD= Relative Percent Difference



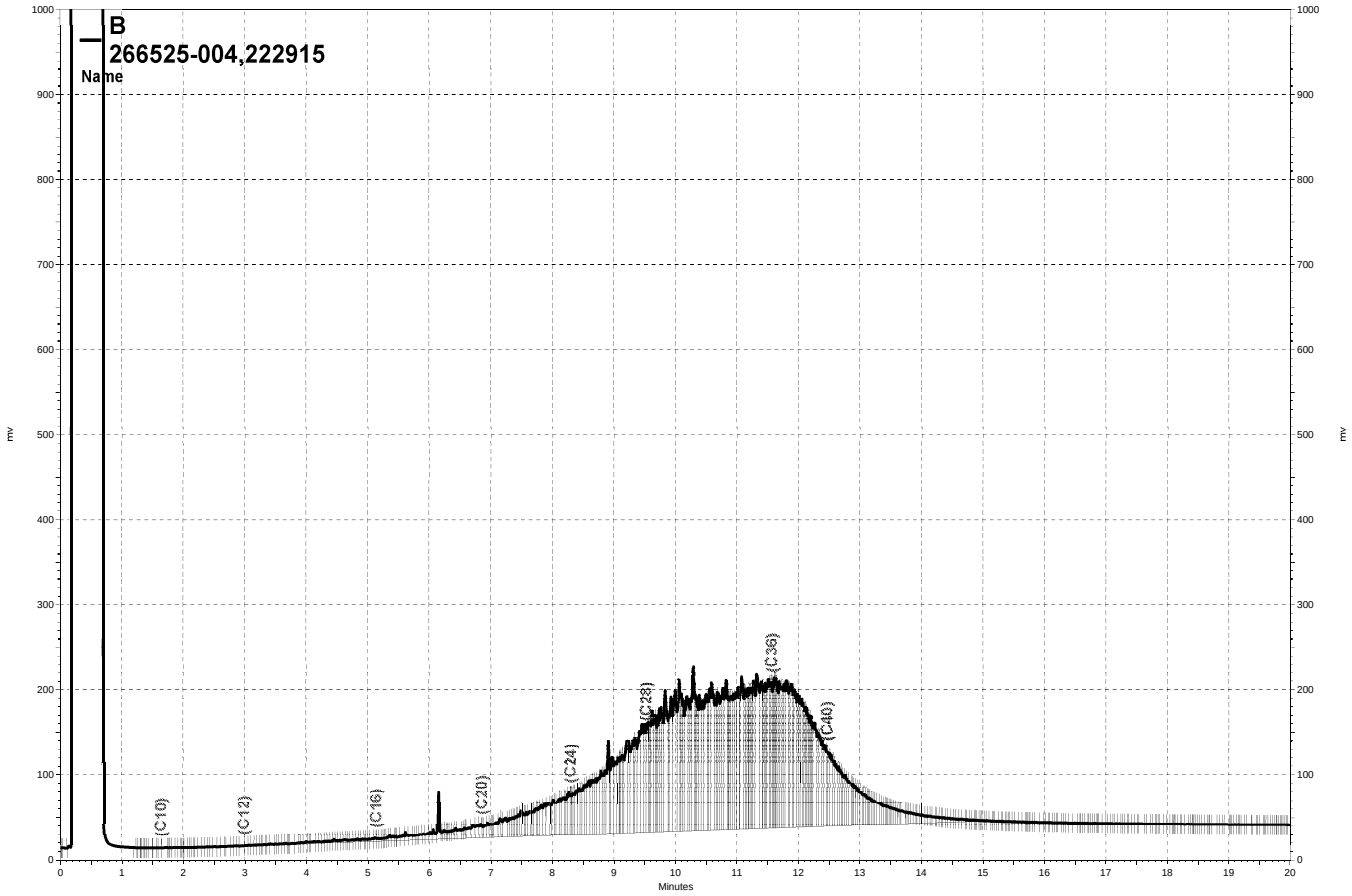
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\127a017, A



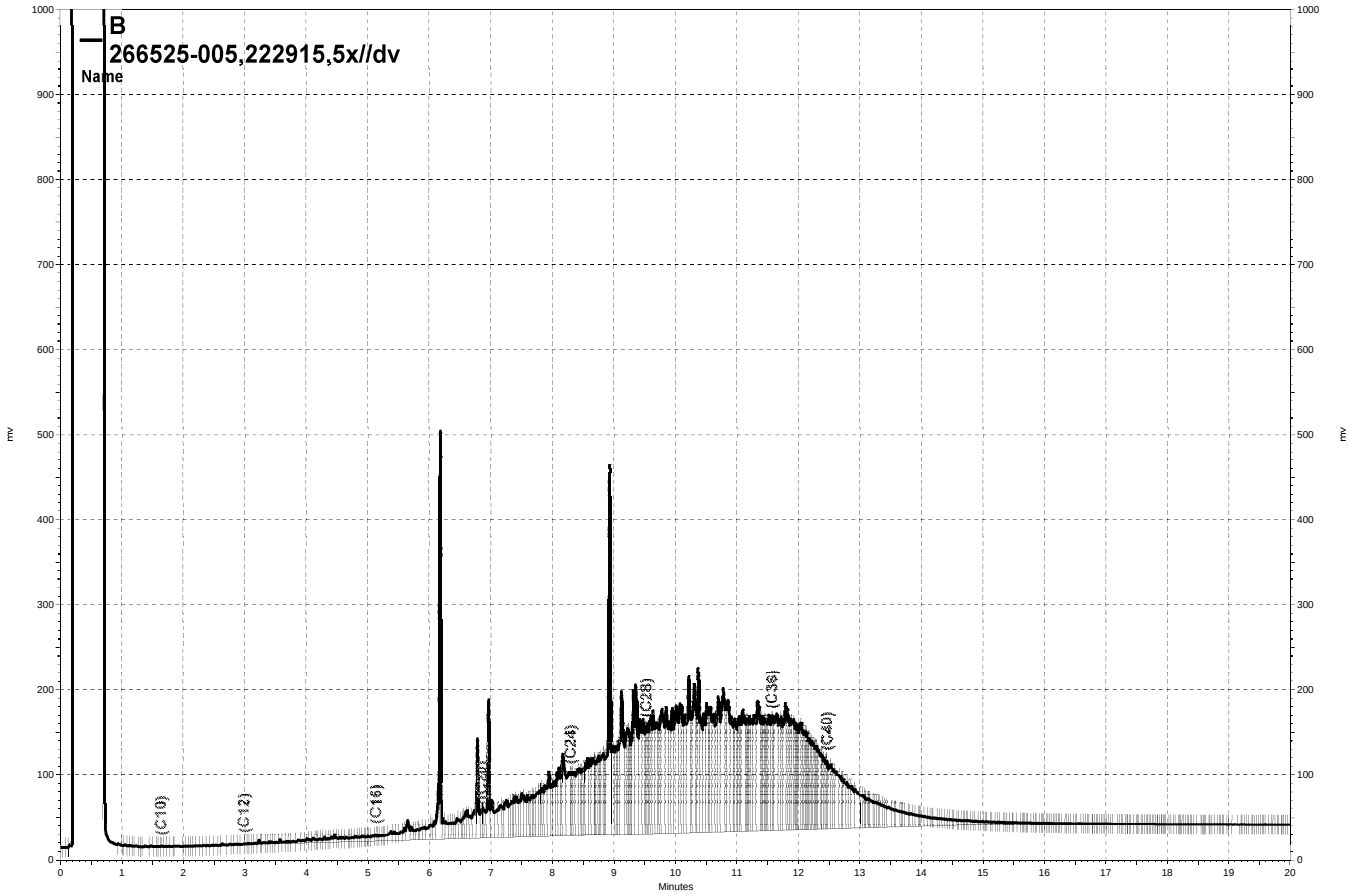
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\127a018, A



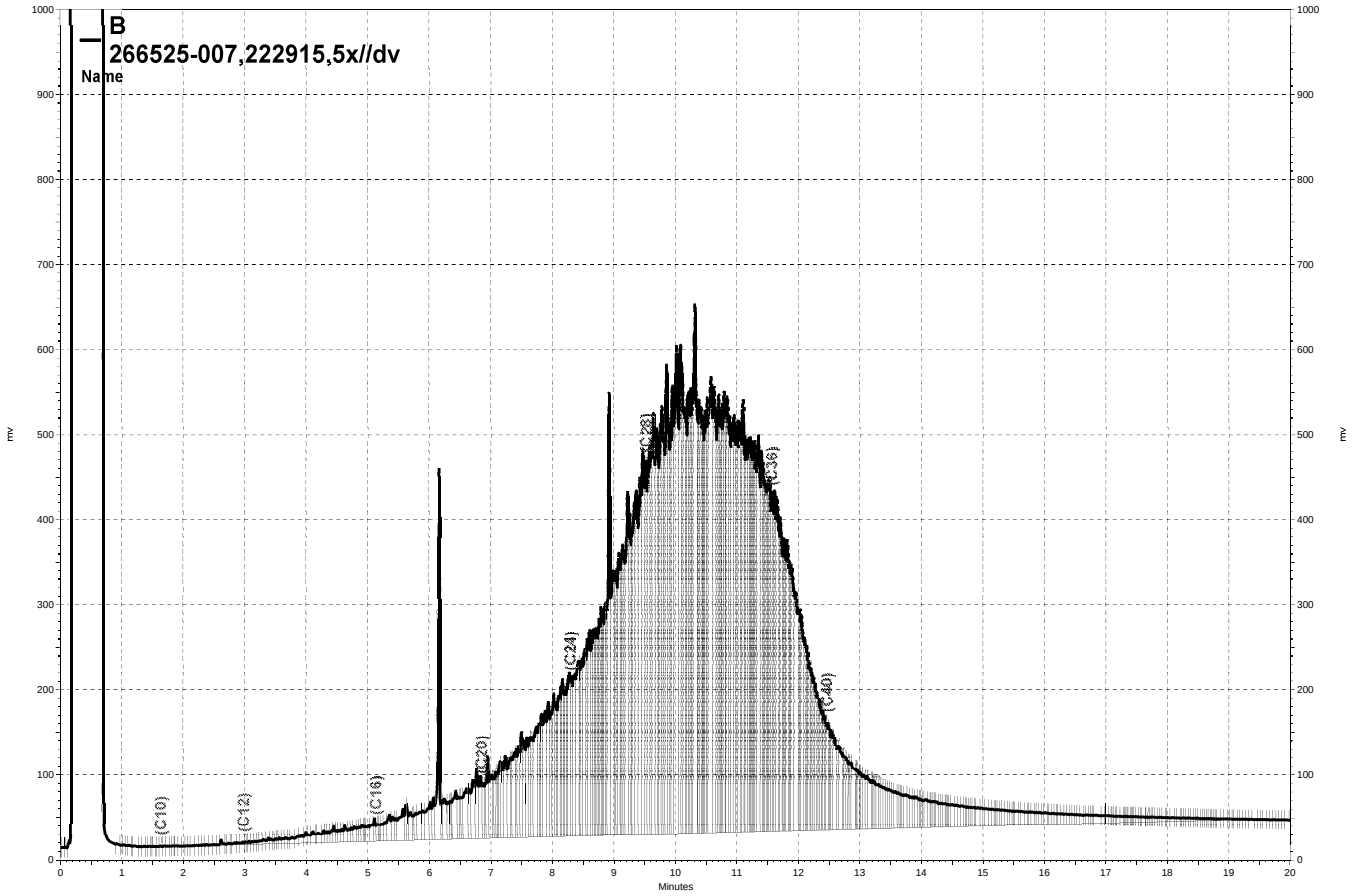
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\127a019, A



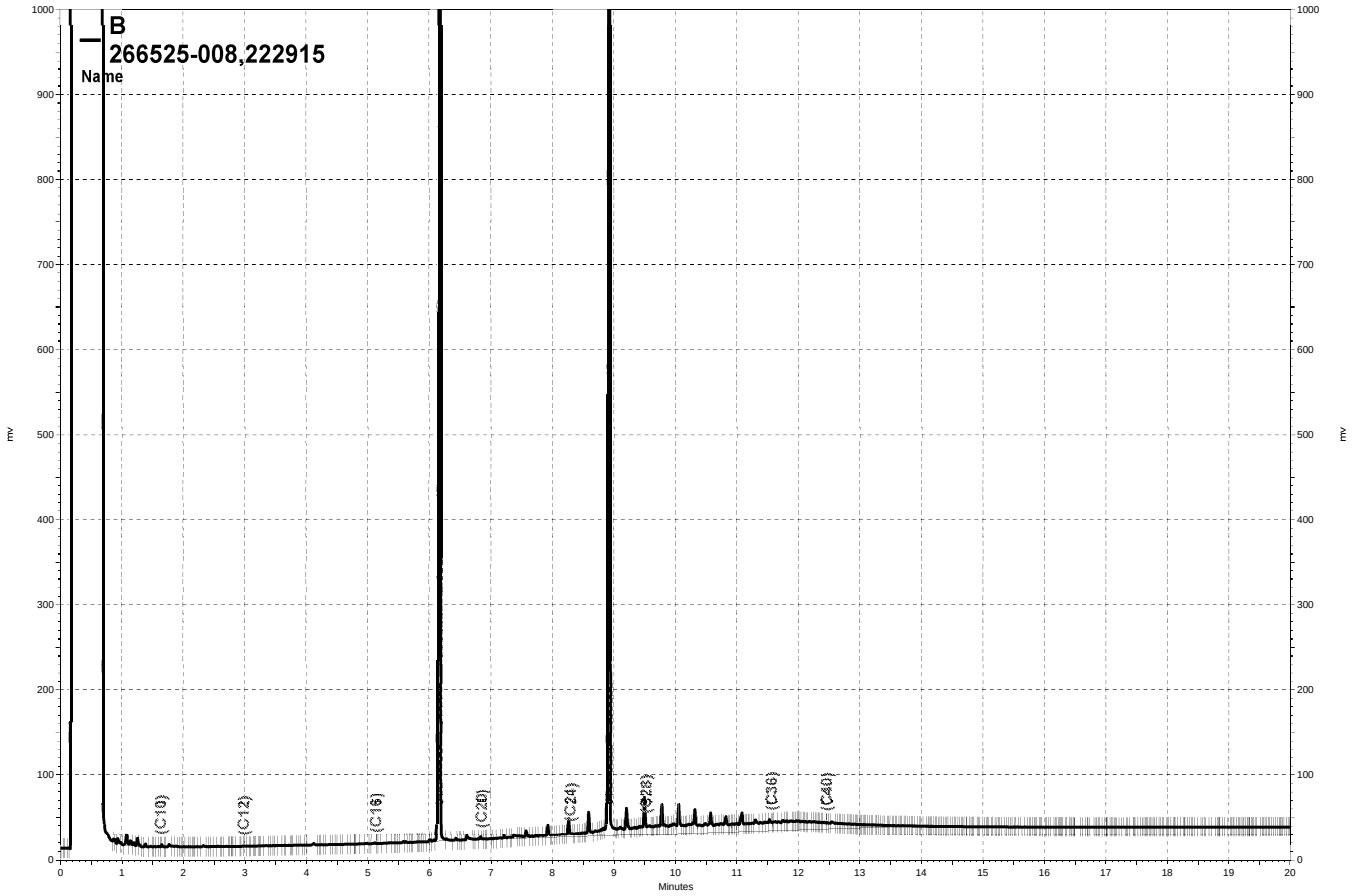
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b012, B



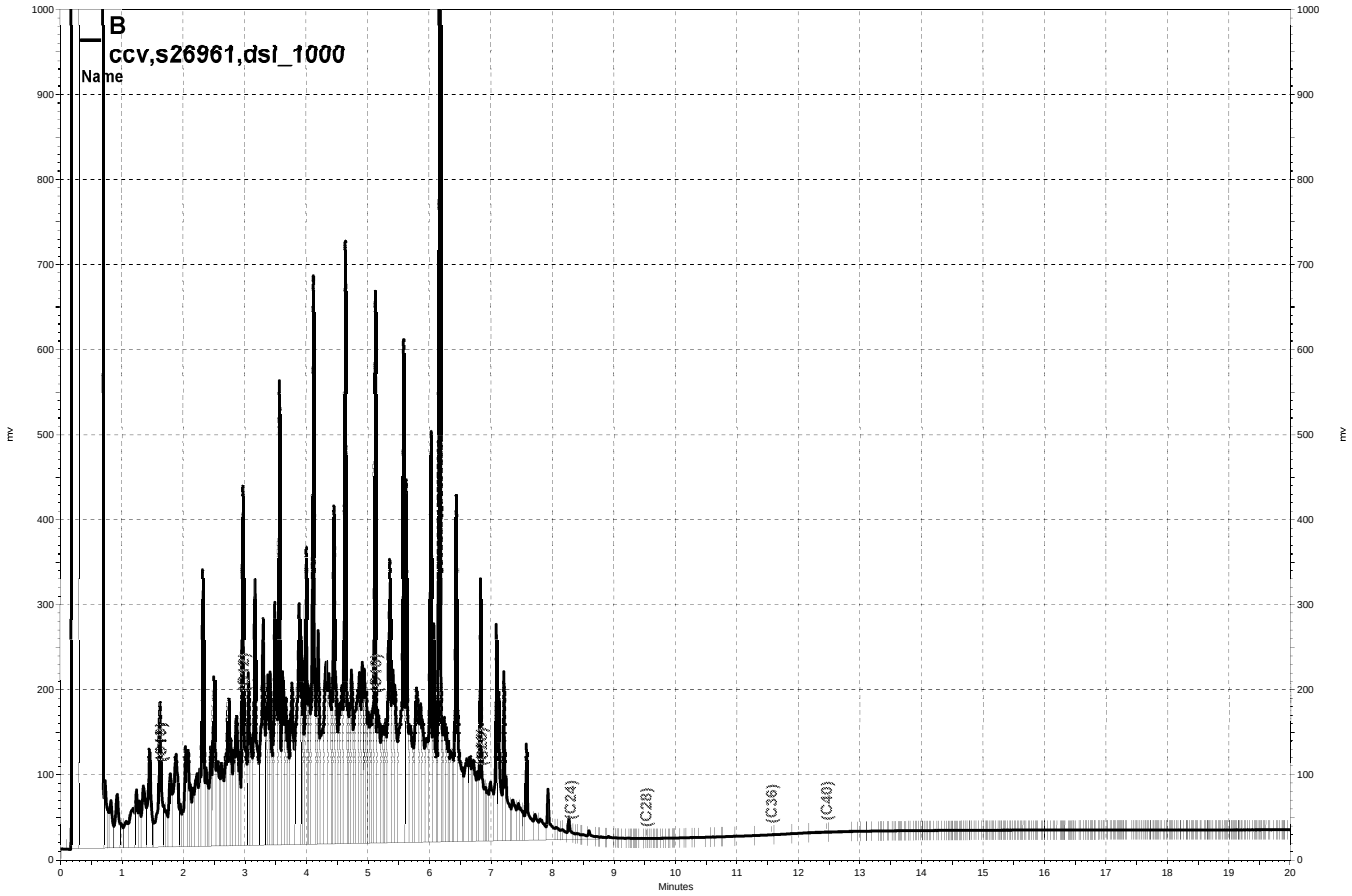
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b017, B



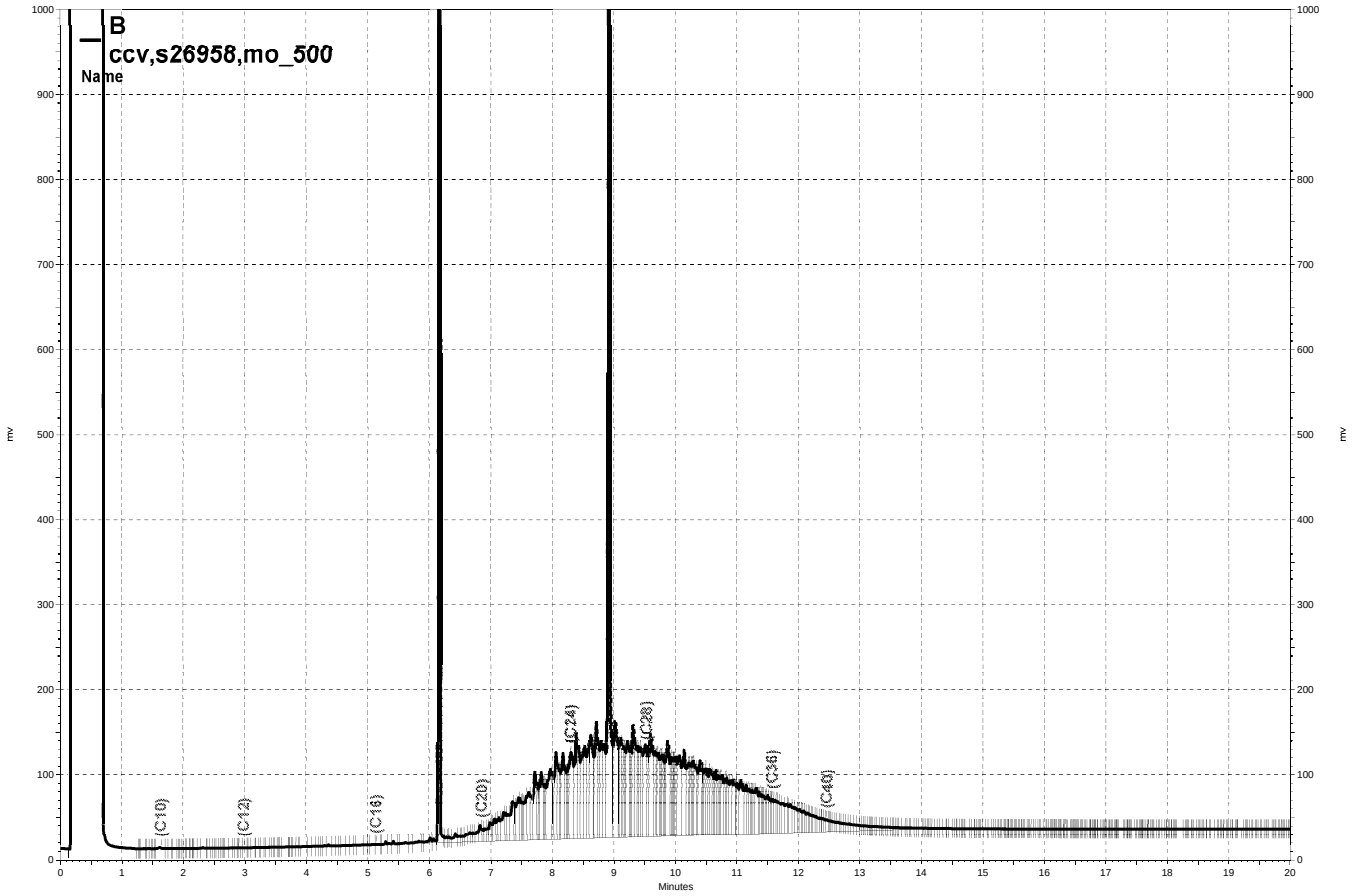
\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b018, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b015, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\127b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Soil
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439001
Units : mg/L

Name : OTPHEX_125
Date : 05-MAY-2015 12:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a007	175180439007	HEXOTP_5	05-MAY-2015 12:49	S26468
L2	125a008	175180439008	HEXOTP_10	05-MAY-2015 13:17	S26469
L3	125a009	175180439009	HEXOTP_25	05-MAY-2015 13:45	S26470
L4	125a010	175180439010	HEXOTP_50	05-MAY-2015 14:13	S26471
L5	125a011	175180439011	HEXOTP_100	05-MAY-2015 14:41	S26472
L6	125a012	175180439012	HEXOTP_200	05-MAY-2015 15:09	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71436	72399	70812	70604	71499	69719	AVRG		1.41E-5		71078	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	1	10.000	2	25.000	0	50.000	-1	100.00	1	200.00	-2

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

175180439001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439002
Units : mg/L

Name : DSL_125
Date : 05-MAY-2015 16:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a014	175180439014	DSL_10	05-MAY-2015 16:05	S27111
L2	125a015	175180439015	DSL_100	05-MAY-2015 16:33	S27112
L3	125a016	175180439016	DSL_500	05-MAY-2015 17:01	S27113
L4	125a017	175180439017	DSL_1000	05-MAY-2015 17:29	S27114
L5	125a018	175180439018	DSL_5000	05-MAY-2015 17:56	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	76763	63180	62015	63432	62838	AVRG		1.52E-5		65646	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	17	100.00	-4	500.00	-6	1000.0	-3	5000.0	-4

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_125
Calnum : 175180439002 Cal Date : 05-MAY-2015

ICV 175180439020 (125a020 05-MAY-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	514.3	mg/L	3	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439003
Units : mg/L

Name : MO_500
Date : 05-MAY-2015 20:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a023	175180439023	MO_50	05-MAY-2015 20:16	S26392
L2	125a024	175180439024	MO_250	05-MAY-2015 20:44	S26393
L3	125a025	175180439025	MO_500	05-MAY-2015 21:12	S26394
L4	125a026	175180439026	MO_1000	05-MAY-2015 21:40	S26395
L5	125a027	175180439027	MO_2500	05-MAY-2015 22:08	S26389 (2X)
L6	125a028	175180439028	MO_5000	05-MAY-2015 22:36	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	43142	43279	40585	39032	34696	33194	AVRG		2.56E-5		38988	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	11	250.00	11	500.00	4	1000.0	0	2500.0	-11	5000.0	-15

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165183298003 File : 127b003 Time : 07-MAY-2015 07:54
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	34392	500.0	495.6	mg/L	-1	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61031	50.00	54.22	mg/L	8	15	

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165183298004 File : 127b004 Time : 07-MAY-2015 08:21
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50406	1000	1089	mg/L	9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61079	50.00	54.26	mg/L	9	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165183298019 File : 127b019 Time : 07-MAY-2015 15:19
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	33715	500.0	485.8	mg/L	-3	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61589	50.00	54.72	mg/L	9	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 165183298020 File : 127b020 Time : 07-MAY-2015 15:47
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50885	500.0	549.8	mg/L	10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61520	50.00	54.65	mg/L	9	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175183299003 File : 127a003 Time : 07-MAY-2015 07:55
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38498	500.0	493.7	mg/L	-1	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74026	50.00	52.07	mg/L	4	15	

JDG 05/07/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175183299004 File : 127a004 Time : 07-MAY-2015 08:23
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	64696	1000	985.5	mg/L	-1	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	81352	50.00	57.23	mg/L	14	15	

JDG 05/07/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175183299020 File : 127a020 Time : 07-MAY-2015 16:01
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38161	500.0	489.4	mg/L	-2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74577	50.00	52.46	mg/L	5	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175183299021 File : 127a021 Time : 07-MAY-2015 16:29
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	62282	250.0	237.2	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72933	50.00	51.30	mg/L	3	15	

SFL 05/07/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165183298

Instrument : GC15B
Method : EPA 8015B
Begun : 05/07/15 06:58
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	127b001	X	IB				05/07/15 06:58	1.0		
002	127b002	X	CMARKER				05/07/15 07:26	1.0	1	
003	127b003	CCV	MO_500				05/07/15 07:54	1.0	2	
004	127b004	CCV	DSL_1000				05/07/15 08:21	1.0	3	
005	127b005	CCV	HYFL_500				05/07/15 08:49	1.0	4	
006	127b006	BLANK	QC786852		Soil	222915	05/07/15 09:17	1.0		
007	127b007	LCS	QC786853		Soil	222915	05/07/15 09:45	1.0		
008	127b008	SAMPLE	266523-005	S	Water	222839	05/07/15 10:13	1.0		
009	127b009	MSS	266531-006		Soil	222915	05/07/15 10:41	1.0		
010	127b010	MS	QC786854		Soil	222915	05/07/15 11:09	1.0		
011	127b011	MSD	QC786855		Soil	222915	05/07/15 11:37	1.0		
012	127b012	SAMPLE	266525-004		Soil	222915	05/07/15 12:05	50.0		
013	127b013	X	IB				05/07/15 12:33	1.0		
014	127b014	SAMPLE	266525-006		Soil	222915	05/07/15 13:01	1.0		
015	127b015	SAMPLE	266525-008		Soil	222915	05/07/15 13:28	1.0		
016	127b016	SAMPLE	266525-009		Soil	222915	05/07/15 13:56	1.0		
017	127b017	SAMPLE	266525-005		Soil	222915	05/07/15 14:24	5.0		
018	127b018	SAMPLE	266525-007		Soil	222915	05/07/15 14:52	5.0		2:BUNKC:12-40=5200
019	127b019	CCV	MO_500				05/07/15 15:19	1.0	2	
020	127b020	CCV	DSL_500				05/07/15 15:47	1.0	5	
021	127b021	CCV	HYFL_500				05/07/15 16:15	1.0	4	
022	127b022	X	CMARKER				05/07/15 16:44	1.0	1	
023	127b023	BLANK	QC787089		Soil	222965	05/07/15 17:12	1.0		

SFL 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26228 5=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175180439

Instrument : GC17A
Method : EPA 8015B
Begun : 05/05/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 07:19	1.0		
002	125a002	CHECK	CMARKER			05/05/15 07:48	1.0	1	
003	125a003	CHECK	CMARKER			05/05/15 08:46	1.0	1	
004	125a004	CHECK	CMARKER			05/05/15 11:25	1.0	1	
005	125a005	X	IB			05/05/15 11:53	1.0		
006	125a006	IB	CALIB			05/05/15 12:21	1.0		
007	125a007	ICAL	HEXOTP_5			05/05/15 12:49	1.0	2	
008	125a008	ICAL	HEXOTP_10			05/05/15 13:17	1.0	3	
009	125a009	ICAL	HEXOTP_25			05/05/15 13:45	1.0	4	
010	125a010	ICAL	HEXOTP_50			05/05/15 14:13	1.0	5	
011	125a011	ICAL	HEXOTP_100			05/05/15 14:41	1.0	6	
012	125a012	ICAL	HEXOTP_200			05/05/15 15:09	1.0	7	
013	125a013	IB	CALIB			05/05/15 15:37	1.0		
014	125a014	ICAL	DSL_10			05/05/15 16:05	1.0	8	
015	125a015	ICAL	DSL_100			05/05/15 16:33	1.0	9	
016	125a016	ICAL	DSL_500			05/05/15 17:01	1.0	10	
017	125a017	ICAL	DSL_1000			05/05/15 17:29	1.0	11	
018	125a018	ICAL	DSL_5000			05/05/15 17:56	1.0	12	
019	125a019	IB	CALIB			05/05/15 18:24	1.0		
020	125a020	ICV	DSL_500			05/05/15 18:52	1.0	13	
021	125a021	X	ICV			05/05/15 19:20	1.0	13	
022	125a022	IB	CALIB			05/05/15 19:48	1.0		
023	125a023	ICAL	MO_50			05/05/15 20:16	1.0	14	
024	125a024	ICAL	MO_250			05/05/15 20:44	1.0	15	
025	125a025	ICAL	MO_500			05/05/15 21:12	1.0	16	
026	125a026	ICAL	MO_1000			05/05/15 21:40	1.0	17	
027	125a027	ICAL	MO_2500			05/05/15 22:08	1.0	18	
028	125a028	ICAL	MO_5000			05/05/15 22:36	1.0	18	
029	125a029	IB	CALIB			05/05/15 23:05	1.0		
030	125a030	CMARKER	C8-C50			05/05/15 23:33	1.0	1	
031	125a031	IB	CALIB			05/06/15 00:01	1.0		

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S26646 2=S26468 3=S26469 4=S26470 5=S26471 6=S26472 7=S26473 8=S27111 9=S27112 10=S27113 11=S27114 12=S27110 13=S26960 14=S26392 15=S26393 16=S26394 17=S26395 18=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175183299

Instrument : GC17A
Method : EPA 8015B
Begun : 05/07/15 06:59
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	127a001	X	IB			05/07/15 06:59	1.0	
002	127a002	X	CMARKER			05/07/15 07:27	1.0	1
003	127a003	CCV	MO_500			05/07/15 07:55	1.0	2
004	127a004	CCV	DSL_1000			05/07/15 08:23	1.0	3
005	127a005	BLANK	QC786549	Water	222839	05/07/15 09:00	1.0	
006	127a006	BS	QC786550	Water	222839	05/07/15 09:28	1.0	
007	127a007	BSD	QC786551	Water	222839	05/07/15 09:56	1.0	
008	127a008	SAMPLE	266476-001	Water	222839	05/07/15 10:25	1.0	
009	127a009	SAMPLE	266476-002	Water	222839	05/07/15 10:53	1.0	
010	127a010	SAMPLE	266516-001	Soil	222921	05/07/15 11:21	1.0	
012	127a012	MSS	266562-001	Soil	222921	05/07/15 12:17	1.0	
013	127a013	MS	QC786877	Soil	222921	05/07/15 12:45	1.0	
014	127a014	MSD	QC786878	Soil	222921	05/07/15 13:13	1.0	
015	127a015	SAMPLE	266576-001	Soil	222921	05/07/15 13:42	3.0	
016	127a016	X	IB			05/07/15 14:10	1.0	
017	127a017	SAMPLE	266525-001	Soil	222915	05/07/15 14:37	5.0	
018	127a018	SAMPLE	266525-002	Soil	222915	05/07/15 15:05	5.0	
019	127a019	SAMPLE	266525-003	Soil	222915	05/07/15 15:33	5.0	
020	127a020	CCV	MO_500			05/07/15 16:01	1.0	2
021	127a021	CCV	DSL_250			05/07/15 16:29	1.0	4

SFL 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 222915
Started By : EYL
Prep Date : 06-MAY-2015 13:15
Method : 3550B
Spike #1 ID : S27144
Spike #2 ID : S26964
Analysis : TEHM
Finished By : EYL
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266525-001		Soil	49.6	5	1	0.1008		1				TEHM	
266525-002		Soil	49.8	5	1	0.1004		1				TEHM	
266525-003		Soil	49.93	5	1	0.1001		1				TEHM	
266525-004		Soil	49.93	5	1	0.1001		1				TEHM	
266525-005		Soil	49.73	5	1	0.1005		1				TEHM	
266525-006		Soil	50.31	5	1	0.09938		1				TEHM	
266525-007		Soil	49.59	5	1	0.1008		1				TEHM	
266525-008		Soil	49.95	5	1	0.1001		1				TEHM	
266525-009		Soil	49.86	5	1	0.1003		1				TEHM	
266531-001		Soil	50.49	5	1	0.09903		1				TEHM	
266531-002		Soil	50.25	5	1	0.0995		1				TEHM	
266531-003		Soil	50.08	5	1	0.09984		1				TEHM	
266531-004		Soil	50.31	5	1	0.09938		1				TEHM	
266531-006		Soil	50.38	5	1	0.09925		1				TEHM	
266531-007		Soil	50.28	5	1	0.09944		1				TEHM	
266531-008		Soil	49.69	5	1	0.1006		1				TEHM	
266531-009		Soil	50.04	5	1	0.09992		1				TEHM	
266531-010		Soil	50.06	5	1	0.09988		1				TEHM	
266531-011		Soil	50.25	5	1	0.0995		1				TEHM	
266531-012		Soil	50.23	5	1	0.09954		1				TEHM	
QC786852	BLANK	Soil	49.87	5	1	0.1003		1				TEHM	
QC786853	LCS	Soil	50.12	5	1	0.09976		1	1			TEHM	
QC786854	MS	Soil	49.91	5	1	0.1002		1	1			TEHM	
QC786855	MSD	Soil	50.22	5	1	0.09956		1	1			TEHM	

Analyst: SFL Date: 05/07/15 Reviewer: EAH Date: 05/07/15

TITLE PROJECT DATE

Continued from page

SAMPLE	ID	WEIGHT (g)	ANALYSIS	BATCH #	SCALE USED	COMMENTS
266525-001	A	49.60	TEHM	222915	DISH-1	
	2	49.80				
	3	49.93				
	4	49.93				
	5	49.73				
	6	50.31				
	7	49.59				
	8	49.95				
	9	49.86				
266531-001	E	50.49				
	2	50.25				
	3	50.08				
	4	50.31				
	6	50.38				MSS
	7	50.28				
	8	49.69				
	9	50.04				
	10	50.06				
	11	50.25				
	12	50.23				
MB	N/A	49.87				EMXF27F
LCS		50.12				↓
MS		49.91				266531-006A
MSD		50.22				↓

EYL 5/6/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 50

LIMS Batch No: 222915
LIMS Analysis TEHM
Date Extracted: 5/6/15

Extraction Method:
☐ Shaker Table
☒ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	266525-001	A	49.60	☑ 5.0 ☐		
	2		49.80	☑ 5.0 ☐		
	3		49.93	☑ 5.0 ☐		
	4		49.93	☑ 5.0 ☐		
5	5		49.73	☑ 5.0 ☐		
	6		50.31	☑ 5.0 ☐		
	7		49.59	☑ 5.0 ☐		
	8		49.95	☑ 5.0 ☐		
	9		49.86	☑ 5.0 ☐		
10	266531-001	E	50.49	☑ 5.0 ☐		
	2		50.25	☑ 5.0 ☐		
	3		50.08	☑ 5.0 ☐		
	4		50.31	☑ 5.0 ☐		
	6		50.38	☑ 5.0 ☐		MSS
15	7		50.28	☑ 5.0 ☐		
	8		49.69	☑ 5.0 ☐		
	9		50.04	☑ 5.0 ☐		
	10		50.06	☑ 5.0 ☐		
	11		50.25	☑ 5.0 ☐		
20	12		50.23	☑ 5.0 ☐		
	MB QC786852	N/A	49.87	☑ 5.0 ☐		
	LCS 3		50.12	☑ 5.0 ☐		
	MS 4		49.91	☑ 5.0 ☐		
	MSD 5		50.22	☑ 5.0 ☐		
				☐ 5.0 ☐		LEB 5/7/15

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMxF27F	BL 5/6/15
Samples were dried with CH2Cl2-rinsed ~~powdered~~ granular Na2SO4	↓	↓
1.0 mL of Surrogate solution was added to all samples	327144B	
1.0 mL of Spike solution was added to all spikes	~~S270538~~ S269164E LEB 5/7/15	
1:1 CH_2Cl_2 (lot# EMS4275):Acetone(lot# EMS4318) was added to all	X	
Solvent added at (time)	13:15	
☒ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	X	
taken off Shaker Table at:	N/A	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM1604C509	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	X	

5/6/15
Extraction Chemist / Date

Continued from page _____
Continued on page 1

Lauren Brougham 5/7/15
Reviewed by / Date

Laboratory Job Number 266525

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB5-1-15	Batch#:	222721
Lab ID:	266525-025	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB5-1-15	Batch#:	222721
Lab ID:	266525-025	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RB5-1-15	Batch#:	222721
Lab ID:	266525-026	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RB5-1-15	Batch#:	222721
Lab ID:	266525-026	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(GW)	Batch#:	222922
Lab ID:	266525-027	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/07/15
Diln Fac:	20.00		

Analyte	Result	RL
Freon 12	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	10
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	20
Acetone	ND	200
Freon 113	ND	40
1,1-Dichloroethene	ND	10
Methylene Chloride	ND	200
Carbon Disulfide	ND	10
MTBE	ND	10
trans-1,2-Dichloroethene	ND	10
Vinyl Acetate	ND	200
1,1-Dichloroethane	ND	10
2-Butanone	ND	200
cis-1,2-Dichloroethene	ND	10
2,2-Dichloropropane	ND	10
Chloroform	ND	10
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	10
1,1-Dichloropropene	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloroethane	ND	10
Benzene	110	10
Trichloroethene	ND	10
1,2-Dichloropropane	ND	10
Bromodichloromethane	ND	10
Dibromomethane	ND	10
4-Methyl-2-Pentanone	ND	200
cis-1,3-Dichloropropene	ND	10
Toluene	ND	10
trans-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	200
1,3-Dichloropropane	ND	10
Tetrachloroethene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(GW)	Batch#:	222922
Lab ID:	266525-027	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/07/15
Diln Fac:	20.00		

Analyte	Result	RL
Dibromochloromethane	ND	10
1,2-Dibromoethane	ND	10
Chlorobenzene	1,200	10
1,1,1,2-Tetrachloroethane	ND	10
Ethylbenzene	ND	10
m,p-Xylenes	ND	10
o-Xylene	ND	10
Styrene	ND	10
Bromoform	ND	20
Isopropylbenzene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
1,2,3-Trichloropropane	ND	10
Propylbenzene	ND	10
Bromobenzene	ND	10
1,3,5-Trimethylbenzene	ND	10
2-Chlorotoluene	ND	10
4-Chlorotoluene	ND	10
tert-Butylbenzene	ND	10
1,2,4-Trimethylbenzene	ND	10
sec-Butylbenzene	ND	10
para-Isopropyl Toluene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
n-Butylbenzene	ND	10
1,2-Dichlorobenzene	ND	10
1,2-Dibromo-3-Chloropropane	ND	40
1,2,4-Trichlorobenzene	ND	10
Hexachlorobutadiene	ND	40
Naphthalene	ND	40
1,2,3-Trichlorobenzene	ND	10

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	88	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(GW)	Batch#:	223020
Lab ID:	266525-028	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/09/15
Diln Fac:	25.00		

Analyte	Result	RL
Freon 12	ND	25
Chloromethane	ND	25
Vinyl Chloride	ND	13
Bromomethane	ND	25
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
Acetone	ND	250
Freon 113	ND	50
1,1-Dichloroethene	ND	13
Methylene Chloride	ND	250
Carbon Disulfide	ND	13
MTBE	ND	13
trans-1,2-Dichloroethene	ND	13
Vinyl Acetate	ND	250
1,1-Dichloroethane	ND	13
2-Butanone	ND	250
cis-1,2-Dichloroethene	ND	13
2,2-Dichloropropane	ND	13
Chloroform	ND	13
Bromochloromethane	ND	13
1,1,1-Trichloroethane	ND	13
1,1-Dichloropropene	ND	13
Carbon Tetrachloride	ND	13
1,2-Dichloroethane	ND	13
Benzene	ND	13
Trichloroethene	ND	13
1,2-Dichloropropane	ND	13
Bromodichloromethane	ND	13
Dibromomethane	ND	13
4-Methyl-2-Pentanone	ND	250
cis-1,3-Dichloropropene	ND	13
Toluene	ND	13
trans-1,3-Dichloropropene	ND	13
1,1,2-Trichloroethane	ND	13
2-Hexanone	ND	250
1,3-Dichloropropane	ND	13
Tetrachloroethene	ND	13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(GW)	Batch#:	223020
Lab ID:	266525-028	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/09/15
Diln Fac:	25.00		

Analyte	Result	RL
Dibromochloromethane	ND	13
1,2-Dibromoethane	ND	13
Chlorobenzene	1,700	13
1,1,1,2-Tetrachloroethane	ND	13
Ethylbenzene	ND	13
m,p-Xylenes	ND	13
o-Xylene	ND	13
Styrene	ND	13
Bromoform	ND	25
Isopropylbenzene	ND	13
1,1,2,2-Tetrachloroethane	ND	13
1,2,3-Trichloropropane	ND	13
Propylbenzene	ND	13
Bromobenzene	ND	13
1,3,5-Trimethylbenzene	ND	13
2-Chlorotoluene	ND	13
4-Chlorotoluene	ND	13
tert-Butylbenzene	ND	13
1,2,4-Trimethylbenzene	ND	13
sec-Butylbenzene	ND	13
para-Isopropyl Toluene	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	15	13
n-Butylbenzene	ND	13
1,2-Dichlorobenzene	ND	13
1,2-Dibromo-3-Chloropropane	ND	50
1,2,4-Trichlorobenzene	15	13
Hexachlorobutadiene	ND	50
Naphthalene	ND	50
1,2,3-Trichlorobenzene	ND	13

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(GW)	Batch#:	222721
Lab ID:	266525-029	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	200.0		

Analyte	Result	RL
Freon 12	ND	200
Chloromethane	ND	200
Vinyl Chloride	ND	100
Bromomethane	ND	200
Chloroethane	ND	200
Trichlorofluoromethane	ND	200
Acetone	ND	2,000
Freon 113	ND	400
1,1-Dichloroethene	ND	100
Methylene Chloride	ND	2,000
Carbon Disulfide	ND	100
MTBE	ND	100
trans-1,2-Dichloroethene	ND	100
Vinyl Acetate	ND	2,000
1,1-Dichloroethane	ND	100
2-Butanone	ND	2,000
cis-1,2-Dichloroethene	ND	100
2,2-Dichloropropane	ND	100
Chloroform	ND	100
Bromochloromethane	ND	100
1,1,1-Trichloroethane	ND	100
1,1-Dichloropropene	ND	100
Carbon Tetrachloride	ND	100
1,2-Dichloroethane	ND	100
Benzene	280	100
Trichloroethene	ND	100
1,2-Dichloropropane	ND	100
Bromodichloromethane	ND	100
Dibromomethane	ND	100
4-Methyl-2-Pentanone	ND	2,000
cis-1,3-Dichloropropene	ND	100
Toluene	ND	100
trans-1,3-Dichloropropene	ND	100
1,1,2-Trichloroethane	ND	100
2-Hexanone	ND	2,000
1,3-Dichloropropane	ND	100
Tetrachloroethene	ND	100

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(GW)	Batch#:	222721
Lab ID:	266525-029	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	200.0		

Analyte	Result	RL
Dibromochloromethane	ND	100
1,2-Dibromoethane	ND	100
Chlorobenzene	15,000	100
1,1,1,2-Tetrachloroethane	ND	100
Ethylbenzene	ND	100
m,p-Xylenes	ND	100
o-Xylene	ND	100
Styrene	ND	100
Bromoform	ND	200
Isopropylbenzene	ND	100
1,1,2,2-Tetrachloroethane	ND	100
1,2,3-Trichloropropane	ND	100
Propylbenzene	ND	100
Bromobenzene	ND	100
1,3,5-Trimethylbenzene	ND	100
2-Chlorotoluene	ND	100
4-Chlorotoluene	ND	100
tert-Butylbenzene	ND	100
1,2,4-Trimethylbenzene	ND	100
sec-Butylbenzene	ND	100
para-Isopropyl Toluene	ND	100
1,3-Dichlorobenzene	290	100
1,4-Dichlorobenzene	1,000	100
n-Butylbenzene	ND	100
1,2-Dichlorobenzene	ND	100
1,2-Dibromo-3-Chloropropane	ND	400
1,2,4-Trichlorobenzene	490	100
Hexachlorobutadiene	ND	400
Naphthalene	ND	400
1,2,3-Trichlorobenzene	110	100

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(GW)	Diln Fac:	4.000
Lab ID:	266525-030	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	4.0	223020	05/09/15
Chloromethane	ND	4.0	223020	05/09/15
Vinyl Chloride	ND	2.0	223020	05/09/15
Bromomethane	ND	4.0	223020	05/09/15
Chloroethane	ND	4.0	223020	05/09/15
Trichlorofluoromethane	ND	4.0	223020	05/09/15
Acetone	ND	40	223020	05/09/15
Freon 113	ND	8.0	223020	05/09/15
1,1-Dichloroethene	ND	2.0	223020	05/09/15
Methylene Chloride	ND	40	223020	05/09/15
Carbon Disulfide	ND	2.0	223020	05/09/15
MTBE	ND	2.0	223020	05/09/15
trans-1,2-Dichloroethene	ND	2.0	223020	05/09/15
Vinyl Acetate	ND	40	223020	05/09/15
1,1-Dichloroethane	ND	2.0	223020	05/09/15
2-Butanone	ND	40	223020	05/09/15
cis-1,2-Dichloroethene	ND	2.0	223020	05/09/15
2,2-Dichloropropane	ND	2.0	223020	05/09/15
Chloroform	ND	2.0	223020	05/09/15
Bromochloromethane	ND	2.0	223020	05/09/15
1,1,1-Trichloroethane	ND	2.0	223020	05/09/15
1,1-Dichloropropene	ND	2.0	223020	05/09/15
Carbon Tetrachloride	ND	2.0	223020	05/09/15
1,2-Dichloroethane	ND	2.0	223020	05/09/15
Benzene	ND	2.0	223020	05/09/15
Trichloroethene	ND	2.0	223020	05/09/15
1,2-Dichloropropane	ND	2.0	223020	05/09/15
Bromodichloromethane	ND	2.0	223020	05/09/15
Dibromomethane	ND	2.0	223020	05/09/15
4-Methyl-2-Pentanone	ND	40	223020	05/09/15
cis-1,3-Dichloropropene	ND	2.0	223020	05/09/15
Toluene	ND	2.0	223020	05/09/15
trans-1,3-Dichloropropene	ND	2.0	223020	05/09/15
1,1,2-Trichloroethane	ND	2.0	223020	05/09/15
2-Hexanone	ND	40	223020	05/09/15
1,3-Dichloropropane	ND	2.0	223020	05/09/15
Tetrachloroethene	ND	2.0	223020	05/09/15
Dibromochloromethane	ND	2.0	223020	05/09/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(GW)	Diln Fac:	4.000
Lab ID:	266525-030	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
1,2-Dibromoethane	ND	2.0	223020	05/09/15
Chlorobenzene	200	2.0	223020	05/09/15
1,1,1,2-Tetrachloroethane	ND	2.0	223020	05/09/15
Ethylbenzene	ND	2.0	223020	05/09/15
m,p-Xylenes	ND	2.0	223020	05/09/15
o-Xylene	ND	2.0	223020	05/09/15
Styrene	ND	2.0	223020	05/09/15
Bromoform	ND	4.0	223020	05/09/15
Isopropylbenzene	ND	2.0	223020	05/09/15
1,1,2,2-Tetrachloroethane	ND	2.0	223020	05/09/15
1,2,3-Trichloropropane	ND	2.0	223020	05/09/15
Propylbenzene	ND	2.0	223020	05/09/15
Bromobenzene	ND	2.0	223020	05/09/15
1,3,5-Trimethylbenzene	ND	2.0	223020	05/09/15
2-Chlorotoluene	ND	2.0	223020	05/09/15
4-Chlorotoluene	ND	2.0	223020	05/09/15
tert-Butylbenzene	ND	2.0	223020	05/09/15
1,2,4-Trimethylbenzene	ND	2.0	223020	05/09/15
sec-Butylbenzene	ND	2.0	223020	05/09/15
para-Isopropyl Toluene	ND	2.0	223020	05/09/15
1,3-Dichlorobenzene	14	2.0	223020	05/09/15
1,4-Dichlorobenzene	4.6	2.0	223020	05/09/15
n-Butylbenzene	ND	2.0	223020	05/09/15
1,2-Dichlorobenzene	ND	2.0	223020	05/09/15
1,2-Dibromo-3-Chloropropane	ND	8.0	223020	05/09/15
1,2,4-Trichlorobenzene	7.2	2.0	223020	05/09/15
Hexachlorobutadiene	ND	8.0	223020	05/09/15
Naphthalene	ND	8.0	223020	05/09/15
1,2,3-Trichlorobenzene	ND	2.0	223029	05/10/15

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	101	80-128	223020	05/09/15
1,2-Dichloroethane-d4	95	75-139	223020	05/09/15
Toluene-d8	98	80-120	223020	05/09/15
Bromofluorobenzene	103	80-120	223020	05/09/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222721
Units:	ug/L	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786073

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.41	99	66-135
Benzene	12.50	13.26	106	80-123
Trichloroethene	12.50	13.48	108	80-123
Toluene	12.50	13.38	107	80-121
Chlorobenzene	12.50	13.34	107	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC786074

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	14.75	118	66-135	17	24
Benzene	12.50	13.50	108	80-123	2	20
Trichloroethene	12.50	14.03	112	80-123	4	20
Toluene	12.50	12.96	104	80-121	3	20
Chlorobenzene	12.50	13.08	105	80-123	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	120	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786075	Batch#:	222721
Matrix:	Water	Analyzed:	05/04/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786075	Batch#:	222721
Matrix:	Water	Analyzed:	05/04/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-128
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	222922
Units:	ug/L	Analyzed:	05/06/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786880

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.21	106	66-135
Benzene	12.50	14.27	114	80-123
Trichloroethene	12.50	12.45	100	80-123
Toluene	12.50	13.15	105	80-121
Chlorobenzene	12.50	12.45	100	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	107	80-120
Bromofluorobenzene	108	80-120

Type: BSD Lab ID: QC786881

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	12.53	100	66-135	5	24
Benzene	12.50	13.59	109	80-123	5	20
Trichloroethene	12.50	11.43	91	80-123	9	20
Toluene	12.50	12.94	103	80-121	2	20
Chlorobenzene	12.50	12.31	99	80-123	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786882	Batch#:	222922
Matrix:	Water	Analyzed:	05/06/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786882	Batch#:	222922
Matrix:	Water	Analyzed:	05/06/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC787346	Batch#:	223020
Matrix:	Water	Analyzed:	05/09/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	15.00	17.38	116	66-135
Benzene	15.00	15.88	106	80-123
Trichloroethene	15.00	14.39	96	80-123
Toluene	15.00	16.54	110	80-121
Chlorobenzene	15.00	15.26	102	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	87	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-120

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787348	Batch#:	223020
Matrix:	Water	Analyzed:	05/09/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787348	Batch#:	223020
Matrix:	Water	Analyzed:	05/09/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	223020
MSS Lab ID:	266656-003	Sampled:	05/05/15
Matrix:	Water	Received:	05/08/15
Units:	ug/L	Analyzed:	05/10/15
Diln Fac:	1.000		

Type: MS Lab ID: QC787362

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	25.00	30.50	122	73-129
Benzene	<0.1000	25.00	28.97	116	80-120
Trichloroethene	<0.1000	25.00	26.97	108	73-123
Toluene	<0.1000	25.00	28.46	114	80-120
Chlorobenzene	<0.1136	25.00	27.29	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC787363

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	26.51	106	73-129	14	25
Benzene	25.00	26.45	106	80-120	9	20
Trichloroethene	25.00	24.06	96	73-123	11	20
Toluene	25.00	25.71	103	80-120	10	21
Chlorobenzene	25.00	24.43	98	80-120	11	24

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223029
Units:	ug/L	Analyzed:	05/10/15
Diln Fac:	1.000		

Type: BS Lab ID: QC787370

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	12.59	101	66-135
Benzene	12.50	13.37	107	80-123
Trichloroethene	12.50	12.63	101	80-123
Toluene	12.50	13.24	106	80-121
Chlorobenzene	12.50	12.57	101	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	88	75-139
Toluene-d8	107	80-120
Bromofluorobenzene	105	80-120

Type: BSD Lab ID: QC787371

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	12.43	99	66-135	1	24
Benzene	12.50	13.19	106	80-123	1	20
Trichloroethene	12.50	12.32	99	80-123	2	20
Toluene	12.50	13.21	106	80-121	0	20
Chlorobenzene	12.50	12.01	96	80-123	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	89	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787372	Batch#:	223029
Matrix:	Water	Analyzed:	05/10/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787372	Batch#:	223029
Matrix:	Water	Analyzed:	05/10/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-128
1,2-Dichloroethane-d4	89	75-139
Toluene-d8	106	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA02 Run Name : BFB IDF : 1.0
Seqnum : 415174609014 File : be114 Time : 01-MAY-2015 17:31

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	61134	24.37	
75	30% - 60% of mass 95	125253	49.94	
95		250807	100.00	
96	5% - 9% of mass 95	16690	6.65	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	206848	82.47	
175	5% - 9% of mass 174	16734	8.09	
176	> 95% and < 101% of mass 174	203733	98.49	
177	5% - 9% of mass 176	14095	6.92	

Analyst: DAR Date: 05/04/15 Reviewer: LW Date: 05/04/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA02 Run Name : BFB IDF : 1.0
Seqnum : 415179135002 File : be402 Time : 04-MAY-2015 12:35

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	101376	23.58	
75	30% - 60% of mass 95	210376	48.94	
95		429909	100.00	
96	5% - 9% of mass 95	29123	6.77	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	360405	83.83	
175	5% - 9% of mass 174	29440	8.17	
176	> 95% and < 101% of mass 174	356928	99.04	
177	5% - 9% of mass 176	23640	6.62	

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/05/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0
Seqnum : 425152069014 File : cdf14 Time : 15-APR-2015 18:25

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	19181	19.47	
75	30% - 60% of mass 95	41565	42.19	
95		98517	100.00	
96	5% - 9% of mass 95	6474	6.57	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	73306	74.41	
175	5% - 9% of mass 174	5476	7.47	
176	> 95% and < 101% of mass 174	70485	96.15	
177	5% - 9% of mass 176	4575	6.49	

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0
Seqnum : 425182036009 File : ce609 Time : 06-MAY-2015 14:35

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	13146	20.34	
75	30% - 60% of mass 95	27096	41.92	
95		64632	100.00	
96	5% - 9% of mass 95	4327	6.69	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	44376	68.66	
175	5% - 9% of mass 174	3265	7.36	
176	> 95% and < 101% of mass 174	43037	96.98	
177	5% - 9% of mass 176	2915	6.77	

Analyst: DAR Date: 05/07/15 Reviewer: LW Date: 05/07/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : BFB IDF : 1.0
Seqnum : 425188235003 File : cea03 Time : 10-MAY-2015 17:58

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	30472	20.53	
75	30% - 60% of mass 95	62128	41.86	
95		148413	100.00	
96	5% - 9% of mass 95	9984	6.73	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	100112	67.46	
175	5% - 9% of mass 174	7141	7.13	
176	> 95% and < 101% of mass 174	95178	95.07	
177	5% - 9% of mass 176	6158	6.47	

Analyst: DAR Date: 05/11/15 Reviewer: TEW Date: 05/11/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 485152028002 File : idf02 Time : 15-APR-2015 14:01

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	17411	23.57	
75	30% - 60% of mass 95	34626	46.88	
95		73866	100.00	
96	5% - 9% of mass 95	4481	6.07	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	51848	70.19	
175	5% - 9% of mass 174	3581	6.91	
176	> 95% and < 101% of mass 174	51162	98.68	
177	5% - 9% of mass 176	3244	6.34	

Analyst: NJT Date: 04/17/15 Reviewer: LW Date: 04/20/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 485186486007 File : ie907 Time : 09-MAY-2015 16:01

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	18992	18.20	
75	30% - 60% of mass 95	42512	40.73	
95		104370	100.00	
96	5% - 9% of mass 95	6465	6.19	
173	< 2% of mass 174	405	0.50	
174	> 50% and < 100% of mass 95	80488	77.12	
175	5% - 9% of mass 174	5486	6.82	
176	> 95% and < 101% of mass 174	76896	95.54	
177	5% - 9% of mass 176	5474	7.12	

Analyst: KKM Date: 05/11/15 Reviewer: TEW Date: 05/11/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Water: EPA 8260B

Inst : MSVOA02 Name : 826GX02W
Calnum : 415174609002 Date : 01-MAY-2015 19:53 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	be118	415174609018		01-MAY-2015 19:53	S26360 (2000000X), S27172 (2000000X), S27151 (2000000X), S26957 (1000000X), S26909 (1000X)
L2	be119	415174609019		01-MAY-2015 20:29	S26360 (1000000X), S27172 (1000000X), S27151 (1000000X), S26957 (500000X), S26909 (1000X)
L3	be120	415174609020		01-MAY-2015 21:05	S26360 (500000X), S27172 (250000X), S27151 (250000X), S26957 (250000X), S26909 (1000X)
L4	be121	415174609021		01-MAY-2015 21:40	S26360 (200000X), S27172 (100000X), S27151 (100000X), S26957 (100000X), S26909 (1000X)
L5	be122	415174609022		01-MAY-2015 22:15	S26360 (100000X), S27172 (50000X), S27151 (50000X), S26957 (50000X), S26909 (1000X)
L6	be123	415174609023		01-MAY-2015 22:51	S26360 (50000X), S27172 (25000X), S27151 (25000X), S26957 (25000X), S26909 (1000X)
L7	be124	415174609024		01-MAY-2015 23:26	S26360 (20000X), S27172 (10000X), S27151 (10000X), S26957 (10000X), S26909 (1000X)
L8	be125	415174609025		02-MAY-2015 00:01	S26360 (13330X), S27172 (6667X), S27151 (6667X), S26957 (6667X), S26909 (1000X)
L9	be126	415174609026		02-MAY-2015 00:36	S26360 (10000X), S27172 (5000X), S27151 (5000X), S26957 (5000X), S26909 (1000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.8751m	0.8592m	0.9239m	0.6717m	0.7697m	0.9136	0.8448m	0.8181	AVRG		1.19829		0.8345	10	15	0.05	0.99	
Chloromethane	1.9748m	1.8894m	1.7707m	1.6366	1.5858	1.5292	1.4988	1.4372	1.3819	AVRG		0.61206		1.6338	13	15	0.10	0.99	
Vinyl Chloride	1.2622m	1.2189m	1.1675m	1.1173m	1.0310	1.0290	1.0662	1.0198	0.9932	AVRG		0.90861		1.1006	9	15	0.05	0.99	
Bromomethane		0.6917m	0.7033	0.6996	0.7051	0.6692	0.6891	0.6816	0.6807	AVRG		1.44918		0.6900	2	15	0.05	0.99	
Chloroethane		0.5733m	0.7199m	0.6456m	0.6029	0.5925	0.5930	0.5770	0.5675	AVRG		1.64219		0.6089	8	15	0.05	0.99	
Trichlorofluoromethane		0.8738	0.8458	0.8653	0.7999	0.8056	0.9312	0.8850	0.8459	AVRG		1.16746		0.8566	5	15	0.05	0.99	
Acetone			0.2751	0.2597	0.2171	0.2121	0.1975	0.2054	0.1993	AVRG		4.46947		0.2237	14	15	0.05	0.99	
Freon 113		0.3337	0.4559	0.4422	0.3552	0.4454	0.4493	0.4859	0.4830	AVRG		2.31849		0.4313	13	15	0.05	0.99	
1,1-Dichloroethene		0.5220	0.4457	0.4560	0.4135	0.4452	0.4388	0.4518	0.4521	AVRG		2.20684		0.4531	7	15	0.05	0.99	
Methylene Chloride		0.8901m	0.8332m	0.8050	0.7959	0.8062	0.7843	0.7681	0.7585	AVRG		1.24200		0.8052	5	15	0.05	0.99	
Carbon Disulfide		2.3147	2.1274	2.0366	1.9055	2.1090	2.1652	2.2779	2.2895	AVRG		0.46442		2.1532	7	15	0.05	0.99	
MTBE		1.4168	1.3141	1.3669	1.4097	1.4926	1.6452	1.7907	1.8715	AVRG		0.65001		1.5384	13	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6395	0.5281	0.5507	0.5206	0.5480	0.5283	0.5313	0.5233	AVRG		1.83072		0.5462	7	15	0.05	0.99	
Vinyl Acetate			1.1627	1.2901	1.3479	1.3781	1.6568	1.5432		AVRG		0.71610		1.3964	13	15	0.05	0.99	
1,1-Dichloroethane		1.3773	1.1863	1.2347	1.2279	1.2415	1.1717	1.1833	1.1559	AVRG		0.81811		1.2223	6	15	0.10	0.99	
2-Butanone			0.3774m	0.3452	0.3603	0.3739	0.3701	0.3614	0.3574	AVRG		2.74983		0.3637	3	15	0.05	0.99	
2,2-Dichloropropane		0.7713	0.7296	0.7003	0.6607	0.7390	0.7752	0.7772	0.7462	AVRG		1.35605		0.7374	6	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8304	0.6397	0.6514	0.6160	0.6243	0.6118	0.6093	0.6016	AVRG		1.54303		0.6481	12	15	0.05	0.99	
Chloroform		1.3135	1.1258	1.1653	1.1201	1.1402	1.1096	1.0961	1.0685	AVRG		0.87535		1.1424	7	15	0.05	0.99	
Bromochloromethane		0.3382	0.3379	0.3344	0.3341	0.3362	0.3428	0.3403	0.3489	AVRG		2.94904		0.3391	1	15	0.05	0.99	
1,1,1-Trichloroethane		0.7529	0.7773	0.7611	0.7098	0.8325	0.9491	1.0119	1.0268	AVRG		1.17279		0.8527	15	15	0.05	0.99	
1,1-Dichloropropene		0.4106	0.3884	0.3836	0.3314	0.3885	0.4246	0.4982		AVRG		2.47762		0.4036	13	15	0.05	0.99	
Carbon Tetrachloride		0.3051	0.3233	0.3032	0.2699	0.3293	0.3664	0.4261		AVRG		3.01292		0.3319	15	15	0.05	0.99	
1,2-Dichloroethane		0.5986	0.5571	0.5835	0.5439	0.5498	0.5316	0.5159	0.5019	AVRG		1.82554		0.5478	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.4121	1.3323	1.2902	1.2522	1.3378	1.3892	1.4646	1.4979	AVRG		0.72884		1.3720	6	15	0.05	0.99	
Trichloroethene		0.3131	0.3092	0.3063	0.2740	0.3074	0.3244	0.3645	0.3850	AVRG		3.09610		0.3230	11	15	0.05	0.99	
1,2-Dichloropropane		0.4595	0.4132	0.3806	0.3697	0.3879	0.4165	0.4548	0.4734	AVRG		2.38411		0.4194	9	15	0.05	0.99	
Bromodichloromethane		0.3952	0.4047	0.4028	0.3988	0.4186	0.4717	0.5033	0.5184	AVRG		2.27693		0.4392	12	15	0.05	0.99	
Dibromomethane		0.2809	0.2892	0.2808	0.2807	0.2772	0.2673	0.2535	0.2514	AVRG		3.66801		0.2726	5	15	0.05	0.99	
4-Methyl-2-Pentanone			0.5861	0.5414	0.5397	0.5453	0.5377	0.5133	0.5262	AVRG		1.84709		0.5414	4	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5484	0.5124	0.5004	0.4877	0.5254	0.5700	0.6152	0.6557	AVRG		1.81195		0.5519	11	15	0.05	0.99	
Toluene		1.0127	0.9501	0.9328	0.8106	0.8872	0.8955	0.9317	0.9579	AVRG		1.08424		0.9223	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4791	0.4766	0.4897	0.4881	0.5229	0.5699	0.6039	0.6440	AVRG		1.87167		0.5343	12	15	0.05	0.99	
1,1,2-Trichloroethane		0.1743	0.1803	0.1737	0.1715	0.1790	0.1872	0.1960	0.2067	AVRG		5.44668		0.1836	7	15	0.05	0.99	
2-Hexanone			0.4076	0.4095	0.3878	0.3904	0.3764	0.3841	0.3926	AVRG		2.54693		0.3926	3	15	0.05	0.99	
1,3-Dichloropropane		0.5915	0.5533	0.5508	0.5407	0.5647	0.6015	0.6230	0.6619	AVRG		1.70675		0.5859	7	15	0.05	0.99	
Tetrachloroethene		0.3568	0.3809	0.3555	0.2820	0.3265	0.3280	0.3573	0.3742	AVRG		2.89725		0.3452	9	15	0.05	0.99	
Dibromochloromethane		0.3367	0.3395	0.3280	0.3245	0.3625	0.4059	0.4356	0.4694	AVRG		2.66482		0.3753	15	15	0.05	0.99	
1,2-Dibromoethane		0.3868	0.3898	0.3803	0.3691	0.3915	0.4149	0.4268	0.4475	AVRG		2.49470		0.4008	7	15	0.05	0.99	
Chlorobenzene		1.0999	1.0787	1.0798	0.9350	1.0286	1.0150	1.0562	1.0734	AVRG		0.95617		1.0458	5	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3300	0.3404	0.3229	0.2949	0.3319	0.3378	0.3556	0.3755	AVRG		2.97509		0.3361	7	15	0.05	0.99	
Ethylbenzene		1.7278	1.7127	1.6343	1.3369	1.5838	1.5509	1.6532	1.6985	AVRG		0.62025		1.6122	8	15	0.05	0.99	
m,p-Xylenes	0.6915	0.6315	0.6272	0.6059	0.4973	0.5815	0.5701	0.6076	0.6174	AVRG		1.65744		0.6033	9	15	0.05	0.99	
o-Xylene		0.6243	0.6219	0.6218	0.5093	0.5882	0.5842	0.6149	0.6220	AVRG		1.67133		0.5983	7	15	0.05	0.99	
Styrene		1.1042	1.0469	1.0770	0.9343	1.0732	1.0673	1.1325	1.1397	AVRG		0.93295		1.0719	6	15	0.05	0.99	
Bromoform		0.2303	0.2249	0.2364	0.2244	0.2462	0.2667	0.2843	0.3024	AVRG		3.96896		0.2520	12	15	0.10	0.99	
Isopropylbenzene		2.9356	3.0242	2.9781	2.3214	2.8477	2.8109	3.0387	3.1355	AVRG		0.34644		2.8865	9	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.1469	1.0467	1.0687	0.9870	1.0277	1.0369	1.0216	1.0764	AVRG		0.95105		1.0515	5	15	0.30	0.99	
1,2,3-Trichloropropane		0.9608	0.8900	0.9227	0.8672	0.9004	0.8762	0.8975	0.9313	AVRG		1.10404		0.9058	3	15	0.05	0.99	
Propylbenzene		3.4788	3.4464	3.3350	2.5957	3.1922	3.1110	3.3607	3.4662	AVRG		0.30786		3.2483	9	15	0.05	0.99	
Bromobenzene		1.0525	1.0440	1.0313	0.8839	0.9851	0.9704	1.0011	1.0093	AVRG		1.00279		0.9972	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.3057	2.3020	2.2483	1.7105	2.1231	2.1165	2.2792	2.3445	AVRG		0.45899		2.1787	10	15	0.05	0.99	
2-Chlorotoluene		2.6308	2.5700	2.6082	2.0934	2.4363	2.3934	2.4953	2.5490	AVRG		0.40452		2.4721	7	15	0.05	0.99	
4-Chlorotoluene		2.5547	2.3715	2.3730	1.9246	2.2355	2.2098	2.3131	2.3869	AVRG		0.43552		2.2961	8	15	0.05	0.99	
tert-Butylbenzene		1.8666	1.9559	1.9379	1.4799	1.8471	1.8238	1.9790	2.0636	AVRG		0.53498		1.8692	9	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.2516	2.1134	2.0900	1.6329	2.0008	2.0641	2.2239	2.2941	AVRG		0.47988		2.0838	10	15	0.05	0.99	
sec-Butylbenzene		2.5838	2.8549	2.6571	1.9887	2.4951	2.5116	2.7357	2.8682	AVRG		0.38657		2.5869	11	15	0.05	0.99	
para-Isopropyl Toluene		1.9480	2.0251	1.9648	1.4911	1.8868	1.9265	2.0998	2.2194	AVRG		0.51409		1.9452	11	15	0.05	0.99	
1,3-Dichlorobenzene		1.6075	1.4639	1.5006	1.2035	1.3965	1.3744	1.4483	1.4871	AVRG		0.69675		1.4352	8	15	0.05	0.99	
1,4-Dichlorobenzene		1.6924	1.5622	1.4897	1.2224	1.4200	1.4086	1.4821	1.5152	AVRG		0.67839		1.4741	9	15	0.05	0.99	
n-Butylbenzene		1.5152	1.5354	1.4388	1.0670	1.3556	1.4354	1.5996	1.7032	AVRG		0.68669		1.4563	13	15	0.05	0.99	
1,2-Dichlorobenzene		1.6246	1.5782	1.5384	1.2832	1.4713	1.4408	1.5023	1.5299	AVRG		0.66841		1.4961	7	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2351	0.1959	0.2019	0.1817	0.1966	0.1845	0.1876	0.1898	AVRG		5.08545		0.1966	9	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.5160	0.4899	0.4637	0.3838	0.4624	0.4801	0.5224	0.5411	AVRG		2.07285		0.4824	10	15	0.05	0.99	
Hexachlorobutadiene		0.3473	0.3976	0.3489	0.2525	0.3197	0.3102	0.3408	0.3571	AVRG		2.99165		0.3343	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.3287	1.2118	1.1454	1.0392	1.1466	1.1476	1.2468	1.2723	AVRG		0.83872		1.1923	8	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.5117	0.4710	0.4385	0.3751	0.4329	0.4325	0.4800	0.4902	AVRG		2.20273		0.4540	9	15	0.05	0.99	
Dibromofluoromethane	0.5884	0.5923	0.5766	0.5966	0.5958	0.5972	0.5933	0.5755	0.5543	AVRG		1.70778		0.5856	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3990	0.3988	0.3893	0.3906	0.3828	0.3878	0.3731	0.3550	0.3452	AVRG		2.63043		0.3802	5	15	0.05	0.99	
Toluene-d8	1.2339	1.2385	1.2284	1.2447	1.2368	1.2436	1.2466	1.2592	1.2657	AVRG		0.80376		1.2442	1	15	0.05	0.99	
Bromofluorobenzene	1.0559	1.0716	1.0547	1.0645	1.0540	1.0456	1.0440	1.0406	1.0323	AVRG		0.95104		1.0515	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	5	2.0000	3	5.0000	11	10.000	-20	20.000	-8	50.000	9	75.000	1	100.00	-2
Chloromethane	0.5000	**21**	1.0000	16	2.0000	8	5.0000	0	10.000	-3	20.000	-6	50.000	-8	75.000	-12	100.00	-15
Vinyl Chloride	0.5000	15	1.0000	11	2.0000	6	5.0000	2	10.000	-6	20.000	-7	50.000	-3	75.000	-7	100.00	-10
Bromomethane			1.0000	0	2.0000	2	5.0000	1	10.000	2	20.000	-3	50.000	0	75.000	-1	100.00	-1
Chloroethane			1.0000	-6	2.0000	18	5.0000	6	10.000	-1	20.000	-3	50.000	-3	75.000	-5	100.00	-7
Trichlorofluoromethane			1.0000	2	2.0000	-1	5.0000	1	10.000	-7	20.000	-6	50.000	9	75.000	3	100.00	-1
Acetone					2.0000	**23**	5.0000	16	10.000	-3	20.000	-5	50.000	-12	75.000	-8	100.00	-11
Freon 113			0.5000	**-23**	2.0000	6	5.0000	3	10.000	-18	20.000	3	50.000	4	75.000	13	100.00	12
1,1-Dichloroethene			0.5000	15	2.0000	-2	5.0000	1	10.000	-9	20.000	-2	50.000	-3	75.000	0	100.00	0
Methylene Chloride			0.5000	11	2.0000	3	5.0000	0	10.000	-1	20.000	0	50.000	-3	75.000	-5	100.00	-6
Carbon Disulfide			0.5000	7	2.0000	-1	5.0000	-5	10.000	-12	20.000	-2	50.000	1	75.000	6	100.00	6
MTBE			0.5000	-8	2.0000	-15	5.0000	-11	10.000	-8	20.000	-3	50.000	7	75.000	16	100.00	**22**
trans-1,2-Dichloroethene			0.5000	17	2.0000	-3	5.0000	1	10.000	-5	20.000	0	50.000	-3	75.000	-3	100.00	-4
Vinyl Acetate					2.0000	-17	5.0000	-8	10.000	-3	20.000	-1	50.000	19	75.000	11		
1,1-Dichloroethane			0.5000	13	2.0000	-3	5.0000	1	10.000	0	20.000	2	50.000	-4	75.000	-3	100.00	-5
2-Butanone					2.0000	4	5.0000	-5	10.000	-1	20.000	3	50.000	2	75.000	-1	100.00	-2
2,2-Dichloropropane			0.5000	5	2.0000	-1	5.0000	-5	10.000	-10	20.000	0	50.000	5	75.000	5	100.00	1
cis-1,2-Dichloroethene			0.5000	**28**	2.0000	-1	5.0000	1	10.000	-5	20.000	-4	50.000	-6	75.000	-6	100.00	-7
Chloroform			0.5000	15	2.0000	-1	5.0000	2	10.000	-2	20.000	0	50.000	-3	75.000	-4	100.00	-6
Bromochloromethane			0.5000	0	2.0000	0	5.0000	-1	10.000	-1	20.000	-1	50.000	1	75.000	0	100.00	3
1,1,1-Trichloroethane			0.5000	-12	2.0000	-9	5.0000	-11	10.000	-17	20.000	-2	50.000	11	75.000	19	100.00	20
1,1-Dichloropropene			0.5000	2	2.0000	-4	5.0000	-5	10.000	-18	20.000	-4	50.000	5	75.000	**23**		
Carbon Tetrachloride			0.5000	-8	2.0000	-3	5.0000	-9	10.000	-19	20.000	-1	50.000	10	75.000	**28**		
1,2-Dichloroethane			0.5000	9	2.0000	2	5.0000	7	10.000	-1	20.000	0	50.000	-3	75.000	-6	100.00	-8
Benzene			0.5000	3	2.0000	-3	5.0000	-6	10.000	-9	20.000	-2	50.000	1	75.000	7	100.00	9
Trichloroethene			0.5000	-3	2.0000	-4	5.0000	-5	10.000	-15	20.000	-5	50.000	0	75.000	13	100.00	19
1,2-Dichloropropane			0.5000	10	2.0000	-1	5.0000	-9	10.000	-12	20.000	-8	50.000	-1	75.000	8	100.00	13
Bromodichloromethane			0.5000	-10	2.0000	-8	5.0000	-8	10.000	-9	20.000	-5	50.000	7	75.000	15	100.00	18
Dibromomethane			0.5000	3	2.0000	6	5.0000	3	10.000	3	20.000	2	50.000	-2	75.000	-7	100.00	-8
4-Methyl-2-Pentanone					2.0000	8	5.0000	0	10.000	0	20.000	1	50.000	-1	75.000	-5	100.00	-3
cis-1,3-Dichloropropene			0.5000	-1	2.0000	-7	5.0000	-9	10.000	-12	20.000	-5	50.000	3	75.000	11	100.00	19
Toluene			0.5000	10	2.0000	3	5.0000	1	10.000	-12	20.000	-4	50.000	-3	75.000	1	100.00	4
trans-1,3-Dichloropropene			0.5000	-10	2.0000	-11	5.0000	-8	10.000	-9	20.000	-2	50.000	7	75.000	13	100.00	**21**
1,1,2-Trichloroethane			0.5000	-5	2.0000	-2	5.0000	-5	10.000	-7	20.000	-3	50.000	2	75.000	7	100.00	13
2-Hexanone					2.0000	4	5.0000	4	10.000	-1	20.000	-1	50.000	-4	75.000	-2	100.00	0
1,3-Dichloropropane			0.5000	1	2.0000	-6	5.0000	-6	10.000	-8	20.000	-4	50.000	3	75.000	6	100.00	13
Tetrachloroethene			0.5000	3	2.0000	10	5.0000	3	10.000	-18	20.000	-5	50.000	-5	75.000	4	100.00	8
Dibromochloromethane			0.5000	-10	2.0000	-10	5.0000	-13	10.000	-14	20.000	-3	50.000	8	75.000	16	100.00	**25**
1,2-Dibromoethane			0.5000	-4	2.0000	-3	5.0000	-5	10.000	-8	20.000	-2	50.000	4	75.000	6	100.00	12
Chlorobenzene			0.5000	5	2.0000	3	5.0000	3	10.000	-11	20.000	-2	50.000	-3	75.000	1	100.00	3
1,1,1,2-Tetrachloroethane			0.5000	-2	2.0000	1	5.0000	-4	10.000	-12	20.000	-1	50.000	0	75.000	6	100.00	12
Ethylbenzene			0.5000	7	2.0000	6	5.0000	1	10.000	-17	20.000	-2	50.000	-4	75.000	3	100.00	5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	15	1.0000	5	4.0000	4	10.000	0	20.000	-18	40.000	-4	100.00	-6	150.00	1	200.00	2
o-Xylene			0.5000	4	2.0000	4	5.0000	4	10.000	-15	20.000	-2	50.000	-2	75.000	3	100.00	4
Styrene			0.5000	3	2.0000	-2	5.0000	0	10.000	-13	20.000	0	50.000	0	75.000	6	100.00	6
Bromoform			0.5000	-9	2.0000	-11	5.0000	-6	10.000	-11	20.000	-2	50.000	6	75.000	13	100.00	20
Isopropylbenzene			0.5000	2	2.0000	5	5.0000	3	10.000	-20	20.000	-1	50.000	-3	75.000	5	100.00	9
1,1,2,2-Tetrachloroethane			0.5000	9	2.0000	0	5.0000	2	10.000	-6	20.000	-2	50.000	-1	75.000	-3	100.00	2
1,2,3-Trichloropropane			0.5000	6	2.0000	-2	5.0000	2	10.000	-4	20.000	-1	50.000	-3	75.000	-1	100.00	3
Propylbenzene			0.5000	7	2.0000	6	5.0000	3	10.000	-20	20.000	-2	50.000	-4	75.000	3	100.00	7
Bromobenzene			0.5000	6	2.0000	5	5.0000	3	10.000	-11	20.000	-1	50.000	-3	75.000	0	100.00	1
1,3,5-Trimethylbenzene			0.5000	6	2.0000	6	5.0000	3	10.000	**-21**	20.000	-3	50.000	-3	75.000	5	100.00	8
2-Chlorotoluene			0.5000	6	2.0000	4	5.0000	6	10.000	-15	20.000	-1	50.000	-3	75.000	1	100.00	3
4-Chlorotoluene			0.5000	11	2.0000	3	5.0000	3	10.000	-16	20.000	-3	50.000	-4	75.000	1	100.00	4
tert-Butylbenzene			0.5000	0	2.0000	5	5.0000	4	10.000	**-21**	20.000	-1	50.000	-2	75.000	6	100.00	10
1,2,4-Trimethylbenzene			0.5000	8	2.0000	1	5.0000	0	10.000	**-22**	20.000	-4	50.000	-1	75.000	7	100.00	10
sec-Butylbenzene			0.5000	0	2.0000	10	5.0000	3	10.000	**-23**	20.000	-4	50.000	-3	75.000	6	100.00	11
para-Isopropyl Toluene			0.5000	0	2.0000	4	5.0000	1	10.000	**-23**	20.000	-3	50.000	-1	75.000	8	100.00	14
1,3-Dichlorobenzene			0.5000	12	2.0000	2	5.0000	5	10.000	-16	20.000	-3	50.000	-4	75.000	1	100.00	4
1,4-Dichlorobenzene			0.5000	15	2.0000	6	5.0000	1	10.000	-17	20.000	-4	50.000	-4	75.000	1	100.00	3
n-Butylbenzene			0.5000	4	2.0000	5	5.0000	-1	10.000	**-27**	20.000	-7	50.000	-1	75.000	10	100.00	17
1,2-Dichlorobenzene			0.5000	9	2.0000	5	5.0000	3	10.000	-14	20.000	-2	50.000	-4	75.000	0	100.00	2
1,2-Dibromo-3-Chloropropane			0.5000	20	2.0000	0	5.0000	3	10.000	-8	20.000	0	50.000	-6	75.000	-5	100.00	-3
1,2,4-Trichlorobenzene			0.5000	7	2.0000	2	5.0000	-4	10.000	-20	20.000	-4	50.000	0	75.000	8	100.00	12
Hexachlorobutadiene			0.5000	4	2.0000	19	5.0000	4	10.000	**-24**	20.000	-4	50.000	-7	75.000	2	100.00	7
Naphthalene			0.5000	11	2.0000	2	5.0000	-4	10.000	-13	20.000	-4	50.000	-4	75.000	5	100.00	7
1,2,3-Trichlorobenzene			0.5000	13	2.0000	4	5.0000	-3	10.000	-17	20.000	-5	50.000	-5	75.000	6	100.00	8
Dibromofluoromethane	50.000	0	50.000	1	50.000	-2	50.000	2	50.000	2	50.000	2	50.000	1	50.000	-2	50.000	-5
1,2-Dichloroethane-d4	50.000	5	50.000	5	50.000	2	50.000	3	50.000	1	50.000	2	50.000	-2	50.000	-7	50.000	-9
Toluene-d8	50.000	-1	50.000	0	50.000	-1	50.000	0	50.000	-1	50.000	0	50.000	0	50.000	1	50.000	2
Bromofluorobenzene	50.000	0	50.000	2	50.000	0	50.000	1	50.000	0	50.000	-1	50.000	-1	50.000	-1	50.000	-2

DAR 05/05/15 [Freon 12]: Combined split peak in multiple levels.

DAR 05/05/15 [Chloromethane]: Combined split peak in multiple levels.

DAR 05/05/15 [Vinyl Chloride]: Combined split peak in multiple levels.

DAR 05/04/15 [Bromomethane]: Combined split peak in (be119).

DAR 05/05/15 [Chloroethane]: Combined split peak in multiple levels.

DAR 05/05/15 [Methylene Chloride]: Combined split peak in multiple levels.

DAR 05/04/15 [Vinyl Acetate]: Combined split peak in (be119).

DAR 05/04/15 [2-Butanone]: Combined split peak in (be120).

Analyst: DAR Date: 05/05/15 Reviewer: LW Date: 05/05/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA02 Name : 826GX02W
Calnum : 415174609002 Cal Date : 01-MAY-2015 Type : WATER

ICV 415174609027 (be127 02-MAY-2015) stds: S25696 (10000X), S26909 (1000X)
ICV 415174609028 (be128 02-MAY-2015) stds: S27177 (10000X), S27022 (10000X), S26759 (10000X), S26909 (1000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	415174609027	20.00	18.17	ug/L	-9	30	
Chloromethane	415174609027	20.00	18.46	ug/L	-8	30	
Vinyl Chloride	415174609027	20.00	19.45	ug/L	-3	20	
Bromomethane	415174609027	20.00	17.13	ug/L	-14	30	
Chloroethane	415174609027	20.00	19.25	ug/L	-4	30	
Trichlorofluoromethane	415174609027	20.00	18.97	ug/L	-5	30	
Acetone	415174609028	25.00	21.96	ug/L	-12	40	
Freon 113	415174609028	25.00	20.91	ug/L	-16	30	
1,1-Dichloroethene	415174609028	25.00	21.69	ug/L	-13	20	
Methylene Chloride	415174609028	25.00	23.72	ug/L	-5	30	
Carbon Disulfide	415174609028	25.00	22.61	ug/L	-10	30	
MTBE	415174609028	25.00	22.96	ug/L	-8	30	
trans-1,2-Dichloroethene	415174609028	25.00	25.25	ug/L	1	30	
Vinyl Acetate	415174609028	25.00	29.00	ug/L	16	40	
1,1-Dichloroethane	415174609028	25.00	23.20	ug/L	-7	30	
2-Butanone	415174609028	25.00	23.98	ug/L	-4	40	
2,2-Dichloropropane	415174609028	25.00	22.13	ug/L	-11	30	
cis-1,2-Dichloroethene	415174609028	25.00	23.55	ug/L	-6	30	
Chloroform	415174609028	25.00	23.90	ug/L	-4	20	
Bromochloromethane	415174609028	25.00	24.18	ug/L	-3	30	
1,1,1-Trichloroethane	415174609028	25.00	23.43	ug/L	-6	30	
1,1-Dichloropropene	415174609028	25.00	23.43	ug/L	-6	30	
Carbon Tetrachloride	415174609028	25.00	24.38	ug/L	-2	30	
1,2-Dichloroethane	415174609028	25.00	23.23	ug/L	-7	30	
Benzene	415174609028	25.00	24.73	ug/L	-1	30	
Trichloroethene	415174609028	25.00	23.59	ug/L	-6	30	
1,2-Dichloropropane	415174609028	25.00	21.39	ug/L	-14	20	
Bromodichloromethane	415174609028	25.00	22.54	ug/L	-10	30	
Dibromomethane	415174609028	25.00	24.03	ug/L	-4	30	
4-Methyl-2-Pentanone	415174609028	25.00	23.34	ug/L	-7	40	
cis-1,3-Dichloropropene	415174609028	25.00	22.46	ug/L	-10	30	
Toluene	415174609028	25.00	25.17	ug/L	1	20	
trans-1,3-Dichloropropene	415174609028	25.00	22.05	ug/L	-12	30	
1,1,2-Trichloroethane	415174609028	25.00	23.25	ug/L	-7	30	
2-Hexanone	415174609028	25.00	23.91	ug/L	-4	40	
1,3-Dichloropropane	415174609028	25.00	23.42	ug/L	-6	30	
Tetrachloroethene	415174609028	25.00	24.92	ug/L	0	30	
Dibromochloromethane	415174609028	25.00	23.54	ug/L	-6	30	
1,2-Dibromoethane	415174609028	25.00	23.51	ug/L	-6	30	
Chlorobenzene	415174609028	25.00	25.28	ug/L	1	30	
1,1,1,2-Tetrachloroethane	415174609028	25.00	24.02	ug/L	-4	30	
Ethylbenzene	415174609028	25.00	25.54	ug/L	2	20	
m,p-Xylenes	415174609028	50.00	49.74	ug/L	-1	30	
o-Xylene	415174609028	25.00	25.57	ug/L	2	30	
Styrene	415174609028	25.00	25.68	ug/L	3	30	
Bromoform	415174609028	25.00	24.45	ug/L	-2	30	
Isopropylbenzene	415174609028	25.00	25.65	ug/L	3	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	415174609028	25.00	24.31	ug/L	-3	30	
1,2,3-Trichloropropane	415174609028	25.00	23.75	ug/L	-5	30	
Propylbenzene	415174609028	25.00	25.09	ug/L	0	30	
Bromobenzene	415174609028	25.00	25.43	ug/L	2	30	
1,3,5-Trimethylbenzene	415174609028	25.00	26.36	ug/L	5	30	
2-Chlorotoluene	415174609028	25.00	25.38	ug/L	2	30	
4-Chlorotoluene	415174609028	25.00	25.62	ug/L	2	30	
tert-Butylbenzene	415174609028	25.00	25.65	ug/L	3	30	
1,2,4-Trimethylbenzene	415174609028	25.00	24.94	ug/L	0	30	
sec-Butylbenzene	415174609028	25.00	25.37	ug/L	1	30	
para-Isopropyl Toluene	415174609028	25.00	25.48	ug/L	2	30	
1,3-Dichlorobenzene	415174609028	25.00	25.81	ug/L	3	30	
1,4-Dichlorobenzene	415174609028	25.00	25.63	ug/L	3	30	
n-Butylbenzene	415174609028	25.00	25.27	ug/L	1	30	
1,2-Dichlorobenzene	415174609028	25.00	25.48	ug/L	2	30	
1,2-Dibromo-3-Chloropropane	415174609028	25.00	22.12	ug/L	-12	30	
1,2,4-Trichlorobenzene	415174609028	25.00	25.90	ug/L	4	30	
Hexachlorobutadiene	415174609028	25.00	24.36	ug/L	-3	30	
Naphthalene	415174609028	25.00	23.01	ug/L	-8	30	
1,2,3-Trichlorobenzene	415174609028	25.00	25.03	ug/L	0	30	

415174609027: Analyst: DAR Date: 05/04/15 Reviewer: LW Date: 05/05/15
415174609028: Analyst: DAR Date: 05/04/15 Reviewer: LW Date: 05/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Water: EPA 8260B

Inst : MSVOA03 Name : 8260GX3W
Calnum : 425152069005 Date : 15-APR-2015 21:38 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	cdf20	425152069020	.25/.5PPB	15-APR-2015 21:38	S25695 (2000000X), S26948 (2000000X), S26838 (2000000X), S25156 (1000000X), S26911 (5000X)
L2	cdf21	425152069021	.5/1PPB	15-APR-2015 22:21	S26911 (5000X), S25695 (1000000X), S26948 (1000000X), S26838 (1000000X), S25156 (500000X)
L3	cdf22	425152069022	2PPB	15-APR-2015 22:43	S25695 (500000X), S26948 (250000X), S26838 (250000X), S25156 (250000X), S26911 (5000X)
L4	cdf23	425152069023	5PPB	15-APR-2015 23:26	S26911 (5000X), S25695 (200000X), S26948 (100000X), S26838 (100000X), S25156 (100000X)
L5	cdf24	425152069024	10PPB	15-APR-2015 23:47	S26911 (5000X), S25695 (100000X), S26948 (50000X), S26838 (50000X), S25156 (50000X)
L6	cdf25	425152069025	20PPB	15-APR-2015 00:30	S26911 (5000X), S25695 (50000X), S26948 (25000X), S26838 (25000X), S25156 (25000X)
L7	cdf26	425152069026	50PPB	15-APR-2015 00:51	S26911 (5000X), S25695 (20000X), S26948 (10000X), S26838 (10000X), S25156 (10000X)
L8	cdf27	425152069027	75PPB	16-APR-2015 01:34	S26911 (5000X), S25695 (13330X), S26948 (6667X), S26838 (6667X), S25156 (6667X)
L9	cdf28	425152069028	100PPB	16-APR-2015 01:56	S26911 (5000X), S25695 (10000X), S26948 (5000X), S26838 (5000X), S25156 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6133	0.4364	0.5109	0.4769	0.5337	0.5256	0.5172	0.6001	AVRG		1.89841		0.5268	11	15	0.05	0.99	
Chloromethane	0.9120	0.7463	0.7435	0.6938	0.6663	0.6682	0.6301	0.6601	0.7378	AVRG		1.39359		0.7176	12	15	0.10	0.99	
Vinyl Chloride	0.6567	0.6951	0.5901	0.6145	0.5861	0.6293	0.6025	0.6010	0.6317	AVRG		1.60517		0.6230	6	15	0.05	0.99	
Bromomethane		0.3702	0.3598	0.3598	0.3525	0.3475	0.3438	0.3765	0.3996	AVRG		2.74954		0.3637	5	15	0.05	0.99	
Chloroethane		0.3918	0.3834	0.3243	0.3493	0.3536	0.3499	0.3443	0.3685	AVRG		2.79225		0.3581	6	15	0.05	0.99	
Trichlorofluoromethane		0.6216	0.5256	0.5848	0.5721	0.5813	0.5863	0.5760	0.6312	AVRG		1.70982		0.5849	6	15	0.05	0.99	
Acetone				0.1436	0.1166	0.1006	0.0967	0.1041	0.1060	AVRG		8.98793		0.1113	15	15	0.05	0.99	
Freon 113		0.3324	0.4251	0.3651	0.3166	0.3694	0.4010	0.4221	0.4398	AVRG		2.60464		0.3839	12	15	0.05	0.99	
1,1-Dichloroethene		0.4783	0.4509	0.3970	0.4009	0.4026	0.4120	0.4126	0.4325	AVRG		2.36207		0.4234	7	15	0.05	0.99	
Methylene Chloride		0.6733	0.5824	0.5081	0.5326	0.5158	0.5182	0.5344	0.5555	AVRG		1.80978		0.5526	10	15	0.05	0.99	
Carbon Disulfide		1.8660	1.6317	1.4447	1.5015	1.5059	1.5004	1.5495	1.5998	AVRG		0.63494		1.5749	8	15	0.05	0.99	
MTBE		1.3588	1.2066	1.1649	1.1286	1.0383	1.0293	1.0660	1.1149	AVRG		0.87840		1.1384	9	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6011	0.5204	0.4630	0.4872	0.4533	0.4724	0.4798	0.4987	AVRG		2.01205		0.4970	9	15	0.05	0.99	
Vinyl Acetate				0.6448	0.7811	0.7218	0.6204	0.6887	0.7721	AVRG		1.41878		0.7048	9	15	0.05	0.99	
1,1-Dichloroethane		1.0612	0.9340	0.8743	0.9279	0.8595	0.8771	0.8906	0.9177	AVRG		1.08960		0.9178	7	15	0.10	0.99	
2-Butanone				0.1623	0.1646	0.1429	0.1434	0.1428	0.1585	AVRG		6.56108		0.1524	7	15	0.05	0.99	
2,2-Dichloropropane		0.7725	0.6883	0.6078	0.5862	0.5808	0.5935	0.6151	0.6059	AVRG		1.58415		0.6313	10	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7394	0.6054	0.5527	0.5676	0.5299	0.5513	0.5494	0.5561	AVRG		1.71975		0.5815	12	15	0.05	0.99	
Chloroform		1.0866	0.9799	0.8459	0.8954	0.8511	0.8431	0.8696	0.9196	AVRG		1.09721		0.9114	9	15	0.05	0.99	
Bromochloromethane		0.2828	0.2301	0.2362	0.2460	0.2303	0.2339	0.2349	0.2478	AVRG		4.11936		0.2428	7	15	0.05	0.99	
1,1,1-Trichloroethane		0.7688	0.6783	0.6098	0.5918	0.6253	0.6369	0.6661	0.6855	AVRG		1.52017		0.6578	8	15	0.05	0.99	
1,1-Dichloropropene		0.4203	0.4514	0.3593	0.3434	0.3794	0.3903	0.3998	0.4127	AVRG		2.53434		0.3946	9	15	0.05	0.99	
Carbon Tetrachloride		0.3482	0.3214	0.2815	0.2611	0.2922	0.3088	0.3124	0.3258	AVRG		3.26359		0.3064	9	15	0.05	0.99	
1,2-Dichloroethane		0.3811m	0.3657	0.3773	0.3834	0.3531	0.3601	0.3584	0.3780	AVRG		2.70517		0.3697	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.3014	1.2818	1.1394	1.0897	1.0919	1.1183	1.1161	1.1511	AVRG		0.86117		1.1612	7	15	0.05	0.99	
Trichloroethene		0.3771	0.3319	0.2831	0.2696	0.2794	0.2936	0.2986	0.3015	AVRG		3.28569		0.3044	11	15	0.05	0.99	
1,2-Dichloropropane		0.3518	0.3591	0.2895	0.3070	0.3063m	0.3101	0.3125	0.3242	AVRG		3.12437		0.3201	7	15	0.05	0.99	
Bromodichloromethane		0.4285	0.4404	0.3887	0.4070	0.3960	0.3998	0.3991	0.4183	AVRG		2.44061		0.4097	4	15	0.05	0.99	
Dibromomethane		0.1619	0.1990	0.1839	0.1896	0.1820	0.1753	0.1735	0.1883	AVRG		5.50402		0.1817	6	15	0.05	0.99	
4-Methyl-2-Pentanone			0.2745	0.2396	0.2358	0.2241	0.2038	0.2093	0.2265	AVRG		4.33798		0.2305	10	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5389	0.5620	0.4862	0.4878	0.4779	0.4738	0.4918	0.5096	AVRG		1.98608		0.5035	6	15	0.05	0.99	
Toluene		0.8486	0.7675	0.7282	0.6843	0.7017	0.7146	0.7380	0.7535	AVRG		1.34763		0.7420	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5170	0.4498	0.4573	0.4563	0.4176	0.4372	0.4359	0.4503	AVRG		2.20904		0.4527	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1436	0.1481	0.1535	0.1396	0.1363	0.1369	0.1342	0.1419	AVRG		7.05474		0.1417	5	15	0.05	0.99	
2-Hexanone			0.1705	0.1853	0.1719	0.1605	0.1450	0.1532	0.1659	AVRG		6.07486		0.1646	8	15	0.05	0.99	
1,3-Dichloropropane		0.5669	0.4692	0.4543	0.4568	0.4205	0.4199	0.4302	0.4517	AVRG		2.18018		0.4587	10	15	0.05	0.99	
Tetrachloroethene		0.2754	0.3207	0.2838	0.2381	0.2615	0.2817	0.2856	0.2897	AVRG		3.57697		0.2796	8	15	0.05	0.99	
Dibromochloromethane		0.2895	0.2851	0.2900	0.2964	0.2682	0.2908	0.2884	0.3013	AVRG		3.46349		0.2887	3	15	0.05	0.99	
1,2-Dibromoethane		0.2853	0.2553	0.2703	0.2806	0.2624	0.2568	0.2616	0.2725	AVRG		3.72995		0.2681	4	15	0.05	0.99	
Chlorobenzene		0.8694	0.8595	0.8118	0.7465	0.7380	0.7737	0.7804	0.8175	AVRG		1.25061		0.7996	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2814	0.2894	0.2969	0.2607	0.2551	0.2678	0.2731	0.2774	AVRG		3.63358		0.2752	5	15	0.05	0.99	
Ethylbenzene		1.6554	1.4418	1.4050	1.2186	1.2914	1.3403	1.4006	1.4494	AVRG		0.71412		1.4003	9	15	0.05	0.99	
m,p-Xylenes	0.5281	0.5916	0.5311	0.5184	0.4509	0.4666	0.4935	0.5018	0.5203	AVRG		1.95551		0.5114	8	15	0.05	0.99	
o-Xylene		0.5765	0.5356	0.5275	0.4521	0.4660	0.4850	0.4992	0.5212	AVRG		1.96898		0.5079	8	15	0.05	0.99	
Styrene		1.0279	0.9512	0.9457	0.8483	0.8700	0.8848	0.8936	0.9231	AVRG		1.08922		0.9181	6	15	0.05	0.99	
Bromoform		0.1585	0.1838	0.1905	0.1849	0.1799	0.1700	0.1804	0.1905	AVRG		5.56203		0.1798	6	15	0.10	0.99	
Isopropylbenzene		3.1045	2.6557	2.5602	2.0276	2.2385	2.5041	2.5449	2.5719	AVRG		0.39589		2.5259	12	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7837	0.6483	0.6625	0.5739	0.5660	0.5764	0.5919	0.6105	AVRG		1.59577		0.6267	12	15	0.30	0.99	
1,2,3-Trichloropropane		0.8184	0.5699	0.5389	0.4968	0.4673	0.4985	0.5076	0.5171	QUAD	-0.3257	2.11415	-0.00342	0.5518	1.000	15	0.05	0.99	
Propylbenzene		3.8015	3.3787	3.2321	2.6064	2.8346	3.1200	3.1505	3.2273	AVRG		0.31557		3.1689	11	15	0.05	0.99	
Bromobenzene		0.6892	0.7103	0.6962	0.6050	0.6114	0.6413	0.6385	0.6447	AVRG		1.52769		0.6546	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.6126	2.2925	2.0416	1.6899	1.8434	2.0608	2.0510	2.0852	AVRG		0.47970		2.0846	13	15	0.05	0.99	
2-Chlorotoluene		2.4828	2.2188	2.0922	1.8298	1.9671	2.1093	2.0867	2.1198	AVRG		0.47319		2.1133	9	15	0.05	0.99	
4-Chlorotoluene		2.5480	2.1198	2.0545	1.7776	1.8566	2.0004	1.9669	2.0455	AVRG		0.48872		2.0462	11	15	0.05	0.99	
tert-Butylbenzene		1.9450	1.8220	1.6180	1.3324	1.3884	1.5998	1.6355	1.6780	AVRG		0.61448		1.6274	12	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.7162	2.3843	2.1818	1.8501	1.9499	2.0756	2.1587	2.2209	AVRG		0.45617		2.1922	12	15	0.05	0.99	
sec-Butylbenzene		3.2350	2.9458	2.6182	1.9784	2.3424	2.6681	2.7472	2.7936	AVRG		0.37508		2.6661	14	15	0.05	0.99	
para-Isopropyl Toluene		2.4382	2.2681	2.1240	1.6036	1.7787	2.0456	2.1010	2.0825	AVRG		0.48657		2.0552	13	15	0.05	0.99	
1,3-Dichlorobenzene		1.3345	1.2070	1.2009	0.9941	1.0567	1.1384	1.1636	1.1743	AVRG		0.86305		1.1587	9	15	0.05	0.99	
1,4-Dichlorobenzene		1.3066	1.2262	1.1784	1.0353	1.0714	1.1351	1.1754	1.1908	AVRG		0.85843		1.1649	7	15	0.05	0.99	
n-Butylbenzene		2.4726	2.1884	2.0390	1.6423	1.8053	2.0862	2.1089	2.1997	AVRG		0.48361		2.0678	12	15	0.05	0.99	
1,2-Dichlorobenzene		1.1968	1.1965	1.1206	0.9818	1.0016	1.0468	1.0807	1.1027	AVRG		0.91664		1.0909	7	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1207	0.1030	0.0904	0.0852	0.0844	0.0904	0.0960	AVRG		10.4462		0.0957	13	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.8302	0.7985	0.7574	0.6362	0.6680	0.7370	0.7464	0.7587	AVRG		1.34852		0.7416	9	15	0.05	0.99	
Hexachlorobutadiene		0.3099	0.3397	0.3103	0.2274	0.2641	0.3161	0.3231	0.3266	AVRG		3.30971		0.3021	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.7722	1.5931	1.6027	1.3850	1.3808	1.4322	1.4592	1.4953	AVRG		0.66004		1.5151	9	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6905	0.6935	0.6769	0.5708	0.5770	0.6376	0.6508	0.6645	AVRG		1.54986		0.6452	7	15	0.05	0.99	
Dibromofluoromethane	0.5910	0.5991	0.6032	0.6078	0.6149	0.6109	0.6033	0.6074	0.6241	AVRG		1.64783		0.6069	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3781	0.3804	0.3828	0.3803	0.3724	0.3834	0.3626	0.3539	0.3723	AVRG		2.67372		0.3740	3	15	0.05	0.99	
Toluene-d8	1.3249	1.2939	1.2973	1.3481	1.3357	1.3195	1.3254	1.3234	1.3455	AVRG		0.75543		1.3238	1	15	0.05	0.99	
Bromofluorobenzene	1.0512	1.0581	1.0864	1.0919	1.0467	1.0511	1.1143	1.0661	1.0752	AVRG		0.93352		1.0712	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	16	2.0000	-17	5.0000	-3	10.000	-9	20.000	1	50.000	0	75.000	-2	100.00	14
Chloromethane	0.5000	**27**	1.0000	4	2.0000	4	5.0000	-3	10.000	-7	20.000	-7	50.000	-12	75.000	-8	100.00	3
Vinyl Chloride	0.5000	5	1.0000	12	2.0000	-5	5.0000	-1	10.000	-6	20.000	1	50.000	-3	75.000	-4	100.00	1
Bromomethane			1.0000	2	2.0000	-1	5.0000	-1	10.000	-3	20.000	-4	50.000	-5	75.000	4	100.00	10
Chloroethane			1.0000	9	2.0000	7	5.0000	-9	10.000	-2	20.000	-1	50.000	-2	75.000	-4	100.00	3
Trichlorofluoromethane			1.0000	6	2.0000	-10	5.0000	0	10.000	-2	20.000	-1	50.000	0	75.000	-2	100.00	8
Acetone							5.0000	**29**	10.000	5	20.000	-10	50.000	-13	75.000	-6	100.00	-5
Freon 113			0.5000	-13	2.0000	11	5.0000	-5	10.000	-18	20.000	-4	50.000	4	75.000	10	100.00	15
1,1-Dichloroethene			0.5000	13	2.0000	7	5.0000	-6	10.000	-5	20.000	-5	50.000	-3	75.000	-3	100.00	2
Methylene Chloride			0.5000	**22**	2.0000	5	5.0000	-8	10.000	-4	20.000	-7	50.000	-6	75.000	-3	100.00	1
Carbon Disulfide			0.5000	18	2.0000	4	5.0000	-8	10.000	-5	20.000	-4	50.000	-5	75.000	-2	100.00	2
MTBE			0.5000	19	2.0000	6	5.0000	2	10.000	-1	20.000	-9	50.000	-10	75.000	-6	100.00	-2
trans-1,2-Dichloroethene			0.5000	**21**	2.0000	5	5.0000	-7	10.000	-2	20.000	-9	50.000	-5	75.000	-3	100.00	0
Vinyl Acetate							5.0000	-9	10.000	11	20.000	2	50.000	-12	75.000	-2	100.00	10
1,1-Dichloroethane			0.5000	16	2.0000	2	5.0000	-5	10.000	1	20.000	-6	50.000	-4	75.000	-3	100.00	0
2-Butanone							5.0000	6	10.000	8	20.000	-6	50.000	-6	75.000	-6	100.00	4
2,2-Dichloropropane			0.5000	**22**	2.0000	9	5.0000	-4	10.000	-7	20.000	-8	50.000	-6	75.000	-3	100.00	-4
cis-1,2-Dichloroethene			0.5000	**27**	2.0000	4	5.0000	-5	10.000	-2	20.000	-9	50.000	-5	75.000	-6	100.00	-4
Chloroform			0.5000	19	2.0000	8	5.0000	-7	10.000	-2	20.000	-7	50.000	-7	75.000	-5	100.00	1
Bromochloromethane			0.5000	16	2.0000	-5	5.0000	-3	10.000	1	20.000	-5	50.000	-4	75.000	-3	100.00	2
1,1,1-Trichloroethane			0.5000	17	2.0000	3	5.0000	-7	10.000	-10	20.000	-5	50.000	-3	75.000	1	100.00	4
1,1-Dichloropropene			0.5000	7	2.0000	14	5.0000	-9	10.000	-13	20.000	-4	50.000	-1	75.000	1	100.00	5
Carbon Tetrachloride			0.5000	14	2.0000	5	5.0000	-8	10.000	-15	20.000	-5	50.000	1	75.000	2	100.00	6
1,2-Dichloroethane			0.5000	3	2.0000	-1	5.0000	2	10.000	4	20.000	-4	50.000	-3	75.000	-3	100.00	2
Benzene			0.5000	12	2.0000	10	5.0000	-2	10.000	-6	20.000	-6	50.000	-4	75.000	-4	100.00	-1
Trichloroethene			0.5000	**24**	2.0000	9	5.0000	-7	10.000	-11	20.000	-8	50.000	-4	75.000	-2	100.00	-1
1,2-Dichloropropane			0.5000	10	2.0000	12	5.0000	-10	10.000	-4	20.000	-4	50.000	-3	75.000	-2	100.00	1
Bromodichloromethane			0.5000	5	2.0000	7	5.0000	-5	10.000	-1	20.000	-3	50.000	-2	75.000	-3	100.00	2
Dibromomethane			0.5000	-11	2.0000	10	5.0000	1	10.000	4	20.000	0	50.000	-4	75.000	-4	100.00	4
4-Methyl-2-Pentanone					2.0000	19	5.0000	4	10.000	2	20.000	-3	50.000	-12	75.000	-9	100.00	-2
cis-1,3-Dichloropropene			0.5000	7	2.0000	12	5.0000	-3	10.000	-3	20.000	-5	50.000	-6	75.000	-2	100.00	1
Toluene			0.5000	14	2.0000	3	5.0000	-2	10.000	-8	20.000	-5	50.000	-4	75.000	-1	100.00	2
trans-1,3-Dichloropropene			0.5000	14	2.0000	-1	5.0000	1	10.000	1	20.000	-8	50.000	-3	75.000	-4	100.00	-1
1,1,2-Trichloroethane			0.5000	1	2.0000	5	5.0000	8	10.000	-2	20.000	-4	50.000	-3	75.000	-5	100.00	0
2-Hexanone					2.0000	4	5.0000	13	10.000	4	20.000	-3	50.000	-12	75.000	-7	100.00	1
1,3-Dichloropropane			0.5000	**24**	2.0000	2	5.0000	-1	10.000	0	20.000	-8	50.000	-8	75.000	-6	100.00	-2
Tetrachloroethene			0.5000	-1	2.0000	15	5.0000	2	10.000	-15	20.000	-6	50.000	1	75.000	2	100.00	4
Dibromochloromethane			0.5000	0	2.0000	-1	5.0000	0	10.000	3	20.000	-7	50.000	1	75.000	0	100.00	4
1,2-Dibromoethane			0.5000	6	2.0000	-5	5.0000	1	10.000	5	20.000	-2	50.000	-4	75.000	-2	100.00	2
Chlorobenzene			0.5000	9	2.0000	7	5.0000	2	10.000	-7	20.000	-8	50.000	-3	75.000	-2	100.00	2
1,1,1,2-Tetrachloroethane			0.5000	2	2.0000	5	5.0000	8	10.000	-5	20.000	-7	50.000	-3	75.000	-1	100.00	1
Ethylbenzene			0.5000	18	2.0000	3	5.0000	0	10.000	-13	20.000	-8	50.000	-4	75.000	0	100.00	4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	3	1.0000	16	4.0000	4	10.000	1	20.000	-12	40.000	-9	100.00	-3	150.00	-2	200.00	2
o-Xylene			0.5000	14	2.0000	5	5.0000	4	10.000	-11	20.000	-8	50.000	-5	75.000	-2	100.00	3
Styrene			0.5000	12	2.0000	4	5.0000	3	10.000	-8	20.000	-5	50.000	-4	75.000	-3	100.00	1
Bromoform			0.5000	-12	2.0000	2	5.0000	6	10.000	3	20.000	0	50.000	-5	75.000	0	100.00	6
Isopropylbenzene			0.5000	**23**	2.0000	5	5.0000	1	10.000	-20	20.000	-11	50.000	-1	75.000	1	100.00	2
1,1,2,2-Tetrachloroethane			0.5000	**25**	2.0000	3	5.0000	6	10.000	-8	20.000	-10	50.000	-8	75.000	-6	100.00	-3
1,2,3-Trichloropropane			0.5000	8	2.0000	4	5.0000	7	10.000	1	20.000	-4	50.000	0	75.000	0	100.00	0
Propylbenzene			0.5000	20	2.0000	7	5.0000	2	10.000	-18	20.000	-11	50.000	-2	75.000	-1	100.00	2
Bromobenzene			0.5000	5	2.0000	9	5.0000	6	10.000	-8	20.000	-7	50.000	-2	75.000	-2	100.00	-2
1,3,5-Trimethylbenzene			0.5000	**25**	2.0000	10	5.0000	-2	10.000	-19	20.000	-12	50.000	-1	75.000	-2	100.00	0
2-Chlorotoluene			0.5000	17	2.0000	5	5.0000	-1	10.000	-13	20.000	-7	50.000	0	75.000	-1	100.00	0
4-Chlorotoluene			0.5000	**25**	2.0000	4	5.0000	0	10.000	-13	20.000	-9	50.000	-2	75.000	-4	100.00	0
tert-Butylbenzene			0.5000	20	2.0000	12	5.0000	-1	10.000	-18	20.000	-15	50.000	-2	75.000	1	100.00	3
1,2,4-Trimethylbenzene			0.5000	**24**	2.0000	9	5.0000	0	10.000	-16	20.000	-11	50.000	-5	75.000	-2	100.00	1
sec-Butylbenzene			0.5000	**21**	2.0000	10	5.0000	-2	10.000	**-26**	20.000	-12	50.000	0	75.000	3	100.00	5
para-Isopropyl Toluene			0.5000	19	2.0000	10	5.0000	3	10.000	**-22**	20.000	-13	50.000	0	75.000	2	100.00	1
1,3-Dichlorobenzene			0.5000	15	2.0000	4	5.0000	4	10.000	-14	20.000	-9	50.000	-2	75.000	0	100.00	1
1,4-Dichlorobenzene			0.5000	12	2.0000	5	5.0000	1	10.000	-11	20.000	-8	50.000	-3	75.000	1	100.00	2
n-Butylbenzene			0.5000	20	2.0000	6	5.0000	-1	10.000	**-21**	20.000	-13	50.000	1	75.000	2	100.00	6
1,2-Dichlorobenzene			0.5000	10	2.0000	10	5.0000	3	10.000	-10	20.000	-8	50.000	-4	75.000	-1	100.00	1
1,2-Dibromo-3-Chloropropane					2.0000	**26**	5.0000	8	10.000	-6	20.000	-11	50.000	-12	75.000	-6	100.00	0
1,2,4-Trichlorobenzene			0.5000	12	2.0000	8	5.0000	2	10.000	-14	20.000	-10	50.000	-1	75.000	1	100.00	2
Hexachlorobutadiene			0.5000	3	2.0000	12	5.0000	3	10.000	**-25**	20.000	-13	50.000	5	75.000	7	100.00	8
Naphthalene			0.5000	17	2.0000	5	5.0000	6	10.000	-9	20.000	-9	50.000	-5	75.000	-4	100.00	-1
1,2,3-Trichlorobenzene			0.5000	7	2.0000	7	5.0000	5	10.000	-12	20.000	-11	50.000	-1	75.000	1	100.00	3
Dibromofluoromethane	50.000	-3	50.000	-1	50.000	-1	50.000	0	50.000	1	50.000	1	50.000	-1	50.000	0	50.000	3
1,2-Dichloroethane-d4	50.000	1	50.000	2	50.000	2	50.000	2	50.000	0	50.000	3	50.000	-3	50.000	-5	50.000	0
Toluene-d8	50.000	0	50.000	-2	50.000	-2	50.000	2	50.000	1	50.000	0	50.000	0	50.000	0	50.000	2
Bromofluorobenzene	50.000	-2	50.000	-1	50.000	1	50.000	2	50.000	-2	50.000	-2	50.000	4	50.000	0	50.000	0

DAR 04/16/15 [1,2-Dichloroethane]: Combined split peak1PPB (cdf21).

DAR 04/16/15 [1,3-Dichloropropane]: Combined split peak in 20PPB (cdf25).

DAR 04/16/15 [tert-Butyl Alcohol (TBA)]: insufficient secondary ion in the lowpoint, RL raised to 20ppb.

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

425152069005

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Name : 8260GX3W
Calnum : 425152069005 Cal Date : 15-APR-2015 Type : WATER

ICV 425152069029 (cdf29 16-APR-2015) stds: S24978 (10000X), S26911 (5000X)
ICV 425152069030 (cdf30 16-APR-2015) stds: S26876 (10000X), S27022 (10000X), S26759 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	425152069029	20.00	17.25	ug/L	-14	30	
Chloromethane	425152069029	20.00	18.57	ug/L	-7	30	
Vinyl Chloride	425152069029	20.00	18.70	ug/L	-6	20	
Bromomethane	425152069029	20.00	15.49	ug/L	**-23**	30	!v-
Chloroethane	425152069029	20.00	17.71	ug/L	-11	30	
Trichlorofluoromethane	425152069029	20.00	18.61	ug/L	-7	30	
Acetone	425152069030	25.00	22.86	ug/L	-9	40	
Freon 113	425152069030	25.00	23.54	ug/L	-6	30	
1,1-Dichloroethene	425152069030	25.00	23.91	ug/L	-4	20	
Methylene Chloride	425152069030	25.00	22.93	ug/L	-8	30	
Carbon Disulfide	425152069030	25.00	24.87	ug/L	-1	30	
MTBE	425152069030	25.00	23.95	ug/L	-4	30	
trans-1,2-Dichloroethene	425152069030	25.00	23.49	ug/L	-6	30	
Vinyl Acetate	425152069030	25.00	25.35	ug/L	1	40	
1,1-Dichloroethane	425152069030	25.00	23.37	ug/L	-7	30	
2-Butanone	425152069030	25.00	24.29	ug/L	-3	40	
2,2-Dichloropropane	425152069030	25.00	22.78	ug/L	-9	30	
cis-1,2-Dichloroethene	425152069030	25.00	23.59	ug/L	-6	30	
Chloroform	425152069030	25.00	23.72	ug/L	-5	20	
Bromochloromethane	425152069030	25.00	24.79	ug/L	-1	30	
1,1,1-Trichloroethane	425152069030	25.00	24.82	ug/L	-1	30	
1,1-Dichloropropene	425152069030	25.00	23.79	ug/L	-5	30	
Carbon Tetrachloride	425152069030	25.00	24.22	ug/L	-3	30	
1,2-Dichloroethane	425152069030	25.00	24.05	ug/L	-4	30	
Benzene	425152069030	25.00	24.21	ug/L	-3	30	
Trichloroethene	425152069030	25.00	24.07	ug/L	-4	30	
1,2-Dichloropropane	425152069030	25.00	22.19	ug/L	-11	20	
Bromodichloromethane	425152069030	25.00	23.19	ug/L	-7	30	
Dibromomethane	425152069030	25.00	24.90	ug/L	0	30	
4-Methyl-2-Pentanone	425152069030	25.00	23.01	ug/L	-8	40	
cis-1,3-Dichloropropene	425152069030	25.00	23.62	ug/L	-6	30	
Toluene	425152069030	25.00	25.55	ug/L	2	20	
trans-1,3-Dichloropropene	425152069030	25.00	22.43	ug/L	-10	30	
1,1,2-Trichloroethane	425152069030	25.00	23.74	ug/L	-5	30	
2-Hexanone	425152069030	25.00	24.40	ug/L	-2	40	
1,3-Dichloropropane	425152069030	25.00	24.33	ug/L	-3	30	
Tetrachloroethene	425152069030	25.00	25.35	ug/L	1	30	
Dibromochloromethane	425152069030	25.00	24.67	ug/L	-1	30	
1,2-Dibromoethane	425152069030	25.00	24.82	ug/L	-1	30	
Chlorobenzene	425152069030	25.00	24.38	ug/L	-2	30	
1,1,1,2-Tetrachloroethane	425152069030	25.00	23.50	ug/L	-6	30	
Ethylbenzene	425152069030	25.00	24.68	ug/L	-1	20	
m,p-Xylenes	425152069030	50.00	48.99	ug/L	-2	30	
o-Xylene	425152069030	25.00	23.81	ug/L	-5	30	
Styrene	425152069030	25.00	24.21	ug/L	-3	30	
Bromoform	425152069030	25.00	23.89	ug/L	-4	30	
Isopropylbenzene	425152069030	25.00	23.91	ug/L	-4	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	425152069030	25.00	23.23	ug/L	-7	30	
1,2,3-Trichloropropane	425152069030	25.00	26.39	ug/L	6	30	
Propylbenzene	425152069030	25.00	24.66	ug/L	-1	30	
Bromobenzene	425152069030	25.00	24.61	ug/L	-2	30	
1,3,5-Trimethylbenzene	425152069030	25.00	25.28	ug/L	1	30	
2-Chlorotoluene	425152069030	25.00	24.56	ug/L	-2	30	
4-Chlorotoluene	425152069030	25.00	23.76	ug/L	-5	30	
tert-Butylbenzene	425152069030	25.00	24.53	ug/L	-2	30	
1,2,4-Trimethylbenzene	425152069030	25.00	23.82	ug/L	-5	30	
sec-Butylbenzene	425152069030	25.00	24.73	ug/L	-1	30	
para-Isopropyl Toluene	425152069030	25.00	24.53	ug/L	-2	30	
1,3-Dichlorobenzene	425152069030	25.00	24.96	ug/L	0	30	
1,4-Dichlorobenzene	425152069030	25.00	24.94	ug/L	0	30	
n-Butylbenzene	425152069030	25.00	24.53	ug/L	-2	30	
1,2-Dichlorobenzene	425152069030	25.00	24.21	ug/L	-3	30	
1,2-Dibromo-3-Chloropropane	425152069030	25.00	22.71	ug/L	-9	30	
1,2,4-Trichlorobenzene	425152069030	25.00	24.24	ug/L	-3	30	
Hexachlorobutadiene	425152069030	25.00	25.52	ug/L	2	30	
Naphthalene	425152069030	25.00	22.70	ug/L	-9	30	
1,2,3-Trichlorobenzene	425152069030	25.00	25.07	ug/L	0	30	

425152069029: Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15
425152069030: Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

!=warning -=low bias v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Water: EPA 8260B

Inst : MSVOA09 Name : 826GOX9W
Calnum : 485152028001 Date : 15-APR-2015 16:11 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	idf06	485152028006	.25/0.5PPB	15-APR-2015 16:11	S25695 (2000000X), S26948 (2000000X), S26838 (2000000X), S26957 (1000000X), S26893 (5000X)
L2	idf07	485152028007	.5/1PPB	15-APR-2015 16:45	S25695 (1000000X), S26948 (1000000X), S26838 (1000000X), S26957 (500000X), S26893 (5000X)
L3	idf08	485152028008	2PPB	15-APR-2015 17:19	S25695 (500000X), S26948 (250000X), S26838 (250000X), S26957 (250000X), S26893 (5000X)
L4	idf09	485152028009	5PPB	15-APR-2015 17:53	S25695 (200000X), S26948 (100000X), S26838 (100000X), S26957 (100000X), S26893 (5000X)
L5	idf10	485152028010	10PPB	15-APR-2015 18:28	S25695 (100000X), S26948 (50000X), S26838 (50000X), S26957 (50000X), S26893 (5000X)
L6	idf11	485152028011	20PPB	15-APR-2015 19:02	S25695 (50000X), S26948 (25000X), S26838 (25000X), S26957 (25000X), S26893 (5000X)
L7	idf12	485152028012	50PPB	15-APR-2015 19:36	S25695 (20000X), S26948 (10000X), S26838 (10000X), S26957 (10000X), S26893 (5000X)
L8	idf13	485152028013	75PPB	15-APR-2015 20:10	S25695 (13330X), S26948 (6667X), S26838 (6667X), S26957 (6667X), S26893 (5000X)
L9	idf14	485152028014	100PPB	15-APR-2015 20:44	S25695 (10000X), S26948 (5000X), S26838 (5000X), S26957 (5000X), S26893 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7320	0.6770	0.8546	0.8176	0.8440	0.7746	0.7480	0.6992	AVRG		1.30142		0.7684	9	15	0.05	0.99	
Chloromethane	0.9773	0.9744	0.8471	1.0364	1.0434	1.0055	0.9013	0.8941	0.8181	AVRG		1.05913		0.9442	9	15	0.10	0.99	
Vinyl Chloride	0.6372	0.7243	0.6656	0.8147	0.8119	0.7691	0.7484	0.7296	0.6945	AVRG		1.36459		0.7328	8	15	0.05	0.99	
Bromomethane		0.1114	0.1385	0.1892	0.2346	0.2790	0.3456			QUAD	1.06636	3.74556	-0.05297	0.2164	1.000	15	0.05	0.99	
Chloroethane		0.4002	0.3511	0.4380	0.4466	0.4562	0.4268	0.4368	0.4337	AVRG		2.36031		0.4237	8	15	0.05	0.99	
Trichlorofluoromethane		0.8070	0.6819	0.8660	0.8065	0.8353	0.8069	0.7743	0.7360	AVRG		1.26705		0.7892	7	15	0.05	0.99	
Acetone				0.0967	0.1053	0.1040	0.1011	0.0935	0.0911	AVRG		10.1399		0.0986	6	15	0.05	0.99	
Freon 113			0.2806	0.3719	0.3955	0.4016	0.3477	0.3359	0.3316	AVRG		2.83997		0.3521	12	15	0.05	0.99	
1,1-Dichloroethene		0.2623	0.3012	0.3763	0.4150	0.4143	0.4053	0.3764	0.3681	AVRG		2.74067		0.3649	15	15	0.05	0.99	
Methylene Chloride		0.4290	0.4210	0.4992	0.5270	0.5287	0.5188	0.5006	0.4802	AVRG		2.04891		0.4881	9	15	0.05	0.99	
Carbon Disulfide		1.2990	1.3046	1.5992	1.6781	1.6475	1.5241	1.4588	1.3485	AVRG		0.67454		1.4825	10	15	0.05	0.99	
MTBE		0.8622	0.7016	0.9048	0.9218	0.9240	0.9208	0.8509	0.7939	AVRG		1.16280		0.8600	9	15	0.05	0.99	
trans-1,2-Dichloroethene		0.3785	0.3781	0.4413	0.4707	0.4670	0.4609	0.4367	0.4339	AVRG		2.30740		0.4334	8	15	0.05	0.99	
Vinyl Acetate			0.6179	0.6042	0.7528	0.6026	0.5641			AVRG		1.59152		0.6283	12	15	0.05	0.99	
1,1-Dichloroethane		0.9720	0.8650	1.0227	1.1411	1.0942	1.0523	0.9467	0.9215	AVRG		0.99807		1.0019	9	15	0.10	0.99	
2-Butanone				0.1505	0.1457	0.1587	0.1454	0.1335	0.1261	AVRG		6.97705		0.1433	8	15	0.05	0.99	
2,2-Dichloropropane		0.5599	0.5768	0.7048	0.7555	0.7278	0.6668	0.6163	0.5868	AVRG		1.54001		0.6493	12	15	0.05	0.99	
cis-1,2-Dichloroethene		0.4442	0.4070	0.5061	0.5395	0.5438	0.5239	0.5134	0.4952	AVRG		2.01349		0.4966	10	15	0.05	0.99	
Chloroform		0.8506	0.8102	0.9432	0.9740	0.9709	0.9141	0.8642	0.8167	AVRG		1.11982		0.8930	7	15	0.05	0.99	
Bromochloromethane		0.1604	0.1742	0.2092	0.2254	0.2346	0.2294	0.2178	0.2157	AVRG		4.79977		0.2083	13	15	0.05	0.99	
1,1,1-Trichloroethane		0.5228	0.5460	0.6956	0.7469	0.7185	0.6577	0.6142	0.5618	AVRG		1.57995		0.6329	13	15	0.05	0.99	
1,1-Dichloropropene	0.3264	0.3180	0.3190	0.4020	0.4324	0.4172	0.3836	0.3752	0.3381	AVRG		2.71727		0.3680	12	15	0.05	0.99	
Carbon Tetrachloride		0.2338	0.2878	0.3501	0.3791	0.3753	0.3459	0.3300	0.3034	AVRG		3.07057		0.3257	15	15	0.05	0.99	
1,2-Dichloroethane		0.3563	0.2949	0.3550	0.3717	0.3558	0.3378	0.3208	0.2920	AVRG		2.98026		0.3355	9	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.0399	0.9779	1.1198	1.2168	1.1753	1.1233	1.1155	1.0268	AVRG		0.90958		1.0994	7	15	0.05	0.99	
Trichloroethene		0.2302	0.2392	0.2866	0.3070	0.2970	0.2814	0.2836	0.2600	AVRG		3.66151		0.2731	10	15	0.05	0.99	
1,2-Dichloropropane		0.3516	0.2853	0.3376	0.3731	0.3634	0.3470	0.3333	0.3084	AVRG		2.96331		0.3375	9	15	0.05	0.99	
Bromodichloromethane		0.3163	0.3176	0.3745	0.4163	0.4049	0.3965	0.3894	0.3556	AVRG		2.69258		0.3714	10	15	0.05	0.99	
Dibromomethane		0.1336	0.1259	0.1501	0.1620	0.1616	0.1565	0.1531	0.1432	AVRG		6.74486		0.1483	9	15	0.05	0.99	
4-Methyl-2-Pentanone				0.1878	0.2080	0.2035	0.1946	0.1868	0.1742	AVRG		5.19550		0.1925	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.3955	0.3565	0.4205	0.4616	0.4574	0.4421	0.4260	0.4015	AVRG		2.38017		0.4201	8	15	0.05	0.99	
Toluene		0.6323	0.6160	0.7303	0.8095	0.7841	0.7053	0.7419	0.6739	AVRG		1.40515		0.7117	10	15	0.05	0.99	
trans-1,3-Dichloropropene		0.3696	0.3390	0.3820	0.4326	0.4117	0.3989	0.3823	0.3501	AVRG		2.60910		0.3833	8	15	0.05	0.99	
1,1,2-Trichloroethane		0.0985	0.1080	0.1226	0.1279	0.1345	0.1263	0.1247	0.1175	AVRG		8.33312		0.1200	10	15	0.05	0.99	
2-Hexanone				0.1526	0.1693	0.1708	0.1562	0.1544	0.1369	AVRG		6.38094		0.1567	8	15	0.05	0.99	
1,3-Dichloropropane		0.3526	0.3330	0.3831	0.3993	0.3968	0.3761	0.3796	0.3513	AVRG		2.69192		0.3715	6	15	0.05	0.99	
Tetrachloroethene	0.1799	0.1635	0.2024	0.2411	0.2652	0.2701	0.2381	0.2543		LINR	0.02730	3.98664		0.2268	0.998	15	0.05	0.99	
Dibromochloromethane		0.2234	0.2339	0.2615	0.2899	0.2944	0.2842	0.2907	0.2659	AVRG		3.73148		0.2680	10	15	0.05	0.99	
1,2-Dibromoethane		0.2004	0.1749	0.2034	0.2207	0.2282	0.2127	0.2182	0.2027	AVRG		4.81615		0.2076	8	15	0.05	0.99	
Chlorobenzene		0.7304	0.6706	0.7814	0.8639	0.8439	0.7739	0.7821	0.7345	AVRG		1.29435		0.7726	8	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2427	0.2372	0.2805	0.3153	0.3065	0.2851	0.2936	0.2812	AVRG		3.56826		0.2802	10	15	0.05	0.99	
Ethylbenzene		1.1418	1.0866	1.3451	1.4749	1.4622	1.2784	1.2859	1.1669	AVRG		0.78111		1.2802	11	15	0.05	0.99	
m,p-Xylenes	0.3914	0.4000	0.3858	0.4509	0.5288	0.5032	0.4591	0.4414	0.3960	AVRG		2.27470		0.4396	12	15	0.05	0.99	
o-Xylene		0.3865	0.3904	0.4576	0.5244	0.5252	0.4882	0.4947	0.4604	AVRG		2.14625		0.4659	12	15	0.05	0.99	
Styrene		0.6617	0.6509	0.7516	0.8941	0.8857	0.8316	0.8329	0.7554	AVRG		1.27717		0.7830	12	15	0.05	0.99	
Bromoform	0.0837	0.0908	0.0974	0.1258	0.1449	0.1502	0.1451	0.1478	0.1428	LINR	0.10703	6.89497		0.1254	0.999	15	0.10	0.99	
Isopropylbenzene		1.8251	2.1211	2.5178	2.7185	2.6912	2.2905	2.3174	2.1415	AVRG		0.42957		2.3279	13	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.5197	0.4374	0.5016	0.5266	0.5272	0.4836	0.4732	0.4388	AVRG		2.04705		0.4885	8	15	0.30	0.99	
1,2,3-Trichloropropane		0.0854	0.1022	0.1051	0.1158	0.1157	0.1082	0.1087	0.1031	AVRG		9.47813		0.1055	9	15	0.05	0.99	
Propylbenzene		2.2059	2.5656	3.0094	3.3280	3.1618	2.6747	2.6772	2.3249	AVRG		0.36451		2.7434	14	15	0.05	0.99	
Bromobenzene		0.5875	0.5922	0.6424	0.6883	0.6846	0.6464	0.6515	0.5966	AVRG		1.57187		0.6362	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		1.4488	1.5765	1.8277	2.0759	2.0084	1.7611	1.7417	1.5783	AVRG		0.57067		1.7523	12	15	0.05	0.99	
2-Chlorotoluene		1.8038	1.9067	2.0862	2.3007	2.2162	1.9324	1.8491	1.6505	AVRG		0.50808		1.9682	11	15	0.05	0.99	
4-Chlorotoluene		1.7052	1.6454	1.8404	1.9888	1.9142	1.7553	1.7203	1.6359	AVRG		0.56316		1.7757	7	15	0.05	0.99	
tert-Butylbenzene		1.0960	1.3796	1.6316	1.8493	1.8458	1.6117	1.6528	1.5166	QUAD	0.41206	0.51815	8.574E-4	1.5729	0.998	15	0.05	0.99	
1,2,4-Trimethylbenzene		1.3739	1.3921	1.6927	1.9332	1.8994	1.7478	1.6916	1.6783	AVRG		0.59662		1.6761	12	15	0.05	0.99	
sec-Butylbenzene	1.7165	1.4409	1.8792	2.3505	2.5657	2.5926	2.2071	2.2953	2.1594	QUAD	0.08085	0.39815	2.836E-4	2.1341	0.999	15	0.05	0.99	
para-Isopropyl Toluene		1.1001	1.2870	1.5951	1.9193	1.8908	1.6722	1.6813		QUAD	0.12782	0.54302	4.339E-4	1.5923	0.999	15	0.05	0.99	
1,3-Dichlorobenzene		0.8901	0.8798	1.0185	1.1341	1.1345	1.0231	1.0679	1.0345	AVRG		0.97767		1.0228	9	15	0.05	0.99	
1,4-Dichlorobenzene		0.9697	0.9463	1.0731	1.1503	1.1126	1.0146	1.0524	0.9773	AVRG		0.96428		1.0370	7	15	0.05	0.99	
n-Butylbenzene		0.9273	1.0046	1.3247	1.5616	1.5431	1.3656	1.4436	1.3837	QUAD	0.14352	0.67548	3.014E-4	1.3193	0.999	15	0.05	0.99	
1,2-Dichlorobenzene		0.9225	0.8655	0.9829	1.0513	1.0223	0.9659	0.9868	0.9465	AVRG		1.03309		0.9680	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.0745	0.0673	0.0767	0.0740	0.0732	0.0701	0.0672	AVRG		13.9213		0.0718	5	15	0.05	0.99	
1,2,4-Trichlorobenzene	0.2360	0.2997	0.2426	0.3206	0.3913	0.3878	0.3938	0.4237	0.4341	QUAD	0.33676	2.62662	-0.00779	0.3477	1.000	15	0.05	0.99	
Hexachlorobutadiene			0.1471	0.2069	0.2276	0.2210	0.1956	0.2134	0.2154	AVRG		4.90586		0.2038	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene			0.4412	0.5352	0.6391	0.6537	0.6541	0.6738	0.6995	AVRG		1.62916		0.6138	15	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.2186	0.2096	0.2720	0.3444	0.3592	0.3601	0.3808		QUAD	0.47548	2.88911	-0.00956	0.3064	1.000	15	0.05	0.99	
Dibromofluoromethane	0.6173	0.6261	0.6248	0.6369	0.6243	0.6303	0.6256	0.5887	0.5858	AVRG		1.61875		0.6178	3	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3251	0.3253	0.3298	0.3410	0.3329	0.3208	0.3167	0.2876	0.2778	AVRG		3.15030		0.3174	7	15	0.05	0.99	
Toluene-d8	1.2884	1.3472	1.3388	1.2901	1.3354	1.3113	1.3009	1.2927	1.3059	AVRG		0.76202		1.3123	2	15	0.05	0.99	
Bromofluorobenzene	1.1066	1.1576	1.1425	1.1057	1.0752	1.0720	1.0578	1.0472	1.0608	AVRG		0.91598		1.0917	4	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	-5	2.0000	-12	5.0000	11	10.000	6	20.000	10	50.000	1	75.000	-3	100.00	-9
Chloromethane	0.5000	4	1.0000	3	2.0000	-10	5.0000	10	10.000	11	20.000	6	50.000	-5	75.000	-5	100.00	-13
Vinyl Chloride	0.5000	-13	1.0000	-1	2.0000	-9	5.0000	11	10.000	11	20.000	5	50.000	2	75.000	0	100.00	-5
Bromomethane			1.0000	**48**	2.0000	5	5.0000	-9	10.000	-4	20.000	2	50.000	0				
Chloroethane			1.0000	-6	2.0000	-17	5.0000	3	10.000	5	20.000	8	50.000	1	75.000	3	100.00	2
Trichlorofluoromethane			1.0000	2	2.0000	-14	5.0000	10	10.000	2	20.000	6	50.000	2	75.000	-2	100.00	-7
Acetone							5.0000	-2	10.000	7	20.000	5	50.000	3	75.000	-5	100.00	-8
Freon 113					2.0000	-20	5.0000	6	10.000	12	20.000	14	50.000	-1	75.000	-5	100.00	-6
1,1-Dichloroethene			0.5000	**-28**	2.0000	-17	5.0000	3	10.000	14	20.000	14	50.000	11	75.000	3	100.00	1
Methylene Chloride			0.5000	-12	2.0000	-14	5.0000	2	10.000	8	20.000	8	50.000	6	75.000	3	100.00	-2
Carbon Disulfide			0.5000	-12	2.0000	-12	5.0000	8	10.000	13	20.000	11	50.000	3	75.000	-2	100.00	-9
MTBE			0.5000	0	2.0000	-18	5.0000	5	10.000	7	20.000	7	50.000	7	75.000	-1	100.00	-8
trans-1,2-Dichloroethene			0.5000	-13	2.0000	-13	5.0000	2	10.000	9	20.000	8	50.000	6	75.000	1	100.00	0
Vinyl Acetate					2.0000	-2	5.0000	-4	10.000	20	20.000	-4	50.000	-10				
1,1-Dichloroethane			0.5000	-3	2.0000	-14	5.0000	2	10.000	14	20.000	9	50.000	5	75.000	-6	100.00	-8
2-Butanone							5.0000	5	10.000	2	20.000	11	50.000	1	75.000	-7	100.00	-12
2,2-Dichloropropane			0.5000	-14	2.0000	-11	5.0000	9	10.000	16	20.000	12	50.000	3	75.000	-5	100.00	-10
cis-1,2-Dichloroethene			0.5000	-11	2.0000	-18	5.0000	2	10.000	9	20.000	9	50.000	5	75.000	3	100.00	0
Chloroform			0.5000	-5	2.0000	-9	5.0000	6	10.000	9	20.000	9	50.000	2	75.000	-3	100.00	-9
Bromochloromethane			0.5000	**-23**	2.0000	-16	5.0000	0	10.000	8	20.000	13	50.000	10	75.000	5	100.00	4
1,1,1-Trichloroethane			0.5000	-17	2.0000	-14	5.0000	10	10.000	18	20.000	14	50.000	4	75.000	-3	100.00	-11
1,1-Dichloropropene	0.2500	-11	0.5000	-14	2.0000	-13	5.0000	9	10.000	18	20.000	13	50.000	4	75.000	2	100.00	-8
Carbon Tetrachloride			0.5000	**-28**	2.0000	-12	5.0000	7	10.000	16	20.000	15	50.000	6	75.000	1	100.00	-7
1,2-Dichloroethane			0.5000	6	2.0000	-12	5.0000	6	10.000	11	20.000	6	50.000	1	75.000	-4	100.00	-13
Benzene			0.5000	-5	2.0000	-11	5.0000	2	10.000	11	20.000	7	50.000	2	75.000	1	100.00	-7
Trichloroethene			0.5000	-16	2.0000	-12	5.0000	5	10.000	12	20.000	9	50.000	3	75.000	4	100.00	-5
1,2-Dichloropropane			0.5000	4	2.0000	-15	5.0000	0	10.000	11	20.000	8	50.000	3	75.000	-1	100.00	-9
Bromodichloromethane			0.5000	-15	2.0000	-14	5.0000	1	10.000	12	20.000	9	50.000	7	75.000	5	100.00	-4
Dibromomethane			0.5000	-10	2.0000	-15	5.0000	1	10.000	9	20.000	9	50.000	6	75.000	3	100.00	-3
4-Methyl-2-Pentanone							5.0000	-2	10.000	8	20.000	6	50.000	1	75.000	-3	100.00	-9
cis-1,3-Dichloropropene			0.5000	-6	2.0000	-15	5.0000	0	10.000	10	20.000	9	50.000	5	75.000	1	100.00	-4
Toluene			0.5000	-11	2.0000	-13	5.0000	3	10.000	14	20.000	10	50.000	-1	75.000	4	100.00	-5
trans-1,3-Dichloropropene			0.5000	-4	2.0000	-12	5.0000	0	10.000	13	20.000	7	50.000	4	75.000	0	100.00	-9
1,1,2-Trichloroethane			0.5000	-18	2.0000	-10	5.0000	2	10.000	7	20.000	12	50.000	5	75.000	4	100.00	-2
2-Hexanone							5.0000	-3	10.000	8	20.000	9	50.000	0	75.000	-1	100.00	-13
1,3-Dichloropropane			0.5000	-5	2.0000	-10	5.0000	3	10.000	7	20.000	7	50.000	1	75.000	2	100.00	-5
Tetrachloroethene	0.2500	-17	0.5000	**-29**	2.0000	-18	5.0000	-3	10.000	6	20.000	8	50.000	-5	75.000	1		
Dibromochloromethane			0.5000	-17	2.0000	-13	5.0000	-2	10.000	8	20.000	10	50.000	6	75.000	8	100.00	-1
1,2-Dibromoethane			0.5000	-4	2.0000	-16	5.0000	-2	10.000	6	20.000	10	50.000	2	75.000	5	100.00	-2
Chlorobenzene			0.5000	-5	2.0000	-13	5.0000	1	10.000	12	20.000	9	50.000	0	75.000	1	100.00	-5
1,1,1,2-Tetrachloroethane			0.5000	-13	2.0000	-15	5.0000	0	10.000	12	20.000	9	50.000	2	75.000	5	100.00	0
Ethylbenzene			0.5000	-11	2.0000	-15	5.0000	5	10.000	15	20.000	14	50.000	0	75.000	0	100.00	-9

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	-11	1.0000	-9	4.0000	-12	10.000	3	20.000	20	40.000	14	100.00	4	150.00	0	200.00	-10
o-Xylene			0.5000	-17	2.0000	-16	5.0000	-2	10.000	13	20.000	13	50.000	5	75.000	6	100.00	-1
Styrene			0.5000	-15	2.0000	-17	5.0000	-4	10.000	14	20.000	13	50.000	6	75.000	6	100.00	-4
Bromoform	0.2500	1	0.5000	-16	2.0000	**-27**	5.0000	-11	10.000	1	20.000	4	50.000	0	75.000	2	100.00	-1
Isopropylbenzene			0.5000	**-22**	2.0000	-9	5.0000	8	10.000	17	20.000	16	50.000	-2	75.000	0	100.00	-8
1,1,2,2-Tetrachloroethane			0.5000	6	2.0000	-10	5.0000	3	10.000	8	20.000	8	50.000	-1	75.000	-3	100.00	-10
1,2,3-Trichloropropane			0.5000	-19	2.0000	-3	5.0000	0	10.000	10	20.000	10	50.000	3	75.000	3	100.00	-2
Propylbenzene			0.5000	-20	2.0000	-6	5.0000	10	10.000	**21**	20.000	15	50.000	-3	75.000	-2	100.00	-15
Bromobenzene			0.5000	-8	2.0000	-7	5.0000	1	10.000	8	20.000	8	50.000	2	75.000	2	100.00	-6
1,3,5-Trimethylbenzene			0.5000	-17	2.0000	-10	5.0000	4	10.000	18	20.000	15	50.000	1	75.000	-1	100.00	-10
2-Chlorotoluene			0.5000	-8	2.0000	-3	5.0000	6	10.000	17	20.000	13	50.000	-2	75.000	-6	100.00	-16
4-Chlorotoluene			0.5000	-4	2.0000	-7	5.0000	4	10.000	12	20.000	8	50.000	-1	75.000	-3	100.00	-8
tert-Butylbenzene			0.5000	**39**	2.0000	-8	5.0000	-6	10.000	3	20.000	4	50.000	-5	75.000	4	100.00	-1
1,2,4-Trimethylbenzene			0.5000	-18	2.0000	-17	5.0000	1	10.000	15	20.000	13	50.000	4	75.000	1	100.00	0
sec-Butylbenzene	0.2500	1	0.5000	**-26**	2.0000	**-21**	5.0000	-4	10.000	5	20.000	7	50.000	-5	75.000	3	100.00	-1
para-Isopropyl Toluene			0.5000	-15	2.0000	**-24**	5.0000	-10	10.000	7	20.000	6	50.000	-3	75.000	1		
1,3-Dichlorobenzene			0.5000	-13	2.0000	-14	5.0000	0	10.000	11	20.000	11	50.000	0	75.000	4	100.00	1
1,4-Dichlorobenzene			0.5000	-6	2.0000	-9	5.0000	3	10.000	11	20.000	7	50.000	-2	75.000	1	100.00	-6
n-Butylbenzene			0.5000	-9	2.0000	**-25**	5.0000	-7	10.000	8	20.000	6	50.000	-5	75.000	2	100.00	-1
1,2-Dichlorobenzene			0.5000	-5	2.0000	-11	5.0000	2	10.000	9	20.000	6	50.000	0	75.000	2	100.00	-2
1,2-Dibromo-3-Chloropropane					2.0000	4	5.0000	-6	10.000	7	20.000	3	50.000	2	75.000	-2	100.00	-7
1,2,4-Trichlorobenzene	0.2500	**97**	0.5000	**46**	2.0000	-20	5.0000	-9	10.000	5	20.000	1	50.000	-2	75.000	1	100.00	0
Hexachlorobutadiene					2.0000	**-28**	5.0000	1	10.000	12	20.000	8	50.000	-4	75.000	5	100.00	6
Naphthalene					2.0000	**-28**	5.0000	-13	10.000	4	20.000	6	50.000	7	75.000	10	100.00	14
1,2,3-Trichlorobenzene			0.5000	**58**	2.0000	-16	5.0000	-12	10.000	3	20.000	4	50.000	-1	75.000	0		
Dibromofluoromethane	50.000	0	50.000	1	50.000	1	50.000	3	50.000	1	50.000	2	50.000	1	50.000	-5	50.000	-5
1,2-Dichloroethane-d4	50.000	2	50.000	2	50.000	4	50.000	7	50.000	5	50.000	1	50.000	0	50.000	-9	50.000	-12
Toluene-d8	50.000	-2	50.000	3	50.000	2	50.000	-2	50.000	2	50.000	0	50.000	-1	50.000	-1	50.000	0
Bromofluorobenzene	50.000	1	50.000	6	50.000	5	50.000	1	50.000	-2	50.000	-2	50.000	-3	50.000	-4	50.000	-3

NJT 04/17/15 [Methylene Chloride]: Combined split peak0.5PPB (idf06).

NJT 04/17/15 [MTBE]: Combined split peak0.5PPB (idf06).

NJT 04/17/15 [1,2,3-Trichlorobenzene]: Combined split peak0.5PPB (idf06).

NJT 04/17/15 [Freon 113]: Combined split peak1PPB (idf07).

NJT 04/17/15 [Ethanol]: Combined split peak1PPB (idf07).

LW 04/20/15 [Bromomethane]: High bias at low point. ND and hits above 2 ppb are reportable.

LW 04/20/15 [tert-Butylbenzene]: High bias at low point. ND and hits above 2 ppb are reportable.

LW 04/20/15 [1,2,4-Trichlorobenzene]: High bias at low point. ND and hits above 2 ppb are reportable.

LW 04/20/15 [1,2,3-Trichlorobenzene]: High bias at low point. ND and hits above 2 ppb are reportable.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA09 Name : 826GOX9W
Calnum : 485152028001 Cal Date : 15-APR-2015 Type : WATER

ICV 485152028015 (idf15 15-APR-2015) stds: S26358 (10000X), S26893 (5000X)
ICV 485152028017 (idf17 15-APR-2015) stds: S26876 (10000X), S27022 (10000X), S26759 (10000X), S26893 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	485152028015	20.00	15.85	ug/L	**-21**	30	!v-
Chloromethane	485152028015	20.00	18.83	ug/L	-6	30	
Vinyl Chloride	485152028015	20.00	19.39	ug/L	-3	20	
Bromomethane	485152028015	20.00	15.81	ug/L	**-21**	30	!v-
Chloroethane	485152028015	20.00	19.75	ug/L	-1	30	
Trichlorofluoromethane	485152028015	20.00	18.30	ug/L	-9	30	
Acetone	485152028017	25.00	21.96	ug/L	-12	40	
Freon 113	485152028017	25.00	24.31	ug/L	-3	30	
1,1-Dichloroethene	485152028017	25.00	26.93	ug/L	8	20	
Methylene Chloride	485152028017	25.00	25.33	ug/L	1	30	
Carbon Disulfide	485152028017	25.00	27.11	ug/L	8	30	
MTBE	485152028017	25.00	23.96	ug/L	-4	30	
trans-1,2-Dichloroethene	485152028017	25.00	25.09	ug/L	0	30	
Vinyl Acetate	485152028017	25.00	20.37	ug/L	-19	40	
1,1-Dichloroethane	485152028017	25.00	25.17	ug/L	1	30	
2-Butanone	485152028017	25.00	21.27	ug/L	-15	40	
2,2-Dichloropropane	485152028017	25.00	25.40	ug/L	2	30	
cis-1,2-Dichloroethene	485152028017	25.00	25.63	ug/L	3	30	
Chloroform	485152028017	25.00	25.63	ug/L	3	20	
Bromochloromethane	485152028017	25.00	25.58	ug/L	2	30	
1,1,1-Trichloroethane	485152028017	25.00	26.93	ug/L	8	30	
1,1-Dichloropropene	485152028017	25.00	25.35	ug/L	1	30	
Carbon Tetrachloride	485152028017	25.00	28.27	ug/L	13	30	
1,2-Dichloroethane	485152028017	25.00	23.68	ug/L	-5	30	
Benzene	485152028017	25.00	26.18	ug/L	5	30	
Trichloroethene	485152028017	25.00	26.89	ug/L	8	30	
1,2-Dichloropropane	485152028017	25.00	24.00	ug/L	-4	20	
Bromodichloromethane	485152028017	25.00	25.58	ug/L	2	30	
Dibromomethane	485152028017	25.00	25.14	ug/L	1	30	
4-Methyl-2-Pentanone	485152028017	25.00	22.48	ug/L	-10	40	
cis-1,3-Dichloropropene	485152028017	25.00	24.41	ug/L	-2	30	
Toluene	485152028017	25.00	26.55	ug/L	6	20	
trans-1,3-Dichloropropene	485152028017	25.00	22.51	ug/L	-10	30	
1,1,2-Trichloroethane	485152028017	25.00	25.13	ug/L	1	30	
2-Hexanone	485152028017	25.00	23.57	ug/L	-6	40	
1,3-Dichloropropane	485152028017	25.00	26.20	ug/L	5	30	
Tetrachloroethene	485152028017	25.00	26.77	ug/L	7	30	
Dibromochloromethane	485152028017	25.00	25.21	ug/L	1	30	
1,2-Dibromoethane	485152028017	25.00	25.29	ug/L	1	30	
Chlorobenzene	485152028017	25.00	26.02	ug/L	4	30	
1,1,1,2-Tetrachloroethane	485152028017	25.00	25.04	ug/L	0	30	
Ethylbenzene	485152028017	25.00	27.68	ug/L	11	20	
m,p-Xylenes	485152028017	50.00	54.96	ug/L	10	30	
o-Xylene	485152028017	25.00	27.22	ug/L	9	30	
Styrene	485152028017	25.00	26.94	ug/L	8	30	
Bromoform	485152028017	25.00	23.35	ug/L	-7	30	
Isopropylbenzene	485152028017	25.00	27.63	ug/L	11	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	485152028017	25.00	22.76	ug/L	-9	30	
1,2,3-Trichloropropane	485152028017	25.00	23.96	ug/L	-4	30	
Propylbenzene	485152028017	25.00	27.04	ug/L	8	30	
Bromobenzene	485152028017	25.00	25.30	ug/L	1	30	
1,3,5-Trimethylbenzene	485152028017	25.00	27.22	ug/L	9	30	
2-Chlorotoluene	485152028017	25.00	25.57	ug/L	2	30	
4-Chlorotoluene	485152028017	25.00	25.83	ug/L	3	30	
tert-Butylbenzene	485152028017	25.00	24.82	ug/L	-1	30	
1,2,4-Trimethylbenzene	485152028017	25.00	25.37	ug/L	1	30	
sec-Butylbenzene	485152028017	25.00	26.10	ug/L	4	30	
para-Isopropyl Toluene	485152028017	25.00	24.52	ug/L	-2	30	
1,3-Dichlorobenzene	485152028017	25.00	26.08	ug/L	4	30	
1,4-Dichlorobenzene	485152028017	25.00	25.26	ug/L	1	30	
n-Butylbenzene	485152028017	25.00	24.84	ug/L	-1	30	
1,2-Dichlorobenzene	485152028017	25.00	25.14	ug/L	1	30	
1,2-Dibromo-3-Chloropropane	485152028017	25.00	21.78	ug/L	-13	30	
1,2,4-Trichlorobenzene	485152028017	25.00	23.37	ug/L	-7	30	
Hexachlorobutadiene	485152028017	25.00	25.39	ug/L	2	30	
Naphthalene	485152028017	25.00	21.60	ug/L	-14	30	
1,2,3-Trichlorobenzene	485152028017	25.00	22.98	ug/L	-8	30	

485152028015: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15
485152028017: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

!=warning -=low bias v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA02 Run Name : QC786073 IDF : 1.0
Seqnum : 415179135004.3 File : be404 Time : 04-MAY-2015 13:39
Cal : 415174609002 Caldate : 01-MAY-2015 Caltype : WATER
Standards: S27177 (20000X), S27022 (20000X), S27179 (20000X), S26358 (20000X), S26909 (1000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.8345	0.6568	10.00	7.870	ug/L	-21	30	0.0500	u
Chloromethane	1.6338	1.5232	10.00	9.323	ug/L	-7	30	0.1000	u
Vinyl Chloride	1.1006	1.0491	10.00	9.533	ug/L	-5	20	0.0500	u
Bromomethane	0.6900	0.5987	10.00	8.677	ug/L	-13	30	0.0500	u
Chloroethane	0.6089	0.5894	10.00	9.679	ug/L	-3	30	0.0500	u
Trichlorofluoromethane	0.8566	0.7758	10.00	9.057	ug/L	-9	30	0.0500	u
Acetone	0.2237	0.2235	12.50	12.49	ug/L	0	40	0.0500	u
Freon 113	0.4313	0.4074	12.50	11.81	ug/L	-6	30	0.0500	u
1,1-Dichloroethene	0.4531	0.4500	12.50	12.41	ug/L	-1	20	0.0500	u
Methylene Chloride	0.8052	0.8212	12.50	12.75	ug/L	2	30	0.0500	u
Carbon Disulfide	2.1532	1.7978	12.50	10.44	ug/L	-17	30	0.0500	u
MTBE	1.5384	1.5944	12.50	12.95	ug/L	4	30	0.0500	u
trans-1,2-Dichloroethene	0.5462	0.5895	12.50	13.49	ug/L	8	30	0.0500	u
Vinyl Acetate	1.3964	1.8727	12.50	16.76	ug/L	34	40	0.0500	u
1,1-Dichloroethane	1.2223	1.3256	12.50	13.56	ug/L	8	30	0.1000	u
2-Butanone	0.3637	0.3506	12.50	12.05	ug/L	-4	40	0.0500	u
cis-1,2-Dichloroethene	0.6481	0.7225	12.50	13.94	ug/L	11	30	0.0500	u
2,2-Dichloropropane	0.7374	0.9503	12.50	16.11	ug/L	29	30	0.0500	u
Chloroform	1.1424	1.2687	12.50	13.88	ug/L	11	20	0.0500	u
Bromochloromethane	0.3391	0.3843	12.50	14.17	ug/L	13	30	0.0500	u
1,1,1-Trichloroethane	0.8527	0.8669	12.50	12.71	ug/L	2	30	0.0500	u
1,1-Dichloropropene	0.4036	0.4358	12.50	13.50	ug/L	8	30	0.0500	u
Carbon Tetrachloride	0.3319	0.3712	12.50	13.98	ug/L	12	30	0.0500	u
1,2-Dichloroethane	0.5478	0.5700	12.50	13.01	ug/L	4	30	0.0500	u
Benzene	1.3720	1.4556	12.50	13.26	ug/L	6	30	0.0500	u
Trichloroethene	0.3230	0.3484	12.50	13.48	ug/L	8	30	0.0500	u
1,2-Dichloropropane	0.4194	0.4107	12.50	12.24	ug/L	-2	20	0.0500	u
Bromodichloromethane	0.4392	0.5323	12.50	15.15	ug/L	21	30	0.0500	u
Dibromomethane	0.2726	0.2986	12.50	13.69	ug/L	10	30	0.0500	u
4-Methyl-2-Pentanone	0.5414	0.5213	12.50	12.04	ug/L	-4	40	0.0500	u
cis-1,3-Dichloropropene	0.5519	0.6196	12.50	14.03	ug/L	12	30	0.0500	u
Toluene	0.9223	0.9871	12.50	13.38	ug/L	7	20	0.0500	u
trans-1,3-Dichloropropene	0.5343	0.5425	12.50	12.69	ug/L	2	30	0.0500	u
1,1,2-Trichloroethane	0.1836	0.1934	12.50	13.17	ug/L	5	30	0.0500	u
2-Hexanone	0.3926	0.3750	12.50	11.94	ug/L	-4	40	0.0500	u
1,3-Dichloropropane	0.5859	0.6214	12.50	13.26	ug/L	6	30	0.0500	u
Tetrachloroethene	0.3452	0.3873	12.50	14.03	ug/L	12	30	0.0500	u
Dibromochloromethane	0.3753	0.4027	12.50	13.41	ug/L	7	30	0.0500	u
1,2-Dibromoethane	0.4008	0.4052	12.50	12.64	ug/L	1	30	0.0500	u
Chlorobenzene	1.0458	1.1164	12.50	13.34	ug/L	7	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.3361	0.3621	12.50	13.47	ug/L	8	30	0.0500	u
Ethylbenzene	1.6122	1.7601	12.50	13.65	ug/L	9	20	0.0500	u
m,p-Xylenes	0.6033	0.6459	25.00	26.77	ug/L	7	30	0.0500	u
o-Xylene	0.5983	0.6546	12.50	13.68	ug/L	9	30	0.0500	u
Styrene	1.0719	1.1589	12.50	13.52	ug/L	8	30	0.0500	u
Bromoform	0.2520	0.2749	12.50	13.64	ug/L	9	30	0.1000	u
Isopropylbenzene	2.8865	3.2306	12.50	13.99	ug/L	12	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.0515	1.0978	12.50	13.05	ug/L	4	30	0.3000	u
1,2,3-Trichloropropane	0.9058	0.9065	12.50	12.51	ug/L	0	30	0.0500	u
Propylbenzene	3.2483	3.6529	12.50	14.06	ug/L	12	30	0.0500	u
Bromobenzene	0.9972	1.0919	12.50	13.69	ug/L	9	30	0.0500	u
1,3,5-Trimethylbenzene	2.1787	2.4709	12.50	14.18	ug/L	13	30	0.0500	u
2-Chlorotoluene	2.4721	2.7523	12.50	13.92	ug/L	11	30	0.0500	u
4-Chlorotoluene	2.2961	2.5379	12.50	13.82	ug/L	11	30	0.0500	u
tert-Butylbenzene	1.8692	2.0999	12.50	14.04	ug/L	12	30	0.0500	u
1,2,4-Trimethylbenzene	2.0838	2.2393	12.50	13.43	ug/L	7	30	0.0500	u
sec-Butylbenzene	2.5869	2.9212	12.50	14.12	ug/L	13	30	0.0500	u
para-Isopropyl Toluene	1.9452	2.2439	12.50	14.42	ug/L	15	30	0.0500	u
1,3-Dichlorobenzene	1.4352	1.6341	12.50	14.23	ug/L	14	30	0.0500	u
1,4-Dichlorobenzene	1.4741	1.6346	12.50	13.86	ug/L	11	30	0.0500	u
n-Butylbenzene	1.4563	1.7412	12.50	14.95	ug/L	20	30	0.0500	u
1,2-Dichlorobenzene	1.4961	1.6423	12.50	13.72	ug/L	10	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1966	0.1894	12.50	12.04	ug/L	-4	30	0.0500	u
1,2,4-Trichlorobenzene	0.4824	0.6009	12.50	15.57	ug/L	25	30	0.0500	u
Hexachlorobutadiene	0.3343	0.4419	12.50	16.53	ug/L	**32**	30	0.0500	c+ u ***
Naphthalene	1.1923	1.2991	12.50	13.62	ug/L	9	30	0.0500	u
1,2,3-Trichlorobenzene	0.4540	0.5492	12.50	15.12	ug/L	21	30	0.0500	u
Dibromofluoromethane	0.5856	0.6484	50.00	55.37	ug/L	11	30	0.0500	u
1,2-Dichloroethane-d4	0.3802	0.3988	50.00	52.45	ug/L	5	30	0.0500	u
Toluene-d8	1.2442	1.2343	50.00	49.60	ug/L	-1	30	0.0500	u
Bromofluorobenzene	1.0515	1.0636	50.00	50.58	ug/L	1	30	0.0500	u

ISTD (ICAL be124)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	682117	805043	18.02	11.15	11.11	-0.04
1,4-Difluorobenzene	1254931	1437388	14.54	12.34	12.31	-0.03
Chlorobenzene-d5	1177746	1431763	21.57	16.93	16.92	-0.01
1,4-Dichlorobenzene-d4	555108	662372	19.32	20.32	20.31	-0.01

Analyst: DAR Date: 05/07/15 Reviewer: TEW Date: 05/11/15

+=high bias c=CCV u=use

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : QC786880 IDF : 1.0
Seqnum : 425182036011.3 File : ce611 Time : 06-MAY-2015 15:17
Cal : 425152069005 Caldate : 15-APR-2015 Caltype : WATER
Standards: S27177 (20000X), S27022 (20000X), S27179 (20000X), S26672 (20000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5268	0.5331	10.00	10.12	ug/L	1	30	0.0500	u
Chloromethane	0.7176	0.7263	10.00	10.12	ug/L	1	30	0.1000	u
Vinyl Chloride	0.6230	0.6925	10.00	11.12	ug/L	11	20	0.0500	u
Bromomethane	0.3637	0.2988	10.00	8.217	ug/L	-18	30	0.0500	!v- u
Chloroethane	0.3581	0.4147	10.00	11.58	ug/L	16	30	0.0500	u
Trichlorofluoromethane	0.5849	0.6231	10.00	10.65	ug/L	7	30	0.0500	u
Acetone	0.1113	0.0952	12.50	10.69	ug/L	-14	40	0.0500	u
Freon 113	0.3839	0.3984	12.50	12.97	ug/L	4	30	0.0500	u
1,1-Dichloroethene	0.4234	0.4475	12.50	13.21	ug/L	6	20	0.0500	u
Methylene Chloride	0.5526	0.5863	12.50	13.26	ug/L	6	30	0.0500	u
Carbon Disulfide	1.5749	1.7363	12.50	13.78	ug/L	10	30	0.0500	u
MTBE	1.1384	1.0871	12.50	11.94	ug/L	-5	30	0.0500	u
trans-1,2-Dichloroethene	0.4970	0.5132	12.50	12.91	ug/L	3	30	0.0500	u
Vinyl Acetate	0.7048	1.0892	12.50	19.32	ug/L	**55**	40	0.0500	c+ u ***
1,1-Dichloroethane	0.9178	0.9875	12.50	13.45	ug/L	8	30	0.1000	u
2-Butanone	0.1524	0.1563	12.50	12.82	ug/L	3	40	0.0500	u
cis-1,2-Dichloroethene	0.5815	0.5709	12.50	12.27	ug/L	-2	30	0.0500	u
2,2-Dichloropropane	0.6313	0.7578	12.50	15.01	ug/L	20	30	0.0500	u
Chloroform	0.9114	0.9152	12.50	12.55	ug/L	0	20	0.0500	u
Bromochloromethane	0.2428	0.2302	12.50	11.85	ug/L	-5	30	0.0500	u
1,1,1-Trichloroethane	0.6578	0.6901	12.50	13.11	ug/L	5	30	0.0500	u
1,1-Dichloropropene	0.3946	0.4263	12.50	13.50	ug/L	8	30	0.0500	u
Carbon Tetrachloride	0.3064	0.3159	12.50	12.89	ug/L	3	30	0.0500	u
1,2-Dichloroethane	0.3697	0.3691	12.50	12.48	ug/L	0	30	0.0500	u
Benzene	1.1612	1.3252	12.50	14.27	ug/L	14	30	0.0500	u
Trichloroethene	0.3044	0.3032	12.50	12.45	ug/L	0	30	0.0500	u
1,2-Dichloropropane	0.3201	0.3463	12.50	13.53	ug/L	8	20	0.0500	u
Bromodichloromethane	0.4097	0.4061	12.50	12.39	ug/L	-1	30	0.0500	u
Dibromomethane	0.1817	0.1808	12.50	12.44	ug/L	-1	30	0.0500	u
4-Methyl-2-Pentanone	0.2305	0.2416	12.50	13.10	ug/L	5	40	0.0500	u
cis-1,3-Dichloropropene	0.5035	0.5162	12.50	12.82	ug/L	3	30	0.0500	u
Toluene	0.7420	0.7808	12.50	13.15	ug/L	5	20	0.0500	u
trans-1,3-Dichloropropene	0.4527	0.4260	12.50	11.76	ug/L	-6	30	0.0500	u
1,1,2-Trichloroethane	0.1417	0.1414	12.50	12.47	ug/L	0	30	0.0500	u
2-Hexanone	0.1646	0.1670	12.50	12.68	ug/L	1	40	0.0500	u
1,3-Dichloropropane	0.4587	0.4637	12.50	12.64	ug/L	1	30	0.0500	u
Tetrachloroethene	0.2796	0.2931	12.50	13.11	ug/L	5	30	0.0500	u
Dibromochloromethane	0.2887	0.2789	12.50	12.08	ug/L	-3	30	0.0500	u
1,2-Dibromoethane	0.2681	0.2536	12.50	11.82	ug/L	-5	30	0.0500	u
Chlorobenzene	0.7996	0.7963	12.50	12.45	ug/L	0	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.2752	0.2755	12.50	12.51	ug/L	0	30	0.0500	u
Ethylbenzene	1.4003	1.4915	12.50	13.31	ug/L	7	20	0.0500	u
m,p-Xylenes	0.5114	0.5340	25.00	26.11	ug/L	4	30	0.0500	u
o-Xylene	0.5079	0.5158	12.50	12.69	ug/L	2	30	0.0500	u
Styrene	0.9181	0.9276	12.50	12.63	ug/L	1	30	0.0500	u
Bromoform	0.1798	0.1598	12.50	11.11	ug/L	-11	30	0.1000	u
Isopropylbenzene	2.5259	2.7830	12.50	13.77	ug/L	10	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6267	0.7058	12.50	14.08	ug/L	13	30	0.3000	u
1,2,3-Trichloropropane	0.5518	0.5697	12.50	14.56	ug/L	16	30	0.0500	u
Propylbenzene	3.1689	3.6038	12.50	14.22	ug/L	14	30	0.0500	u
Bromobenzene	0.6546	0.7093	12.50	13.54	ug/L	8	30	0.0500	u
1,3,5-Trimethylbenzene	2.0846	2.3247	12.50	13.94	ug/L	12	30	0.0500	u
2-Chlorotoluene	2.1133	2.4040	12.50	14.22	ug/L	14	30	0.0500	u
4-Chlorotoluene	2.0462	2.2770	12.50	13.91	ug/L	11	30	0.0500	u
tert-Butylbenzene	1.6274	1.6743	12.50	12.86	ug/L	3	30	0.0500	u
1,2,4-Trimethylbenzene	2.1922	2.3513	12.50	13.41	ug/L	7	30	0.0500	u
sec-Butylbenzene	2.6661	2.9097	12.50	13.64	ug/L	9	30	0.0500	u
para-Isopropyl Toluene	2.0552	2.1924	12.50	13.33	ug/L	7	30	0.0500	u
1,3-Dichlorobenzene	1.1587	1.2995	12.50	14.02	ug/L	12	30	0.0500	u
1,4-Dichlorobenzene	1.1649	1.2475	12.50	13.39	ug/L	7	30	0.0500	u
n-Butylbenzene	2.0678	2.3274	12.50	14.07	ug/L	13	30	0.0500	u
1,2-Dichlorobenzene	1.0909	1.1736	12.50	13.45	ug/L	8	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.0957	0.0887	12.50	11.58	ug/L	-7	30	0.0500	u
1,2,4-Trichlorobenzene	0.7416	0.6870	12.50	11.58	ug/L	-7	30	0.0500	u
Hexachlorobutadiene	0.3021	0.2517	12.50	10.41	ug/L	-17	30	0.0500	u
Naphthalene	1.5151	1.2099	12.50	9.982	ug/L	-20	30	0.0500	u
1,2,3-Trichlorobenzene	0.6452	0.5412	12.50	10.48	ug/L	-16	30	0.0500	u
Dibromofluoromethane	0.6069	0.6244	50.00	51.44	ug/L	3	30	0.0500	u
1,2-Dichloroethane-d4	0.3740	0.3762	50.00	50.29	ug/L	1	30	0.0500	u
Toluene-d8	1.3238	1.4127	50.00	53.36	ug/L	7	30	0.0500	u
Bromofluorobenzene	1.0712	1.1599	50.00	54.14	ug/L	8	30	0.0500	u

ISTD (ICAL cdf26)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	420665	406879	-3.28	10.41	10.37	-0.04
1,4-Difluorobenzene	704518	680685	-3.38	11.57	11.53	-0.04
Chlorobenzene-d5	660609	636928	-3.58	15.64	15.62	-0.02
1,4-Dichlorobenzene-d4	318122	296632	-6.76	18.40	18.37	-0.03

LW 05/07/15 [Ethanol]: Both calculated values round to 1231 [general version]

LW 05/07/15 [tert-Butyl Alcohol (TBA)]: Both calculated values round to 74.17 [general version]

Analyst: DAR Date: 05/07/15 Reviewer: TEW Date: 05/11/15

!=warning +=high bias -=low bias c=CCV u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA03 Run Name : 15PPB IDF : 1.0
Seqnum : 425188235004 File : cea04 Time : 10-MAY-2015 19:02
Cal : 425152069005 Caldate : 15-APR-2015 Caltype : WATER
Standards: S26360 (33330X), S27172 (33330X), S27151 (33330X), S26957 (33330X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5268	0.5301	15.00	15.09	ug/L	1	30	0.0500	
Chloromethane	0.7176	0.7128	15.00	14.90	ug/L	-1	30	0.1000	
Vinyl Chloride	0.6230	0.7023	15.00	16.91	ug/L	13	20	0.0500	
Bromomethane	0.3637	0.2860	15.00	11.80	ug/L	**-21**	30	0.0500	!c- !v-
Chloroethane	0.3581	0.3812	15.00	15.97	ug/L	6	30	0.0500	
Trichlorofluoromethane	0.5849	0.6204	15.00	15.91	ug/L	6	30	0.0500	
Acetone	0.1113	0.1002	15.00	13.51	ug/L	-10	40	0.0500	
Freon 113	0.3839	0.4554	15.00	17.79	ug/L	19	30	0.0500	
1,1-Dichloroethene	0.4234	0.4363	15.00	15.46	ug/L	3	20	0.0500	
Methylene Chloride	0.5526	0.5745	15.00	15.60	ug/L	4	30	0.0500	
Carbon Disulfide	1.5749	1.7470	15.00	16.64	ug/L	11	30	0.0500	
MTBE	1.1384	1.0014	15.00	13.19	ug/L	-12	30	0.0500	
trans-1,2-Dichloroethene	0.4970	0.5022	15.00	15.16	ug/L	1	30	0.0500	
Vinyl Acetate	0.7048	0.7890	15.00	16.79	ug/L	12	40	0.0500	
1,1-Dichloroethane	0.9178	1.0269	15.00	16.78	ug/L	12	30	0.1000	
2-Butanone	0.1524	0.1427	15.00	14.05	ug/L	-6	40	0.0500	
2,2-Dichloropropane	0.6313	0.7320	15.00	17.39	ug/L	16	30	0.0500	
cis-1,2-Dichloroethene	0.5815	0.5867	15.00	15.14	ug/L	1	30	0.0500	
Chloroform	0.9114	0.9123	15.00	15.01	ug/L	0	20	0.0500	
Bromochloromethane	0.2428	0.2274	15.00	14.05	ug/L	-6	30	0.0500	
1,1,1-Trichloroethane	0.6578	0.6660	15.00	15.19	ug/L	1	30	0.0500	
1,1-Dichloropropene	0.3946	0.4238	15.00	16.11	ug/L	7	30	0.0500	
Carbon Tetrachloride	0.3064	0.2958	15.00	14.48	ug/L	-3	30	0.0500	
1,2-Dichloroethane	0.3697	0.3302	15.00	13.40	ug/L	-11	30	0.0500	
Benzene	1.1612	1.1961	15.00	15.45	ug/L	3	30	0.0500	
Trichloroethene	0.3044	0.3080	15.00	15.18	ug/L	1	30	0.0500	
1,2-Dichloropropane	0.3201	0.3458	15.00	16.21	ug/L	8	20	0.0500	
Bromodichloromethane	0.4097	0.3988	15.00	14.60	ug/L	-3	30	0.0500	
Dibromomethane	0.1817	0.1658	15.00	13.69	ug/L	-9	30	0.0500	
4-Methyl-2-Pentanone	0.2305	0.2063	15.00	13.42	ug/L	-11	40	0.0500	
cis-1,3-Dichloropropene	0.5035	0.4944	15.00	14.73	ug/L	-2	30	0.0500	
Toluene	0.7420	0.7547	15.00	15.26	ug/L	2	20	0.0500	
trans-1,3-Dichloropropene	0.4527	0.4186	15.00	13.87	ug/L	-8	30	0.0500	
1,1,2-Trichloroethane	0.1417	0.1286	15.00	13.61	ug/L	-9	30	0.0500	
2-Hexanone	0.1646	0.1439	15.00	13.11	ug/L	-13	40	0.0500	
1,3-Dichloropropane	0.4587	0.4242	15.00	13.87	ug/L	-8	30	0.0500	
Tetrachloroethene	0.2796	0.2786	15.00	14.95	ug/L	0	30	0.0500	
Dibromochloromethane	0.2887	0.2537	15.00	13.18	ug/L	-12	30	0.0500	
1,2-Dibromoethane	0.2681	0.2319	15.00	12.97	ug/L	-14	30	0.0500	
Chlorobenzene	0.7996	0.7761	15.00	14.56	ug/L	-3	30	0.3000	
1,1,1,2-Tetrachloroethane	0.2752	0.2537	15.00	13.83	ug/L	-8	30	0.0500	
Ethylbenzene	1.4003	1.4155	15.00	15.16	ug/L	1	20	0.0500	
m,p-Xylenes	0.5114	0.5158	30.00	30.26	ug/L	1	30	0.0500	
o-Xylene	0.5079	0.5021	15.00	14.83	ug/L	-1	30	0.0500	
Styrene	0.9181	0.8789	15.00	14.36	ug/L	-4	30	0.0500	
Bromoform	0.1798	0.1447	15.00	12.07	ug/L	-20	30	0.1000	
Isopropylbenzene	2.5259	2.6817	15.00	15.92	ug/L	6	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6267	0.5717	15.00	13.68	ug/L	-9	30	0.3000	
1,2,3-Trichloropropane	0.5518	0.4658	15.00	14.28	ug/L	-5	30	0.0500	
Propylbenzene	3.1689	3.5327	15.00	16.72	ug/L	11	30	0.0500	
Bromobenzene	0.6546	0.6617	15.00	15.16	ug/L	1	30	0.0500	
1,3,5-Trimethylbenzene	2.0846	2.1833	15.00	15.71	ug/L	5	30	0.0500	
2-Chlorotoluene	2.1133	2.3015	15.00	16.34	ug/L	9	30	0.0500	
4-Chlorotoluene	2.0462	2.1663	15.00	15.88	ug/L	6	30	0.0500	
tert-Butylbenzene	1.6274	1.6063	15.00	14.81	ug/L	-1	30	0.0500	
1,2,4-Trimethylbenzene	2.1922	2.2421	15.00	15.34	ug/L	2	30	0.0500	
sec-Butylbenzene	2.6661	2.6708	15.00	15.03	ug/L	0	30	0.0500	
para-Isopropyl Toluene	2.0552	2.1700	15.00	15.84	ug/L	6	30	0.0500	
1,3-Dichlorobenzene	1.1587	1.1688	15.00	15.13	ug/L	1	30	0.0500	
1,4-Dichlorobenzene	1.1649	1.1892	15.00	15.31	ug/L	2	30	0.0500	
n-Butylbenzene	2.0678	2.2083	15.00	16.02	ug/L	7	30	0.0500	
1,2-Dichlorobenzene	1.0909	1.0554	15.00	14.51	ug/L	-3	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.0957	0.0732	15.00	11.47	ug/L	**-24**	30	0.0500	!c-
1,2,4-Trichlorobenzene	0.7416	0.5933	15.00	12.00	ug/L	-20	30	0.0500	
Hexachlorobutadiene	0.3021	0.2532	15.00	12.57	ug/L	-16	30	0.0500	
Naphthalene	1.5151	1.0655	15.00	10.55	ug/L	**-30**	30	0.0500	!c-
1,2,3-Trichlorobenzene	0.6452	0.4722	15.00	10.98	ug/L	**-27**	30	0.0500	!c-
Dibromofluoromethane	0.6069	0.6197	50.00	51.06	ug/L	2	30	0.0500	
1,2-Dichloroethane-d4	0.3740	0.3495	50.00	46.73	ug/L	-7	30	0.0500	
Toluene-d8	1.3238	1.3835	50.00	52.26	ug/L	5	30	0.0500	
Bromofluorobenzene	1.0712	1.0982	50.00	51.26	ug/L	3	30	0.0500	

ISTD (ICAL cdf26)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	420665	446843	6.22	10.41	10.36	-0.05
1,4-Difluorobenzene	704518	777158	10.31	11.57	11.52	-0.05
Chlorobenzene-d5	660609	724487	9.67	15.64	15.59	-0.05
1,4-Dichlorobenzene-d4	318122	339172	6.62	18.40	18.36	-0.04

TEW 05/11/15 [Ethanol]: Both values round to the same number.

Analyst: DAR Date: 05/11/15 Reviewer: TEW Date: 05/11/15

!=warning -=low bias c=CCV v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266525 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC787346 IDF : 1.0
Seqnum : 485186486008.1 File : ie908 Time : 09-MAY-2015 16:27
Cal : 485152028001 Caldate : 15-APR-2015 Caltype : WATER
Standards: S26673 (16670X), S27177 (16670X), S27022 (16670X), S27179 (16670X), S27167 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7684	0.7906	12.00	12.35	ug/L	3	30	0.0500	!v- u
Chloromethane	0.9442	0.7961	12.00	10.12	ug/L	-16	30	0.1000	u
Vinyl Chloride	0.7328	0.7438	12.00	12.18	ug/L	1	20	0.0500	u
Bromomethane	0.2164	0.1805	12.00	8.931	ug/L	-26	30	0.0500	!v- u
Chloroethane	0.4237	0.5027	12.00	14.24	ug/L	19	30	0.0500	u
Trichlorofluoromethane	0.7892	0.7574	12.00	11.52	ug/L	-4	30	0.0500	u
Acetone	0.0986	0.0724	15.00	11.02	ug/L	-27	40	0.0500	u
Freon 113	0.3521	0.3588	15.00	15.28	ug/L	2	30	0.0500	u
1,1-Dichloroethene	0.3649	0.4227	15.00	17.38	ug/L	16	20	0.0500	u
Methylene Chloride	0.4881	0.5720	15.00	17.58	ug/L	17	30	0.0500	u
Carbon Disulfide	1.4825	1.7109	15.00	17.31	ug/L	15	30	0.0500	u
MTBE	0.8600	0.7759	15.00	13.53	ug/L	-10	30	0.0500	u
trans-1,2-Dichloroethene	0.4334	0.4559	15.00	15.78	ug/L	5	30	0.0500	u
Vinyl Acetate	0.6283	0.8341	15.00	19.91	ug/L	33	40	0.0500	u
1,1-Dichloroethane	1.0019	0.9874	15.00	14.78	ug/L	-1	30	0.1000	u
2-Butanone	0.1433	0.1245	15.00	13.03	ug/L	-13	40	0.0500	u
cis-1,2-Dichloroethene	0.4966	0.5272	15.00	15.92	ug/L	6	30	0.0500	u
2,2-Dichloropropane	0.6493	0.6916	15.00	15.97	ug/L	7	30	0.0500	u
Chloroform	0.8930	0.8502	15.00	14.28	ug/L	-5	20	0.0500	u
Bromochloromethane	0.2083	0.1980	15.00	14.25	ug/L	-5	30	0.0500	u
1,1,1-Trichloroethane	0.6329	0.6162	15.00	14.60	ug/L	-3	30	0.0500	u
1,1-Dichloropropene	0.3680	0.3765	15.00	15.34	ug/L	2	30	0.0500	u
Carbon Tetrachloride	0.3257	0.2984	15.00	13.74	ug/L	-8	30	0.0500	u
1,2-Dichloroethane	0.3355	0.2721	15.00	12.16	ug/L	-19	30	0.0500	u
Benzene	1.0994	1.1638	15.00	15.88	ug/L	6	30	0.0500	u
Trichloroethene	0.2731	0.2620	15.00	14.39	ug/L	-4	30	0.0500	u
1,2-Dichloropropane	0.3375	0.3201	15.00	14.22	ug/L	-5	20	0.0500	u
Bromodichloromethane	0.3714	0.3285	15.00	13.27	ug/L	-12	30	0.0500	u
Dibromomethane	0.1483	0.1329	15.00	13.45	ug/L	-10	30	0.0500	u
4-Methyl-2-Pentanone	0.1925	0.1600	15.00	12.46	ug/L	-17	40	0.0500	u
cis-1,3-Dichloropropene	0.4201	0.3980	15.00	14.21	ug/L	-5	30	0.0500	u
Toluene	0.7117	0.7848	15.00	16.54	ug/L	10	20	0.0500	u
trans-1,3-Dichloropropene	0.3833	0.3466	15.00	13.56	ug/L	-10	30	0.0500	u
1,1,2-Trichloroethane	0.1200	0.1285	15.00	16.06	ug/L	7	30	0.0500	u
2-Hexanone	0.1567	0.1471	15.00	14.08	ug/L	-6	40	0.0500	u
1,3-Dichloropropane	0.3715	0.3889	15.00	15.70	ug/L	5	30	0.0500	u
Tetrachloroethene	0.2268	0.2642	15.00	15.82	ug/L	6	30	0.0500	u
Dibromochloromethane	0.2680	0.2490	15.00	13.94	ug/L	-7	30	0.0500	u
1,2-Dibromoethane	0.2076	0.2092	15.00	15.11	ug/L	1	30	0.0500	u
Chlorobenzene	0.7726	0.7862	15.00	15.26	ug/L	2	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.2802	0.2675	15.00	14.31	ug/L	-5	30	0.0500	u
Ethylbenzene	1.2802	1.4260	15.00	16.70	ug/L	11	20	0.0500	u
m,p-Xylenes	0.4396	0.4639	29.99	31.65	ug/L	6	30	0.0500	u
o-Xylene	0.4659	0.4710	15.00	15.16	ug/L	1	30	0.0500	u
Styrene	0.7830	0.7916	15.00	15.16	ug/L	1	30	0.0500	u
Bromoform	0.1254	0.1198	15.00	12.49	ug/L	-17	30	0.1000	u
Isopropylbenzene	2.3279	2.6326	15.00	16.96	ug/L	13	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.4885	0.5438	15.00	16.70	ug/L	11	30	0.3000	u
1,2,3-Trichloropropane	0.1055	0.1006	15.00	14.30	ug/L	-5	30	0.0500	u
Propylbenzene	2.7434	3.2143	15.00	17.57	ug/L	17	30	0.0500	u
Bromobenzene	0.6362	0.6822	15.00	16.08	ug/L	7	30	0.0500	u
1,3,5-Trimethylbenzene	1.7523	1.8668	15.00	15.98	ug/L	7	30	0.0500	u
2-Chlorotoluene	1.9682	2.0972	15.00	15.98	ug/L	7	30	0.0500	u
4-Chlorotoluene	1.7757	1.8822	15.00	15.90	ug/L	6	30	0.0500	u
tert-Butylbenzene	1.5729	1.5206	15.00	12.67	ug/L	-15	30	0.0500	u
1,2,4-Trimethylbenzene	1.6761	1.5933	15.00	14.26	ug/L	-5	30	0.0500	u
sec-Butylbenzene	2.1341	2.4487	15.00	15.08	ug/L	1	30	0.0500	u
para-Isopropyl Toluene	1.5923	1.5926	15.00	13.35	ug/L	-11	30	0.0500	u
1,3-Dichlorobenzene	1.0228	1.0519	15.00	15.42	ug/L	3	30	0.0500	u
1,4-Dichlorobenzene	1.0370	1.0725	15.00	15.51	ug/L	3	30	0.0500	u
n-Butylbenzene	1.3193	1.3189	15.00	13.62	ug/L	-9	30	0.0500	u
1,2-Dichlorobenzene	0.9680	0.9521	15.00	14.75	ug/L	-2	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.0718	0.0584	15.00	12.19	ug/L	-19	30	0.0500	u
1,2,4-Trichlorobenzene	0.3477	0.3483	15.00	13.85	ug/L	-8	30	0.0500	u
Hexachlorobutadiene	0.2038	0.2140	15.00	15.75	ug/L	5	30	0.0500	u
Naphthalene	0.6138	0.4981	15.00	12.17	ug/L	-19	30	0.0500	u
1,2,3-Trichlorobenzene	0.3064	0.3005	15.00	13.30	ug/L	-11	30	0.0500	u
Dibromofluoromethane	0.6178	0.6000	50.00	48.57	ug/L	-3	30	0.0500	u
1,2-Dichloroethane-d4	0.3174	0.2757	50.00	43.43	ug/L	-13	30	0.0500	u
Toluene-d8	1.3123	1.3376	50.00	50.96	ug/L	2	30	0.0500	u
Bromofluorobenzene	1.0917	1.1119	50.00	50.92	ug/L	2	30	0.0500	u

ISTD (ICAL idf12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1812911	1928131	6.36	11.06	11.02	-0.04
1,4-Difluorobenzene	2965545	3139721	5.87	12.32	12.28	-0.04
Chlorobenzene-d5	2567765	2415550	-5.93	16.68	16.66	-0.02
1,4-Dichlorobenzene-d4	1237383	1093859	-11.60	19.13	19.11	-0.02

TEW 05/11/15 : ID changed in LIMS by NJT. [general version]

Analyst: DJA Date: 05/11/15 Reviewer: TEW Date: 05/11/15

!=warning -=low bias u=use v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 415179135

Date : 05/04/15 Reference : be124
Sequence : MSVOA02 be4 Analyzed : 05/01/15 23:26

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	682117	11.15	1254931	12.34	1177746	16.93	555108	20.32
		LOWER LIMIT	341059	10.65	627466	11.84	588873	16.43	277554	19.82
		UPPER LIMIT	1364234	11.65	2509862	12.84	2355492	17.43	1110216	20.82
003	CCV		815917	11.10	1497135	12.31	1412963	16.91	673704	20.31
004	CCV/BS	QC786073	805043	11.11	1437388	12.31	1431763	16.92	662372	20.31
005	BSD	QC786074	824494	11.10	1541495	12.32	1477315	16.91	677180	20.31
008	BLANK	QC786075	761294	11.11	1358339	12.32	1306082	16.91	603364	20.31
009	SAMPLE	266478-014	639864	11.11	1048314	12.32	1138365	16.91	551238	20.31
010	SAMPLE	266514-001	616073	11.11	1013844	12.32	1105785	16.91	534475	20.31
011	SAMPLE	266514-002	635224	11.11	1022899	12.32	1118273	16.91	535279	20.31
012	SAMPLE	266525-025	606378	11.10	1002379	12.32	1081296	16.91	523460	20.31
013	SAMPLE	266525-026	608178	11.11	1000870	12.31	1070064	16.92	521353	20.31
014	SAMPLE	266514-003	591316	11.11	959784	12.31	1032250	16.92	502942	20.31
015	SAMPLE	266514-004	597739	11.11	983399	12.31	1044369	16.92	497966	20.31
016	SAMPLE	266514-005	659101	11.11	1186722	12.31	1115571	16.92	524226	20.31
017	SAMPLE	266514-006	637826	11.10	1132598	12.32	1100434	16.91	516023	20.31
018	SAMPLE	266542-002	654465	11.11	1171248	12.31	1118809	16.92	521203	20.31
019	SAMPLE	266525-030	642735	11.11	1166059	12.31	1106414	16.92	516491	20.31
020	SAMPLE	266525-028	656999	11.11	1192461	12.31	1115378	16.92	520992	20.31
021	SAMPLE	266525-029	601271	11.10	1025083	12.31	1057662	16.92	507155	20.31
022	SAMPLE	266525-027	574621	11.11	972377	12.31	1021627	16.91	485885	20.31

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425182036

Date : 05/06/15 Reference : cdf26
Sequence : MSVOA03 ce6 Analyzed : 04/15/15 00:51

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	420665	10.41	704518	11.57	660609	15.64	318122	18.40
		LOWER LIMIT	210333	9.91	352259	11.07	330305	15.14	159061	17.90
		UPPER LIMIT	841330	10.91	1409036	12.07	1321218	16.14	636244	18.90
002	IB		99 *	10.35	0 *	0.00 *	0 *	0.00 *	0 *	0.00 *
008	IB		286 *	10.38	0 *	0.00 *	0 *	0.00 *	0 *	0.00 *
010	CCV	15PPB	405742	10.36	690305	11.53	594312	15.61	259690	18.37
011	CCV/BS	QC786880	406879	10.37	680685	11.53	636928	15.62	296632	18.37
012	BSD	QC786881	400349	10.37	683063	11.53	623978	15.61	305103	18.37
014	IB		402384	10.37	696327	11.54	647955	15.61	316327	18.37
015	BLANK	QC786882	410805	10.37	726320	11.54	649507	15.61	309362	18.37
016	SAMPLE	266514-002	405632	10.37	744789	11.54	672389	15.62	320249	18.37
017	SAMPLE	266581-004	427521	10.38	741834	11.54	683752	15.61	318568	18.37
018	SAMPLE	266557-004	418138	10.36	731213	11.52	650945	15.61	345219	18.37
019	SAMPLE	266588-001	426222	10.36	753339	11.52	663631	15.60	323560	18.37
020	SAMPLE	266588-002	369643	10.36	665184	11.53	590238	15.61	289618	18.36
021	SAMPLE	266588-003	402859	10.37	725330	11.53	653341	15.61	315995	18.36
022	SAMPLE	266588-004	431652	10.37	734499	11.54	680757	15.61	323217	18.37
023	SAMPLE	266588-005	410559	10.37	757604	11.53	681832	15.60	321518	18.37
024	SAMPLE	266588-006	429259	10.36	766567	11.52	698869	15.61	324504	18.36
025	SAMPLE	266585-001	448575	10.37	781061	11.53	701220	15.61	322667	18.37
026	SAMPLE	266581-001	448477	10.37	758075	11.52	706676	15.60	332276	18.37
027	SAMPLE	266581-002	448946	10.37	781499	11.52	696742	15.61	327889	18.37
028	SAMPLE	266581-003	435997	10.37	783107	11.53	714294	15.60	335537	18.37
029	SAMPLE	266557-003	451087	10.37	816789	11.53	738605	15.61	355162	18.37
030	SAMPLE	266514-001	451302	10.36	779033	11.53	699575	15.61	336038	18.37
031	SAMPLE	266525-027	458067	10.37	819005	11.53	754581	15.60	345998	18.37
032	IB		455394	10.37	800066	11.53	730919	15.60	343516	18.37
033	IB		451747	10.37	801688	11.53	704413	15.61	341881	18.37
034	IB		481210	10.37	817740	11.53	755999	15.61	349317	18.37

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 425188235

Date : 05/10/15 Reference : cdf26
Sequence : MSVOA03 cea Analyzed : 04/15/15 00:51

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	420665	10.41	704518	11.57	660609	15.64	318122	18.40
		LOWER LIMIT	210333	9.91	352259	11.07	330305	15.14	159061	17.90
		UPPER LIMIT	841330	10.91	1409036	12.07	1321218	16.14	636244	18.90
002	IB		444916	10.35	771703	11.51	710236	15.60	344644	18.35
004	CCV	15PPB	446843	10.36	777158	11.52	724487	15.59	339172	18.36
005	BS	QC787370	452958	10.36	789796	11.52	719369	15.59	331915	18.36
006	BSD	QC787371	433910	10.36	747441	11.51	689003	15.59	330223	18.36
008	IB		439090	10.36	781817	11.52	703954	15.59	333151	18.36
009	BLANK	QC787372	442337	10.35	774892	11.52	704679	15.59	332469	18.35
010	SAMPLE	266677-009	433462	10.35	768317	11.51	699406	15.59	331015	18.36
011	SAMPLE	266656-005	445235	10.34	782835	11.50	709705	15.59	336352	18.35
012	SAMPLE	266525-030	430608	10.35	770898	11.51	703651	15.59	335834	18.36
013	SAMPLE	266656-004	423643	10.34	726807	11.50	654967	15.59	313787	18.35
014	SAMPLE	266656-006	441786	10.35	780697	11.51	702552	15.60	329233	18.35
015	SAMPLE	266677-001	414535	10.34	712110	11.50	669401	15.59	325819	18.35
016	SAMPLE	266677-002	422733	10.35	725245	11.51	669824	15.60	319552	18.35
017	SAMPLE	266677-003	438349	10.34	760573	11.50	685597	15.59	327898	18.35
018	SAMPLE	266677-004	392866	10.33	700825	11.49	647416	15.59	312956	18.35
019	SAMPLE	266677-005	435489	10.33	759561	11.49	695695	15.58	327089	18.35
020	SAMPLE	266677-006	427830	10.34	751787	11.50	685701	15.58	328414	18.35
021	SAMPLE	266677-007	428939	10.34	766171	11.50	690915	15.58	330376	18.34
022	SAMPLE	266677-008	427117	10.34	735378	11.50	677699	15.58	331094	18.35
023	IB		438981	10.33	764363	11.49	695645	15.59	321642	18.35
024	IB		412326	10.33	743604	11.49	692248	15.59	328662	18.35

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 485186486

Date : 05/09/15 Reference : idf12
Sequence : MSVOA09 ie9 Analyzed : 04/15/15 19:36

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1812911	11.06	2965545	12.32	2567765	16.68	1237383	19.13
		LOWER LIMIT	906456	10.56	1482773	11.82	1283883	16.18	618692	18.63
		UPPER LIMIT	3625822	11.56	5931090	12.82	5135530	17.18	2474766	19.63
003	CCV/BS	QC787346	1599091	11.02	2707955	12.28	2217865	16.66	1020680	19.11
006	CCV/BS	QC787346	1563475	11.02	2599576	12.28	2114081	16.66	895626	19.11
008	CCV/LCS	QC787346	1928131	11.02	3139721	12.28	2415550	16.66	1093859	19.11
010	IB		1852007	11.04	3059302	12.31	2501508	16.67	1089606	19.12
011	BLANK	QC787348	1744302	11.05	2704681	12.31	2202340	16.68	997116	19.12
012	SAMPLE	266656-001	1680056	11.05	2701964	12.31	2082354	16.68	939512	19.13
013	SAMPLE	266656-002	1645716	11.05	2733312	12.31	2153894	16.68	935826	19.12
014	SAMPLE	266613-003	1628120	11.05	2719768	12.32	2240602	16.68	968850	19.12
015	SAMPLE	266613-004	1562691	11.05	2591798	12.31	2113382	16.69	890767	19.13
016	SAMPLE	266655-001	1611504	11.06	2671671	12.32	2089357	16.68	887676	19.12
017	SAMPLE	266655-002	1641954	11.06	2514765	12.32	2093711	16.69	933344	19.13
018	SAMPLE	266525-028	1529367	11.05	2621803	12.32	2133630	16.68	916514	19.13
019	SAMPLE	266525-030	1463720	11.05	2496514	12.32	2032897	16.68	883798	19.12
020	SAMPLE	266648-004	1544918	11.05	2496585	12.32	1939027	16.68	857353	19.12
021	SAMPLE	266648-005	1602509	11.06	2575918	12.32	2119731	16.68	866399	19.12
022	SAMPLE	266621-001	1563375	11.05	2618032	12.31	2058942	16.69	931632	19.13
023	SAMPLE	266664-001	1507590	11.05	2452372	12.31	1969635	16.68	848907	19.13
024	MSS	266656-003	1525883	11.06	2457944	12.32	1998940	16.68	885133	19.12
025	MS	QC787362	1559806	11.05	2510101	12.32	2064054	16.69	947647	19.13
026	MSD	QC787363	1771799	11.05	2767824	12.31	2243677	16.68	1032720	19.13
027	IB		1776351	11.06	2848447	12.32	2324424	16.68	1062897	19.12

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 415174609

Instrument : MSVOA02 Begun : 05/01/15 06:09
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	be101	X	IB			05/01/15 06:09	1.0	1	
002	be102	X	IB			05/01/15 06:44	1.0	1	
003	be103	X	LOW POINT			05/01/15 08:46	1.0	1	
004	be104	X	LOW POINT			05/01/15 09:21	1.0	1	
005	be105	CCV				05/01/15 11:55	1.0	2 3 4 5 1	?t cc+ cc- cs , 39:ETHANOL=230000
006	be106	X	IB			05/01/15 12:30	1.0	1	
007	be107	CCV				05/01/15 13:57	1.0	2 3 4 5 1	?t cc-
008	be108	CCV				05/01/15 14:34	1.0	2 3 4 5 1	?t cc-
009	be109	X	IB			05/01/15 15:10	1.0	1	
010	be110	X	LOW POINT			05/01/15 15:46	1.0	1	
011	be111	TUN	BFB			05/01/15 16:42	1.0	6	
012	be112	TUN	BFB			05/01/15 16:52	1.0	6	
013	be113	TUN	BFB			05/01/15 17:21	1.0	6	
014	be114	TUN	BFB			05/01/15 17:31	1.0	6	
015	be115	X	IB			05/01/15 18:07	1.0	1	
016	be116	X	IB			05/01/15 18:42	1.0	1	
017	be117	IB	CALIB			05/01/15 19:18	1.0	1	
018	be118	ICAL				05/01/15 19:53	1.0	7 8 9 5 1	
019	be119	ICAL				05/01/15 20:29	1.0	7 8 9 5 1	
020	be120	ICAL				05/01/15 21:05	1.0	7 8 9 5 1	
021	be121	ICAL				05/01/15 21:40	1.0	7 8 9 5 1	
022	be122	ICAL				05/01/15 22:15	1.0	7 8 9 5 1	
023	be123	ICAL				05/01/15 22:51	1.0	7 8 9 5 1	
024	be124	ICAL				05/01/15 23:26	1.0	7 8 9 5 1	
025	be125	ICAL				05/02/15 00:01	1.0	7 8 9 5 1	
026	be126	ICAL				05/02/15 00:36	1.0	7 8 9 5 1	
027	be127	ICV	GASES			05/02/15 01:11	1.0	10 1	
028	be128	ICV				05/02/15 01:46	1.0	11 12 13 1	
029	be129	X	IB			05/02/15 02:22	1.0	1	
030	be130	X	IB			05/02/15 02:57	1.0	1	
031	be131	X	IB			05/02/15 03:32	1.0	1	

DAR 05/04/15 : updated retention times

DAR 05/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Analyst: DAR Date: 05/04/15 Reviewer: LW Date: 05/04/15

Standards used: 1=S26909 2=S25695 3=S26948 4=S26838 5=S26957 6=S26000 7=S26360 8=S27172 9=S27151 10=S25696 11=S27177 12=S27022 13=S26759

Flags used: +=high bias -=low bias ?t=missing tune cc=CCV CCC failure cs=CCV SPCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 415179135

Instrument : MSVOA02 Begun : 05/04/15 09:35
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	be401	X	IB			05/04/15 09:35	1.0	1	
002	be402	TUN	BFB			05/04/15 12:35	1.0	2	
003	be403	CCV				05/04/15 13:04	1.0	3 4 5 6 1	
004	be404	CCV/BS	QC786073	Water	222721	05/04/15 13:39	1.0	7 8 9 10 1	
005	be405	BSD	QC786074	Water	222721	05/04/15 14:13	1.0	7 8 9 10 1	
006	be406	X	ICAL			05/04/15 14:48	1.0	11 1	
007	be407	X	IB			05/04/15 15:23	1.0	1	
008	be408	BLANK	QC786075	Water	222721	05/04/15 15:58	1.0	1	
009	be409	SAMPLE	266478-014	Water	222721	05/04/15 16:32	1.0	1	
010	be410	SAMPLE	266514-001	Water	222721	05/04/15 17:07	1.0	1	
011	be411	SAMPLE	266514-002	Water	222721	05/04/15 17:42	1.0	1	
012	be412	SAMPLE	266525-025	Water	222721	05/04/15 18:18	1.0	1	
013	be413	SAMPLE	266525-026	Water	222721	05/04/15 18:53	1.0	1	
014	be414	SAMPLE	266514-003	Water	222721	05/04/15 19:28	1.0	1	
015	be415	SAMPLE	266514-004	Water	222721	05/04/15 20:02	1.0	1	
016	be416	SAMPLE	266514-005	Water	222721	05/04/15 20:37	1.0	1	
017	be417	SAMPLE	266514-006	Water	222721	05/04/15 21:12	1.0	1	
018	be418	SAMPLE	266542-002	Water	222721	05/04/15 21:46	1.0	1	
019	be419	SAMPLE	266525-030	Water	222721	05/04/15 22:21	50.0	1	foamer
020	be420	SAMPLE	266525-028	Water	222721	05/04/15 22:56	200.0	1	foamer
021	be421	SAMPLE	266525-029	Water	222721	05/04/15 23:31	200.0	1	foamer
022	be422	SAMPLE	266525-027	Water	222721	05/05/15 00:07	500.0	1	
023	be423	X	IB			05/05/15 00:41	1.0	1	
024	be424	X	IB			05/05/15 01:16	1.0	1	
025	be425	X	IB			05/05/15 01:52	1.0	1	
026	be426	X	IB			05/05/15 02:26	1.0	1	

DAR 05/04/15 : corrected RTs and reprocessed

MCT 05/05/15 : Matrix spikes were not performed for this analysis in batch 222721 due to insufficient sample amount.

MCT 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/06/15

Standards used: 1=S26909 2=S27180 3=S25695 4=S26948 5=S26838 6=S26957 7=S27177 8=S27022 9=S27179 10=S26358 11=S27011

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425152069

Instrument : MSVOA03 Begun : 04/15/15 00:30
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
006	cdf06	TUN	BFB			04/15/15 14:29	1.0	1	t
007	cdf07	TUN	BFB			04/15/15 14:51	1.0	1	
008	cdf08	TUN	BFB			04/15/15 15:12	1.0	1	
009	cdf09	IB				04/15/15 15:34	1.0	2	
010	cdf10	X	LOWPT			04/15/15 15:55	1.0	2	
011	cdf11	IB				04/15/15 16:59	1.0	2	
012	cdf12	IB				04/15/15 17:42	1.0	2	
013	cdf13	TUN	BFB			04/15/15 18:04	1.0	1	t
014	cdf14	TUN	BFB			04/15/15 18:25	1.0	1	
015	cdf15	IB				04/15/15 19:08	1.0	2	
016	cdf16	IB				04/15/15 19:30	1.0	2	
017	cdf17	IB				04/15/15 20:12	1.0	2	
018	cdf18	IB				04/15/15 20:34	1.0	2	
019	cdf19	IB	CALIB			04/15/15 21:17	1.0	2	
020	cdf20	ICAL	.25/.5PPB			04/15/15 21:38	1.0	3 4 5 6 2	
021	cdf21	ICAL	.5/1PPB			04/15/15 22:21	1.0	2 3 4 5 6	
022	cdf22	ICAL	2PPB			04/15/15 22:43	1.0	3 4 5 6 2	
023	cdf23	ICAL	5PPB			04/15/15 23:26	1.0	2 3 4 5 6	
024	cdf24	ICAL	10PPB			04/15/15 23:47	1.0	2 3 4 5 6	
025	cdf25	ICAL	20PPB			04/15/15 00:30	1.0	2 3 4 5 6	
026	cdf26	ICAL	50PPB			04/15/15 00:51	1.0	2 3 4 5 6	
027	cdf27	ICAL	75PPB			04/16/15 01:34	1.0	2 3 4 5 6	
028	cdf28	ICAL	100PPB			04/16/15 01:56	1.0	2 3 4 5 6	
029	cdf29	ICV	GAS			04/16/15 02:39	1.0	7 2	
030	cdf30	ICV				04/16/15 03:00	1.0	8 9 10 2	
031	cdf31	IB				04/16/15 03:43	1.0	2	
032	cdf32	IB				04/16/15 04:04	1.0	2	

DAR 04/16/15 : adjusted tune after file 8

DAR 04/16/15 : started sequence at file 6 no files 1-5

DAR 04/16/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 32.

Analyst: DAR Date: 04/16/15 Reviewer: LW Date: 04/17/15

Standards used: 1=S26000 2=S26911 3=S25695 4=S26948 5=S26838 6=S25156 7=S24978 8=S26876 9=S27022 10=S26759

Flags used: t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425182036

Instrument : MSVOA03 Begun : 05/06/15 09:56
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ce601	X	HIGH GAS			05/06/15 09:56	1.0	1	
002	ce602	IB				05/06/15 10:17	1.0	1	?t , 13:ISOPROH=32000
003	ce603	TUN	BFB			05/06/15 11:00	1.0	2	
004	ce604	X	15PPB			05/06/15 11:21	1.0	3 4 5 6 1	cc+ , 79:THF=180000
005	ce605	X	QC786650	Water		05/06/15 12:04	1.0	7 8 9 10 1	spk cc+ , 16:XYLMP=520
006	ce606	X	QC786651	Water		05/06/15 12:26	1.0	7 8 9 10 1	spk cc+ , 45:ETHANOL=2400000
007	ce607	X	A/A CCV			05/06/15 13:09	1.0	1	
008	ce608	IB				05/06/15 13:30	1.0	1	5:ETHANOL=350000
009	ce609	TUN	BFB			05/06/15 14:35	1.0	2	
010	ce610	CCV	15PPB			05/06/15 14:56	1.0	3 4 5 6 1	
011	ce611	CCV/BS	QC786880	Water	222922	05/06/15 15:17	1.0	7 8 9 10 1	
012	ce612	BSD	QC786881	Water	222922	05/06/15 16:00	1.0	7 8 9 10 1	
013	ce613	X	A/A CCV			05/06/15 16:22	1.0	1	
014	ce614	IB				05/06/15 17:05	1.0	1	
015	ce615	BLANK	QC786882	Water	222922	05/06/15 17:48	1.0	1	
016	ce616	SAMPLE	266514-002	Water	222922	05/06/15 18:09	1.0	1	
017	ce617	SAMPLE	266581-004	Water	222922	05/06/15 18:52	1.0	1	
018	ce618	SAMPLE	266557-004	Water	222922	05/06/15 19:13	1.0	1	headspace > 1 mL
019	ce619	SAMPLE	266588-001	Water	222922	05/06/15 19:56	1.0	1	
020	ce620	SAMPLE	266588-002	Water	222922	05/06/15 20:18	1.0	1	
021	ce621	SAMPLE	266588-003	Water	222922	05/06/15 21:01	1.0	1	
022	ce622	SAMPLE	266588-004	Water	222922	05/06/15 21:22	1.0	1	
023	ce623	SAMPLE	266588-005	Water	222922	05/06/15 22:05	1.0	1	
024	ce624	SAMPLE	266588-006	Water	222922	05/06/15 22:26	1.0	1	
025	ce625	SAMPLE	266585-001	Water	222922	05/06/15 23:09	1.0	1	
026	ce626	SAMPLE	266581-001	Water	222922	05/06/15 23:31	1.0	1	
027	ce627	SAMPLE	266581-002	Water	222922	05/06/15 23:52	1.0	1	
028	ce628	SAMPLE	266581-003	Water	222922	05/07/15 00:35	1.0	1	
029	ce629	SAMPLE	266557-003	Water	222922	05/07/15 00:57	1.0	1	2:PCE=150
030	ce630	SAMPLE	266514-001	Water	222922	05/07/15 01:40	1.0	1	
031	ce631	SAMPLE	266525-027	Water	222922	05/07/15 02:01	20.0	1	
032	ce632	IB				05/07/15 02:44	1.0	1	<<t
033	ce633	IB				05/07/15 03:05	1.0	1	<<t
034	ce634	IB				05/07/15 03:48	1.0	1	<<t

DAR 05/06/15 : istd ran out for files 4-8

DAR 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

KKM 05/07/15 : Matrix spikes were not performed for this analysis in batch 222922 due to insufficient sample amount.

Analyst: DAR Date: 05/07/15 Reviewer: LW Date: 05/07/15

Standards used: 1=S26911 2=S27180 3=S26360 4=S27172 5=S27151 6=S26957 7=S27177 8=S27022 9=S27179 10=S26672

Flags used: +=high bias <<t=out of clock ?t=missing tune cc=CCV CCC failure spk=5% spike rule

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 425188235

Instrument : MSVOA03 Begun : 05/10/15 17:15
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	cea01	X	HIGH GAS			05/10/15 17:15	1.0	1	
002	cea02	IB				05/10/15 17:36	1.0	1	?t
003	cea03	TUN	BFB			05/10/15 17:58	1.0	2	
004	cea04	CCV	15PPB			05/10/15 19:02	1.0	3 4 5 6 1	
005	cea05	BS	QC787370	Water	223029	05/10/15 19:23	1.0	7 8 9 10 1	
006	cea06	BSD	QC787371	Water	223029	05/10/15 20:06	1.0	7 8 9 10 1	
007	cea07	X	A/A			05/10/15 20:28	1.0	1	
008	cea08	IB				05/10/15 21:11	1.0	1	
009	cea09	BLANK	QC787372	Water	223029	05/10/15 21:32	1.0	1	
010	cea10	SAMPLE	266677-009	Water	223029	05/10/15 22:15	1.0	1	
011	cea11	SAMPLE	266656-005	Water	223029	05/10/15 22:37	1.0	1	headspace <= 1 mL
012	cea12	SAMPLE	266525-030	Water	223029	05/10/15 23:19	4.0	1	foamer, headspace <= 1 mL
013	cea13	SAMPLE	266656-004	Water	223029	05/10/15 23:41	1.0	1	
014	cea14	SAMPLE	266656-006	Water	223029	05/11/15 00:24	1.0	1	
015	cea15	SAMPLE	266677-001	Water	223029	05/11/15 00:45	1.0	1	
016	cea16	SAMPLE	266677-002	Water	223029	05/11/15 01:28	1.0	1	
017	cea17	SAMPLE	266677-003	Water	223029	05/11/15 01:50	1.0	1	
018	cea18	SAMPLE	266677-004	Water	223029	05/11/15 02:32	1.0	1	
019	cea19	SAMPLE	266677-005	Water	223029	05/11/15 02:54	1.0	1	
020	cea20	SAMPLE	266677-006	Water	223029	05/11/15 03:15	1.0	1	
021	cea21	SAMPLE	266677-007	Water	223029	05/11/15 03:58	1.0	1	
022	cea22	SAMPLE	266677-008	Water	223029	05/11/15 04:20	1.0	1	
023	cea23	IB				05/11/15 05:03	1.0	1	
024	cea24	IB				05/11/15 05:24	1.0	1	
025	cea25	X	HG			05/11/15 06:07	1.0	1	

DAR 05/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

DAR 05/11/15 : Matrix spikes were not performed for this analysis in batch 223029 due to insufficient sample amount.

Analyst: DAR Date: 05/11/15 Reviewer: TEW Date: 05/11/15

Standards used: 1=S26911 2=S27180 3=S26360 4=S27172 5=S27151 6=S26957 7=S27177 8=S27022 9=S27179 10=S26673

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485152028

Instrument : MSVOA09 Begun : 04/15/15 13:48
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	idf01	TUN	BFB			04/15/15 13:48	1.0	1	
002	idf02	TUN	BFB			04/15/15 14:01	1.0	1	
003	idf03	X	IB			04/15/15 14:28	1.0	2	
004	idf04	X	IB			04/15/15 15:03	1.0	2	
005	idf05	IB	CALIB IB			04/15/15 15:37	1.0	2	
006	idf06	ICAL	.25/0.5PPB			04/15/15 16:11	1.0	3 4 5 6 2	
007	idf07	ICAL	.5/1PPB			04/15/15 16:45	1.0	3 4 5 6 2	
008	idf08	ICAL	2PPB			04/15/15 17:19	1.0	3 4 5 6 2	
009	idf09	ICAL	5PPB			04/15/15 17:53	1.0	3 4 5 6 2	
010	idf10	ICAL	10PPB			04/15/15 18:28	1.0	3 4 5 6 2	
011	idf11	ICAL	20PPB			04/15/15 19:02	1.0	3 4 5 6 2	
012	idf12	ICAL	50PPB			04/15/15 19:36	1.0	3 4 5 6 2	
013	idf13	ICAL	75PPB			04/15/15 20:10	1.0	3 4 5 6 2	
014	idf14	ICAL	100PPB			04/15/15 20:44	1.0	3 4 5 6 2	
015	idf15	ICV	GASES			04/15/15 21:18	1.0	7 2	
016	idf16	ICV	2CLEVE			04/15/15 21:52	1.0	8 2	
017	idf17	ICV				04/15/15 22:26	1.0	9 10 11 2	
018	idf18	X	IB			04/15/15 23:00	1.0	2	

NJT 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: NJT Date: 04/17/15 Reviewer: LW Date: 04/20/15

Standards used: 1=S26000 2=S26893 3=S25695 4=S26948 5=S26838 6=S26957 7=S26358 8=S17234 9=S26876 10=S27022 11=S26759

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 485186486

Instrument : MSVOA09 Begun : 05/09/15 12:06
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ie901	X	IB			05/09/15 12:06	1.0	1	
002	ie902	TUN	BFB			05/09/15 12:36	1.0	2	
003	ie903	CCV/BS	QC787346	Water	223020	05/09/15 13:02	1.0	3 4 5 6 1	cc+
004	ie904	TUN	BFB			05/09/15 14:45	1.0	2	t
005	ie905	TUN	BFB			05/09/15 14:55	1.0	2	
006	ie906	CCV/BS	QC787346	Water	223020	05/09/15 15:21	1.0	3 4 5 6 1	cc+
007	ie907	TUN	BFB			05/09/15 16:01	1.0	2	
008	ie908	CCV/LCS	QC787346	Water	223020	05/09/15 16:27	1.0	3 4 5 6 1	
009	ie909	X	IB			05/09/15 17:17	1.0	1	
010	ie910	IB				05/09/15 17:51	1.0	1	
011	ie911	BLANK	QC787348	Water	223020	05/09/15 18:25	1.0	1	
012	ie912	SAMPLE	266656-001	Water	223020	05/09/15 18:59	1.0	1	
013	ie913	SAMPLE	266656-002	Water	223020	05/09/15 19:33	1.0	1	
014	ie914	SAMPLE	266613-003	Water	223020	05/09/15 20:07	2.0	1	headspace <= 1 mL
015	ie915	SAMPLE	266613-004	Water	223020	05/09/15 20:41	2.0	1	headspace <= 1 mL
016	ie916	SAMPLE	266655-001	Water	223020	05/09/15 21:15	1.0	1	
017	ie917	SAMPLE	266655-002	Water	223020	05/09/15 21:49	1.0	1	
018	ie918	SAMPLE	266525-028	Water	223020	05/09/15 22:24	25.0	1	
019	ie919	SAMPLE	266525-030	Water	223020	05/09/15 22:58	4.0	1	foamer
020	ie920	SAMPLE	266648-004	Water	223020	05/09/15 23:32	2.500	1	headspace <= 1 mL, 1:PCE=310
021	ie921	SAMPLE	266648-005	Water	223020	05/10/15 00:06	2.500	1	headspace <= 1 mL
022	ie922	SAMPLE	266621-001	Water	223020	05/10/15 00:40	1.0	1	headspace <= 1 mL
023	ie923	SAMPLE	266664-001	Water	223020	05/10/15 01:14	1.0	1	headspace <= 1 mL
024	ie924	MSS	266656-003	Water	223020	05/10/15 01:48	1.0	1	
025	ie925	MS	QC787362	Water	223020	05/10/15 02:22	1.0	3 4 5 6 1	
026	ie926	MSD	QC787363	Water	223020	05/10/15 02:56	1.0	3 4 5 6 1	
027	ie927	IB				05/10/15 03:31	1.0	1	

KKM 05/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

KKM 05/11/15 : NJT adjusted TUN after files 3 and 6

Analyst: KKM Date: 05/11/15 Reviewer: TEW Date: 05/11/15

Standards used: 1=S27167 2=S27180 3=S26673 4=S27177 5=S27022 6=S27179

Flags used: +=high bias cc=CCV CCC failure t=tune failure

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): RM 5/4

For Undiluted samples, pH checked (initials/date): [illegible]

Batch #: 22272

Prep Date: 5/4

Instrument: 2

	Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
23	266476-14	B	✓					1	TB				
24 2	266514-1	A	✓					1	high surr in BSD TB				
3	2		✓					1	TB				
4	3		✓					1					
5	4		✓					1					
6	5		✓					1					
7	6		✓					1					
24 8	266525-25		✓					1	TB				
9	26		✓					1	RTB				
10	27	B	✓			4		500x					
11	28		✓			8		200x	4x for forms				
12	29		✓			9		200x					
13	30	↓	✓			10		50x	↓				
2 X 14	266542-2		✓					1x					
15													
16													
17													
18													
19													
20													
21													
22													

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): VM 5/6

For Undiluted samples, pH checked (initials/date): ~~JA 5/7/15~~

Batch #: ~~229858~~ 222922

Prep Date: ~~5/6~~

Instrument: ~~VF2~~ MS3

	Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
1	~~266521-1~~												
2	266557-~~4~~	A	✓		5m		1	1X	TB, C.O Orig via 1		5/11	5/8	
3	557-3	B	✓				1	2X	OD RAN at 1X VM 5/7		↓	↓	
4	~~557-1~~						1	33.3X	~~FORMER, NACH lot # CCV~~		5/15	5/7	
5	~~266556-8~~						1	3.3X	~~OD # Due 5/7~~			5/7	$
6	266514-1	B	✓				1	1X	C.O		5/15	5/13	
7	-2	B	✓				1	1X	C.O		↓	↓	
8	266525-~~27~~	C	✓			9	1	20X	OD. 27				
9	266588-1	A	✓						8260C				
10	2	↓	✓										
11	3		✓										
12	4		✓										
13	5		✓										
14	6	↓	✓										
15	266581-1	A	✓						DOD				
16	2	↓	✓										
17	3		✓										
18	4	↓	✓						TB				
19	266585-1	A	✓										
20													
21													
22													

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): KPM 5/11 for NJT 5/9

For Undiluted samples, pH checked (initials/date): [illegible] 5/11/15

Batch #: 223020

Prep Date: 5/9/15

Instrument: GC59

	Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
1	266525-28	C	✓			25	1	25x	OP; dilute more if foamy				
2	-30	↓	✓			07	1	4x	↓				
3	266613-3	B	✓		<1	08	1	2x	OP				
4	-4	L	✓		<1	04	1	↓	↓				
5	266648-4	C	✓		<1	09		2.5					
6	-5	B	✓		<1	10		↓					
7	266621-1	S	✓		1			1X					
8	266655-1	B	✓					1x					
9	-2	↓	✓					↓					
10	266644-1	B	✓		1			1x					
11	266656-1	A	✓					1x	TB				
12	-2	↓	✓					↓	TB				
13	-3	↓	✓					↓					
14	-3MS	CD	✓					↓					
15	-3MSD	↓	✓					↓					
16													
17													
18													
19													
20													
21													
22													

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): MM 5/10

For Undiluted samples, pH checked (initials/date): ~~JIA 5/11~~ (1)

Batch #: 223029

Prep Date: 5/10

Instrument: 3

	Sample ID	Vial	pH <2	pH if >2	HS? [ml]	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
1	266525-3	D	!		0.7 ml	6	2	4X	curve + flag foam on [ml] had stick				
2	266677-1	A	✓										
3	2		✓										
4	3		✓										
5	4		✓										
6	5		✓										
7	6		✓										
8	7		✓										
9	8		✓										
10	9		✓						+13				
11	266656-4	B	✓										
12	5	A	✓	✓	[ml]				1 VOA				
13	6	B	✓										
14													
15													
16													
17													
18													
19													
20													
21													
22													

Laboratory Job Number 266525

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Soil

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(2)	Dil'n Fac:	0.9416
Lab ID:	266525-010	Batch#:	222827
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/04/15

Moisture: 7%

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.1
Acetone	ND	20
Freon 113	ND	5.1
1,1-Dichloroethene	ND	5.1
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.1
MTBE	ND	5.1
trans-1,2-Dichloroethene	ND	5.1
Vinyl Acetate	ND	51
1,1-Dichloroethane	ND	5.1
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.1
2,2-Dichloropropane	ND	5.1
Chloroform	ND	5.1
Bromochloromethane	ND	5.1
1,1,1-Trichloroethane	ND	5.1
1,1-Dichloropropene	ND	5.1
Carbon Tetrachloride	ND	5.1
1,2-Dichloroethane	ND	5.1
Benzene	ND	5.1
Trichloroethene	ND	5.1
1,2-Dichloropropane	ND	5.1
Bromodichloromethane	ND	5.1
Dibromomethane	ND	5.1
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.1
Toluene	ND	5.1
trans-1,3-Dichloropropene	ND	5.1
1,1,2-Trichloroethane	ND	5.1
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.1
Tetrachloroethene	ND	5.1
Dibromochloromethane	ND	5.1
1,2-Dibromoethane	ND	5.1
Chlorobenzene	ND	5.1
1,1,1,2-Tetrachloroethane	ND	5.1
Ethylbenzene	ND	5.1
m,p-Xylenes	ND	5.1
o-Xylene	ND	5.1
Styrene	ND	5.1
Bromoform	ND	5.1
Isopropylbenzene	ND	5.1
1,1,2,2-Tetrachloroethane	ND	5.1
1,2,3-Trichloropropane	ND	5.1
Propylbenzene	ND	5.1
Bromobenzene	ND	5.1
1,3,5-Trimethylbenzene	ND	5.1

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(2)	Dil'n Fac:	0.9416
Lab ID:	266525-010	Batch#:	222827
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/04/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.1
4-Chlorotoluene	ND	5.1
tert-Butylbenzene	ND	5.1
1,2,4-Trimethylbenzene	ND	5.1
sec-Butylbenzene	ND	5.1
para-Isopropyl Toluene	ND	5.1
1,3-Dichlorobenzene	ND	5.1
1,4-Dichlorobenzene	ND	5.1
n-Butylbenzene	ND	5.1
1,2-Dichlorobenzene	ND	5.1
1,2-Dibromo-3-Chloropropane	ND	5.1
1,2,4-Trichlorobenzene	ND	5.1
Hexachlorobutadiene	ND	5.1
Naphthalene	ND	5.1
1,2,3-Trichlorobenzene	ND	5.1

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	112	80-138
Toluene-d8	93	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(4.5)	Diln Fac:	0.9901
Lab ID:	266525-011	Batch#:	222980
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/08/15

Moisture: 6%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.3
Acetone	ND	21
Freon 113	ND	5.3
1,1-Dichloroethene	ND	5.3
Methylene Chloride	ND	21
Carbon Disulfide	ND	5.3
MTBE	ND	5.3
trans-1,2-Dichloroethene	ND	5.3
Vinyl Acetate	ND	53
1,1-Dichloroethane	ND	5.3
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.3
2,2-Dichloropropane	ND	5.3
Chloroform	ND	5.3
Bromochloromethane	ND	5.3
1,1,1-Trichloroethane	ND	5.3
1,1-Dichloropropene	ND	5.3
Carbon Tetrachloride	ND	5.3
1,2-Dichloroethane	ND	5.3
Benzene	ND	5.3
Trichloroethene	ND	5.3
1,2-Dichloropropane	ND	5.3
Bromodichloromethane	ND	5.3
Dibromomethane	ND	5.3
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.3
Toluene	ND	5.3
trans-1,3-Dichloropropene	ND	5.3
1,1,2-Trichloroethane	ND	5.3
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.3
Tetrachloroethene	ND	5.3
Dibromochloromethane	ND	5.3
1,2-Dibromoethane	ND	5.3
Chlorobenzene	ND	5.3
1,1,1,2-Tetrachloroethane	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3
Styrene	ND	5.3
Bromoform	ND	5.3
Isopropylbenzene	ND	5.3
1,1,2,2-Tetrachloroethane	ND	5.3
1,2,3-Trichloropropane	ND	5.3
Propylbenzene	ND	5.3
Bromobenzene	ND	5.3
1,3,5-Trimethylbenzene	ND	5.3

ND= Not Detected
RL= Reporting Limit

91.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(4.5)	Dil'n Fac:	0.9901
Lab ID:	266525-011	Batch#:	222980
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/08/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.3
4-Chlorotoluene	ND	5.3
tert-Butylbenzene	ND	5.3
1,2,4-Trimethylbenzene	ND	5.3
sec-Butylbenzene	ND	5.3
para-Isopropyl Toluene	ND	5.3
1,3-Dichlorobenzene	ND	5.3
1,4-Dichlorobenzene	ND	5.3
n-Butylbenzene	ND	5.3
1,2-Dichlorobenzene	ND	5.3
1,2-Dibromo-3-Chloropropane	ND	5.3
1,2,4-Trichlorobenzene	ND	5.3
Hexachlorobutadiene	ND	5.3
Naphthalene	ND	5.3
1,2,3-Trichlorobenzene	ND	5.3

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	122	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(8.4)	Dil'n Fac:	0.7052
Lab ID:	266525-012	Batch#:	223022
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/09/15

Moisture: 19%

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.4
Acetone	37	17
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4

ND= Not Detected
RL= Reporting Limit

92.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-1(8.4)	Dil'n Fac:	0.7052
Lab ID:	266525-012	Batch#:	223022
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/09/15

Analyte	Result	RL
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	117	78-134
1,2-Dichloroethane-d4	102	80-138
Toluene-d8	89	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(2)	Dil'n Fac:	46.55
Lab ID:	266525-013	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/06/15

Moisture: 7%

Analyte	Result	RL
Freon 12	ND	500
Chloromethane	ND	500
Vinyl Chloride	ND	500
Bromomethane	ND	500
Chloroethane	ND	500
Trichlorofluoromethane	ND	250
Acetone	ND	1,000
Freon 113	ND	250
1,1-Dichloroethene	ND	250
Methylene Chloride	ND	1,000
Carbon Disulfide	ND	250
MTBE	ND	250
trans-1,2-Dichloroethene	ND	250
Vinyl Acetate	ND	2,500
1,1-Dichloroethane	ND	250
2-Butanone	ND	500
cis-1,2-Dichloroethene	ND	250
2,2-Dichloropropane	ND	250
Chloroform	ND	250
Bromochloromethane	ND	250
1,1,1-Trichloroethane	ND	250
1,1-Dichloropropene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Trichloroethene	ND	250
1,2-Dichloropropane	ND	250
Bromodichloromethane	ND	250
Dibromomethane	ND	250
4-Methyl-2-Pentanone	ND	500
cis-1,3-Dichloropropene	ND	250
Toluene	ND	250
trans-1,3-Dichloropropene	ND	250
1,1,2-Trichloroethane	ND	250
2-Hexanone	ND	500
1,3-Dichloropropane	ND	250
Tetrachloroethene	ND	250
Dibromochloromethane	ND	250
1,2-Dibromoethane	ND	250
Chlorobenzene	2,200	250
1,1,1,2-Tetrachloroethane	ND	250
Ethylbenzene	ND	250
m,p-Xylenes	ND	250
o-Xylene	ND	250
Styrene	ND	250
Bromoform	ND	250
Isopropylbenzene	ND	250
1,1,2,2-Tetrachloroethane	ND	250
1,2,3-Trichloropropane	ND	250
Propylbenzene	ND	250
Bromobenzene	ND	250
1,3,5-Trimethylbenzene	ND	250

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(2)	Dil'n Fac:	46.55
Lab ID:	266525-013	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/06/15

Analyte	Result	RL
2-Chlorotoluene	ND	250
4-Chlorotoluene	ND	250
tert-Butylbenzene	ND	250
1,2,4-Trimethylbenzene	ND	250
sec-Butylbenzene	ND	250
para-Isopropyl Toluene	ND	250
1,3-Dichlorobenzene	ND	250
1,4-Dichlorobenzene	ND	250
n-Butylbenzene	ND	250
1,2-Dichlorobenzene	ND	250
1,2-Dibromo-3-Chloropropane	ND	250
1,2,4-Trichlorobenzene	8,100	250
Hexachlorobutadiene	ND	250
Naphthalene	ND	250
1,2,3-Trichlorobenzene	1,500	250

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-134
1,2-Dichloroethane-d4	92	80-138
Toluene-d8	93	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(4.5)	Basis:	dry
Lab ID:	266525-014	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg		

Moisture: 3%

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	11	1.033	222827	05/04/15
Chloromethane	ND	11	1.033	222827	05/04/15
Vinyl Chloride	ND	11	1.033	222827	05/04/15
Bromomethane	ND	11	1.033	222827	05/04/15
Chloroethane	ND	11	1.033	222827	05/04/15
Trichlorofluoromethane	ND	5.3	1.033	222827	05/04/15
Acetone	ND	21	1.033	222827	05/04/15
Freon 113	ND	5.3	1.033	222827	05/04/15
1,1-Dichloroethene	ND	5.3	1.033	222827	05/04/15
Methylene Chloride	ND	21	1.033	222827	05/04/15
Carbon Disulfide	ND	5.3	1.033	222827	05/04/15
MTBE	ND	5.3	1.033	222827	05/04/15
trans-1,2-Dichloroethene	ND	5.3	1.033	222827	05/04/15
Vinyl Acetate	ND	53	1.033	222827	05/04/15
1,1-Dichloroethane	ND	5.3	1.033	222827	05/04/15
2-Butanone	ND	11	1.033	222827	05/04/15
cis-1,2-Dichloroethene	ND	5.3	1.033	222827	05/04/15
2,2-Dichloropropane	ND	5.3	1.033	222827	05/04/15
Chloroform	ND	5.3	1.033	222827	05/04/15
Bromochloromethane	ND	5.3	1.033	222827	05/04/15
1,1,1-Trichloroethane	ND	5.3	1.033	222827	05/04/15
1,1-Dichloropropene	ND	5.3	1.033	222827	05/04/15
Carbon Tetrachloride	ND	5.3	1.033	222827	05/04/15
1,2-Dichloroethane	ND	5.3	1.033	222827	05/04/15
Benzene	ND	5.3	1.033	222827	05/04/15
Trichloroethene	ND	5.3	1.033	222827	05/04/15
1,2-Dichloropropane	ND	5.3	1.033	222827	05/04/15
Bromodichloromethane	ND	5.3	1.033	222827	05/04/15
Dibromomethane	ND	5.3	1.033	222827	05/04/15
4-Methyl-2-Pentanone	ND	11	1.033	222827	05/04/15
cis-1,3-Dichloropropene	ND	5.3	1.033	222827	05/04/15
Toluene	ND	5.3	1.033	222827	05/04/15
trans-1,3-Dichloropropene	ND	5.3	1.033	222827	05/04/15
1,1,2-Trichloroethane	ND	5.3	1.033	222827	05/04/15
2-Hexanone	ND	11	1.033	222827	05/04/15
1,3-Dichloropropane	ND	5.3	1.033	222827	05/04/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(4.5)	Basis:	dry
Lab ID:	266525-014	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Tetrachloroethene	ND	5.3	1.033	222827	05/04/15
Dibromochloromethane	ND	5.3	1.033	222827	05/04/15
1,2-Dibromoethane	ND	5.3	1.033	222827	05/04/15
Chlorobenzene	110	5.3	1.033	222827	05/04/15
1,1,1,2-Tetrachloroethane	ND	5.3	1.033	222827	05/04/15
Ethylbenzene	ND	5.3	1.033	222827	05/04/15
m,p-Xylenes	ND	5.3	1.033	222827	05/04/15
o-Xylene	ND	5.3	1.033	222827	05/04/15
Styrene	ND	5.3	1.033	222827	05/04/15
Bromoform	ND	5.3	1.033	222827	05/04/15
Isopropylbenzene	ND	5.3	1.033	222827	05/04/15
1,1,2,2-Tetrachloroethane	ND	5.3	1.033	222827	05/04/15
1,2,3-Trichloropropane	ND	5.3	1.033	222827	05/04/15
Propylbenzene	ND	5.3	1.033	222827	05/04/15
Bromobenzene	ND	5.3	1.033	222827	05/04/15
1,3,5-Trimethylbenzene	ND	5.3	1.033	222827	05/04/15
2-Chlorotoluene	ND	5.3	1.033	222827	05/04/15
4-Chlorotoluene	ND	5.3	1.033	222827	05/04/15
tert-Butylbenzene	ND	5.3	1.033	222827	05/04/15
1,2,4-Trimethylbenzene	ND	5.3	1.033	222827	05/04/15
sec-Butylbenzene	ND	5.3	1.033	222827	05/04/15
para-Isopropyl Toluene	ND	5.3	1.033	222827	05/04/15
1,3-Dichlorobenzene	77	5.3	1.033	222827	05/04/15
1,4-Dichlorobenzene	200	5.3	1.033	222827	05/04/15
n-Butylbenzene	ND	5.3	1.033	222827	05/04/15
1,2-Dichlorobenzene	32	5.3	1.033	222827	05/04/15
1,2-Dibromo-3-Chloropropane	ND	5.3	1.033	222827	05/04/15
1,2,4-Trichlorobenzene	4,000	270	52.00	222910	05/06/15
Hexachlorobutadiene	ND	5.3	1.033	222827	05/04/15
Naphthalene	ND	5.3	1.033	222827	05/04/15
1,2,3-Trichlorobenzene	130	5.3	1.033	222827	05/04/15

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	111	78-134	1.033	222827	05/04/15
1,2-Dichloroethane-d4	109	80-138	1.033	222827	05/04/15
Toluene-d8	94	80-120	1.033	222827	05/04/15
Bromofluorobenzene	91	78-123	1.033	222827	05/04/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(7)	Dil'n Fac:	702.0
Lab ID:	266525-015	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/07/15

Moisture: 16%

Analyte	Result	RL
Freon 12	ND	8,400
Chloromethane	ND	8,400
Vinyl Chloride	ND	8,400
Bromomethane	ND	8,400
Chloroethane	ND	8,400
Trichlorofluoromethane	ND	4,200
Acetone	ND	17,000
Freon 113	ND	4,200
1,1-Dichloroethene	ND	4,200
Methylene Chloride	ND	17,000
Carbon Disulfide	ND	4,200
MTBE	ND	4,200
trans-1,2-Dichloroethene	ND	4,200
Vinyl Acetate	ND	42,000
1,1-Dichloroethane	ND	4,200
2-Butanone	ND	8,400
cis-1,2-Dichloroethene	ND	4,200
2,2-Dichloropropane	ND	4,200
Chloroform	ND	4,200
Bromochloromethane	ND	4,200
1,1,1-Trichloroethane	ND	4,200
1,1-Dichloropropene	ND	4,200
Carbon Tetrachloride	ND	4,200
1,2-Dichloroethane	ND	4,200
Benzene	ND	4,200
Trichloroethene	ND	4,200
1,2-Dichloropropane	ND	4,200
Bromodichloromethane	ND	4,200
Dibromomethane	ND	4,200
4-Methyl-2-Pentanone	ND	8,400
cis-1,3-Dichloropropene	ND	4,200
Toluene	ND	4,200
trans-1,3-Dichloropropene	ND	4,200
1,1,2-Trichloroethane	ND	4,200
2-Hexanone	ND	8,400
1,3-Dichloropropane	ND	4,200
Tetrachloroethene	ND	4,200
Dibromochloromethane	ND	4,200
1,2-Dibromoethane	ND	4,200
Chlorobenzene	100,000	4,200
1,1,1,2-Tetrachloroethane	ND	4,200
Ethylbenzene	ND	4,200
m,p-Xylenes	ND	4,200
o-Xylene	ND	4,200
Styrene	ND	4,200
Bromoform	ND	4,200
Isopropylbenzene	ND	4,200
1,1,2,2-Tetrachloroethane	ND	4,200
1,2,3-Trichloropropane	ND	4,200
Propylbenzene	ND	4,200
Bromobenzene	ND	4,200
1,3,5-Trimethylbenzene	ND	4,200

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-4(7)	Dil'n Fac:	702.0
Lab ID:	266525-015	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/07/15

Analyte	Result	RL
2-Chlorotoluene	ND	4,200
4-Chlorotoluene	ND	4,200
tert-Butylbenzene	ND	4,200
1,2,4-Trimethylbenzene	ND	4,200
sec-Butylbenzene	ND	4,200
para-Isopropyl Toluene	ND	4,200
1,3-Dichlorobenzene	98,000	4,200
1,4-Dichlorobenzene	130,000	4,200
n-Butylbenzene	ND	4,200
1,2-Dichlorobenzene	ND	4,200
1,2-Dibromo-3-Chloropropane	ND	4,200
1,2,4-Trichlorobenzene	120,000	4,200
Hexachlorobutadiene	ND	4,200
Naphthalene	ND	4,200
1,2,3-Trichlorobenzene	11,000	4,200

Surrogate	%REC	Limits
Dibromofluoromethane	98	78-134
1,2-Dichloroethane-d4	94	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	94	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(2)	Dil'n Fac:	1.027
Lab ID:	266525-016	Batch#:	222861
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/05/15

Moisture: 5%

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.4
Acetone	ND	22
Freon 113	ND	5.4
1,1-Dichloroethene	ND	5.4
Methylene Chloride	ND	22
Carbon Disulfide	ND	5.4
MTBE	ND	5.4
trans-1,2-Dichloroethene	ND	5.4
Vinyl Acetate	ND	54
1,1-Dichloroethane	ND	5.4
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.4
2,2-Dichloropropane	ND	5.4
Chloroform	ND	5.4
Bromochloromethane	ND	5.4
1,1,1-Trichloroethane	ND	5.4
1,1-Dichloropropene	ND	5.4
Carbon Tetrachloride	ND	5.4
1,2-Dichloroethane	ND	5.4
Benzene	ND	5.4
Trichloroethene	ND	5.4
1,2-Dichloropropane	ND	5.4
Bromodichloromethane	ND	5.4
Dibromomethane	ND	5.4
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.4
Toluene	ND	5.4
trans-1,3-Dichloropropene	ND	5.4
1,1,2-Trichloroethane	ND	5.4
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.4
Tetrachloroethene	ND	5.4
Dibromochloromethane	ND	5.4
1,2-Dibromoethane	ND	5.4
Chlorobenzene	29	5.4
1,1,1,2-Tetrachloroethane	ND	5.4
Ethylbenzene	ND	5.4
m,p-Xylenes	ND	5.4
o-Xylene	ND	5.4
Styrene	ND	5.4
Bromoform	ND	5.4
Isopropylbenzene	ND	5.4
1,1,2,2-Tetrachloroethane	ND	5.4
1,2,3-Trichloropropane	ND	5.4
Propylbenzene	ND	5.4
Bromobenzene	ND	5.4
1,3,5-Trimethylbenzene	ND	5.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(2)	Dil'n Fac:	1.027
Lab ID:	266525-016	Batch#:	222861
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/05/15

Analyte	Result	RL
2-Chlorotoluene	ND	5.4
4-Chlorotoluene	ND	5.4
tert-Butylbenzene	ND	5.4
1,2,4-Trimethylbenzene	ND	5.4
sec-Butylbenzene	ND	5.4
para-Isopropyl Toluene	ND	5.4
1,3-Dichlorobenzene	ND	5.4
1,4-Dichlorobenzene	ND	5.4
n-Butylbenzene	ND	5.4
1,2-Dichlorobenzene	ND	5.4
1,2-Dibromo-3-Chloropropane	ND	5.4
1,2,4-Trichlorobenzene	8.8	5.4
Hexachlorobutadiene	ND	5.4
Naphthalene	ND	5.4
1,2,3-Trichlorobenzene	ND	5.4

Surrogate	%REC	Limits
Dibromofluoromethane	90	78-134
1,2-Dichloroethane-d4	92	80-138
Toluene-d8	111	80-120
Bromofluorobenzene	115	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(5)	Basis:	dry
Lab ID:	266525-017	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/07/15

Moisture: 8%

Analyte	Result	RL	Diln Fac	Batch#
Freon 12	ND	9,800	898.0	222910
Chloromethane	ND	9,800	898.0	222910
Vinyl Chloride	ND	9,800	898.0	222910
Bromomethane	ND	9,800	898.0	222910
Chloroethane	ND	9,800	898.0	222910
Trichlorofluoromethane	ND	4,900	898.0	222910
Acetone	ND	20,000	898.0	222910
Freon 113	ND	4,900	898.0	222910
1,1-Dichloroethene	ND	4,900	898.0	222910
Methylene Chloride	ND	20,000	898.0	222910
Carbon Disulfide	ND	4,900	898.0	222910
MTBE	ND	4,900	898.0	222910
trans-1,2-Dichloroethene	ND	4,900	898.0	222910
Vinyl Acetate	ND	49,000	898.0	222910
1,1-Dichloroethane	ND	4,900	898.0	222910
2-Butanone	ND	9,800	898.0	222910
cis-1,2-Dichloroethene	ND	4,900	898.0	222910
2,2-Dichloropropane	ND	4,900	898.0	222910
Chloroform	ND	4,900	898.0	222910
Bromochloromethane	ND	4,900	898.0	222910
1,1,1-Trichloroethane	ND	4,900	898.0	222910
1,1-Dichloropropene	ND	4,900	898.0	222910
Carbon Tetrachloride	ND	4,900	898.0	222910
1,2-Dichloroethane	ND	4,900	898.0	222910
Benzene	ND	4,900	898.0	222910
Trichloroethene	ND	4,900	898.0	222910
1,2-Dichloropropane	ND	4,900	898.0	222910
Bromodichloromethane	ND	4,900	898.0	222910
Dibromomethane	ND	4,900	898.0	222910
4-Methyl-2-Pentanone	ND	9,800	898.0	222910
cis-1,3-Dichloropropene	ND	4,900	898.0	222910
Toluene	ND	4,900	898.0	222910
trans-1,3-Dichloropropene	ND	4,900	898.0	222910
1,1,2-Trichloroethane	ND	4,900	898.0	222910
2-Hexanone	ND	9,800	898.0	222910
1,3-Dichloropropane	ND	4,900	898.0	222910

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(5)	Basis:	dry
Lab ID:	266525-017	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/07/15

Analyte	Result	RL	Diln Fac	Batch#
Tetrachloroethene	ND	4,900	898.0	222910
Dibromochloromethane	ND	4,900	898.0	222910
1,2-Dibromoethane	ND	4,900	898.0	222910
Chlorobenzene	55,000	4,900	898.0	222910
1,1,1,2-Tetrachloroethane	ND	4,900	898.0	222910
Ethylbenzene	ND	4,900	898.0	222910
m,p-Xylenes	ND	4,900	898.0	222910
o-Xylene	ND	4,900	898.0	222910
Styrene	ND	4,900	898.0	222910
Bromoform	ND	4,900	898.0	222910
Isopropylbenzene	ND	4,900	898.0	222910
1,1,2,2-Tetrachloroethane	ND	4,900	898.0	222910
1,2,3-Trichloropropane	ND	4,900	898.0	222910
Propylbenzene	ND	4,900	898.0	222910
Bromobenzene	ND	4,900	898.0	222910
1,3,5-Trimethylbenzene	ND	4,900	898.0	222910
2-Chlorotoluene	ND	4,900	898.0	222910
4-Chlorotoluene	ND	4,900	898.0	222910
tert-Butylbenzene	ND	4,900	898.0	222910
1,2,4-Trimethylbenzene	ND	4,900	898.0	222910
sec-Butylbenzene	ND	4,900	898.0	222910
para-Isopropyl Toluene	ND	4,900	898.0	222910
1,3-Dichlorobenzene	ND	4,900	898.0	222910
1,4-Dichlorobenzene	57,000	4,900	898.0	222910
n-Butylbenzene	ND	4,900	898.0	222910
1,2-Dichlorobenzene	62,000	4,900	898.0	222910
1,2-Dibromo-3-Chloropropane	ND	4,900	898.0	222910
1,2,4-Trichlorobenzene	7,200,000	240,000	44,880	222948
Hexachlorobutadiene	ND	4,900	898.0	222910
Naphthalene	ND	4,900	898.0	222910
1,2,3-Trichlorobenzene	1,300,000	240,000	44,880	222948

Surrogate	%REC	Limits	Diln Fac	Batch#
Dibromofluoromethane	115	78-134	898.0	222910
1,2-Dichloroethane-d4	97	80-138	898.0	222910
Toluene-d8	94	80-120	898.0	222910
Bromofluorobenzene	97	78-123	898.0	222910

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(8)	Basis:	dry
Lab ID:	266525-018	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/07/15

Moisture: 13%

Analyte	Result	RL	Diln Fac	Batch#
Freon 12	ND	7,800	682.0	222910
Chloromethane	ND	7,800	682.0	222910
Vinyl Chloride	ND	7,800	682.0	222910
Bromomethane	ND	7,800	682.0	222910
Chloroethane	ND	7,800	682.0	222910
Trichlorofluoromethane	ND	3,900	682.0	222910
Acetone	ND	16,000	682.0	222910
Freon 113	ND	3,900	682.0	222910
1,1-Dichloroethene	ND	3,900	682.0	222910
Methylene Chloride	ND	16,000	682.0	222910
Carbon Disulfide	ND	3,900	682.0	222910
MTBE	ND	3,900	682.0	222910
trans-1,2-Dichloroethene	ND	3,900	682.0	222910
Vinyl Acetate	ND	39,000	682.0	222910
1,1-Dichloroethane	ND	3,900	682.0	222910
2-Butanone	ND	7,800	682.0	222910
cis-1,2-Dichloroethene	ND	3,900	682.0	222910
2,2-Dichloropropane	ND	3,900	682.0	222910
Chloroform	ND	3,900	682.0	222910
Bromochloromethane	ND	3,900	682.0	222910
1,1,1-Trichloroethane	ND	3,900	682.0	222910
1,1-Dichloropropene	ND	3,900	682.0	222910
Carbon Tetrachloride	ND	3,900	682.0	222910
1,2-Dichloroethane	ND	3,900	682.0	222910
Benzene	ND	3,900	682.0	222910
Trichloroethene	ND	3,900	682.0	222910
1,2-Dichloropropane	ND	3,900	682.0	222910
Bromodichloromethane	ND	3,900	682.0	222910
Dibromomethane	ND	3,900	682.0	222910
4-Methyl-2-Pentanone	ND	7,800	682.0	222910
cis-1,3-Dichloropropene	ND	3,900	682.0	222910
Toluene	ND	3,900	682.0	222910
trans-1,3-Dichloropropene	ND	3,900	682.0	222910
1,1,2-Trichloroethane	ND	3,900	682.0	222910
2-Hexanone	ND	7,800	682.0	222910
1,3-Dichloropropane	ND	3,900	682.0	222910

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-3(8)	Basis:	dry
Lab ID:	266525-018	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/07/15

Analyte	Result	RL	Diln Fac	Batch#
Tetrachloroethene	ND	3,900	682.0	222910
Dibromochloromethane	ND	3,900	682.0	222910
1,2-Dibromoethane	ND	3,900	682.0	222910
Chlorobenzene	97,000	3,900	682.0	222910
1,1,1,2-Tetrachloroethane	ND	3,900	682.0	222910
Ethylbenzene	ND	3,900	682.0	222910
m,p-Xylenes	ND	3,900	682.0	222910
o-Xylene	ND	3,900	682.0	222910
Styrene	ND	3,900	682.0	222910
Bromoform	ND	3,900	682.0	222910
Isopropylbenzene	ND	3,900	682.0	222910
1,1,2,2-Tetrachloroethane	ND	3,900	682.0	222910
1,2,3-Trichloropropane	ND	3,900	682.0	222910
Propylbenzene	ND	3,900	682.0	222910
Bromobenzene	ND	3,900	682.0	222910
1,3,5-Trimethylbenzene	ND	3,900	682.0	222910
2-Chlorotoluene	ND	3,900	682.0	222910
4-Chlorotoluene	ND	3,900	682.0	222910
tert-Butylbenzene	ND	3,900	682.0	222910
1,2,4-Trimethylbenzene	ND	3,900	682.0	222910
sec-Butylbenzene	ND	3,900	682.0	222910
para-Isopropyl Toluene	ND	3,900	682.0	222910
1,3-Dichlorobenzene	240,000	78,000	13,640	222948
1,4-Dichlorobenzene	650,000	78,000	13,640	222948
n-Butylbenzene	ND	3,900	682.0	222910
1,2-Dichlorobenzene	26,000	3,900	682.0	222910
1,2-Dibromo-3-Chloropropane	ND	3,900	682.0	222910
1,2,4-Trichlorobenzene	1,100,000	78,000	13,640	222948
Hexachlorobutadiene	ND	3,900	682.0	222910
Naphthalene	ND	3,900	682.0	222910
1,2,3-Trichlorobenzene	210,000	78,000	13,640	222948

Surrogate	%REC	Limits	Diln Fac	Batch#
Dibromofluoromethane	95	78-134	682.0	222910
1,2-Dichloroethane-d4	97	80-138	682.0	222910
Toluene-d8	95	80-120	682.0	222910
Bromofluorobenzene	96	78-123	682.0	222910

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(2)	Dil'n Fac:	45.70
Lab ID:	266525-019	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/06/15

Moisture: 7%

Analyte	Result	RL
Freon 12	ND	490
Chloromethane	ND	490
Vinyl Chloride	ND	490
Bromomethane	ND	490
Chloroethane	ND	490
Trichlorofluoromethane	ND	250
Acetone	ND	980
Freon 113	ND	250
1,1-Dichloroethene	ND	250
Methylene Chloride	ND	980
Carbon Disulfide	ND	250
MTBE	ND	250
trans-1,2-Dichloroethene	ND	250
Vinyl Acetate	ND	2,500
1,1-Dichloroethane	ND	250
2-Butanone	ND	490
cis-1,2-Dichloroethene	ND	250
2,2-Dichloropropane	ND	250
Chloroform	ND	250
Bromochloromethane	ND	250
1,1,1-Trichloroethane	ND	250
1,1-Dichloropropene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Trichloroethene	ND	250
1,2-Dichloropropane	ND	250
Bromodichloromethane	ND	250
Dibromomethane	ND	250
4-Methyl-2-Pentanone	ND	490
cis-1,3-Dichloropropene	ND	250
Toluene	ND	250
trans-1,3-Dichloropropene	ND	250
1,1,2-Trichloroethane	ND	250
2-Hexanone	ND	490
1,3-Dichloropropane	ND	250
Tetrachloroethene	ND	250
Dibromochloromethane	ND	250
1,2-Dibromoethane	ND	250
Chlorobenzene	ND	250
1,1,1,2-Tetrachloroethane	ND	250
Ethylbenzene	ND	250
m,p-Xylenes	ND	250
o-Xylene	ND	250
Styrene	ND	250
Bromoform	ND	250
Isopropylbenzene	ND	250
1,1,2,2-Tetrachloroethane	ND	250
1,2,3-Trichloropropane	ND	250
Propylbenzene	ND	250
Bromobenzene	ND	250
1,3,5-Trimethylbenzene	ND	250

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(2)	Dil'n Fac:	45.70
Lab ID:	266525-019	Batch#:	222910
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/06/15

Analyte	Result	RL
2-Chlorotoluene	ND	250
4-Chlorotoluene	ND	250
tert-Butylbenzene	ND	250
1,2,4-Trimethylbenzene	ND	250
sec-Butylbenzene	ND	250
para-Isopropyl Toluene	ND	250
1,3-Dichlorobenzene	ND	250
1,4-Dichlorobenzene	ND	250
n-Butylbenzene	ND	250
1,2-Dichlorobenzene	ND	250
1,2-Dibromo-3-Chloropropane	ND	250
1,2,4-Trichlorobenzene	430	250
Hexachlorobutadiene	ND	250
Naphthalene	ND	250
1,2,3-Trichlorobenzene	ND	250

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-134
1,2-Dichloroethane-d4	90	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(5)	Basis:	dry
Lab ID:	266525-020	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg		

Moisture: 6%

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	9.4	0.8820	222815	05/04/15
Chloromethane	ND	9.4	0.8820	222815	05/04/15
Vinyl Chloride	ND	9.4	0.8820	222815	05/04/15
Bromomethane	ND	9.4	0.8820	222815	05/04/15
Chloroethane	ND	9.4	0.8820	222815	05/04/15
Trichlorofluoromethane	ND	4.7	0.8820	222815	05/04/15
Acetone	ND	19	0.8820	222815	05/04/15
Freon 113	ND	4.7	0.8820	222815	05/04/15
1,1-Dichloroethene	ND	4.7	0.8820	222815	05/04/15
Methylene Chloride	ND	19	0.8820	222815	05/04/15
Carbon Disulfide	ND	4.7	0.8820	222815	05/04/15
MTBE	ND	4.7	0.8820	222815	05/04/15
trans-1,2-Dichloroethene	ND	4.7	0.8820	222815	05/04/15
Vinyl Acetate	ND	47	0.8820	222815	05/04/15
1,1-Dichloroethane	ND	4.7	0.8820	222815	05/04/15
2-Butanone	ND	9.4	0.8820	222815	05/04/15
cis-1,2-Dichloroethene	ND	4.7	0.8820	222815	05/04/15
2,2-Dichloropropane	ND	4.7	0.8820	222815	05/04/15
Chloroform	ND	4.7	0.8820	222815	05/04/15
Bromochloromethane	ND	4.7	0.8820	222815	05/04/15
1,1,1-Trichloroethane	ND	4.7	0.8820	222815	05/04/15
1,1-Dichloropropene	ND	4.7	0.8820	222815	05/04/15
Carbon Tetrachloride	ND	4.7	0.8820	222815	05/04/15
1,2-Dichloroethane	ND	4.7	0.8820	222815	05/04/15
Benzene	ND	4.7	0.8820	222815	05/04/15
Trichloroethene	ND	4.7	0.8820	222815	05/04/15
1,2-Dichloropropane	ND	4.7	0.8820	222815	05/04/15
Bromodichloromethane	ND	4.7	0.8820	222815	05/04/15
Dibromomethane	ND	4.7	0.8820	222815	05/04/15
4-Methyl-2-Pentanone	ND	9.4	0.8820	222815	05/04/15
cis-1,3-Dichloropropene	ND	4.7	0.8820	222815	05/04/15
Toluene	ND	4.7	0.8820	222815	05/04/15
trans-1,3-Dichloropropene	ND	4.7	0.8820	222815	05/04/15
1,1,2-Trichloroethane	ND	4.7	0.8820	222815	05/04/15
2-Hexanone	ND	9.4	0.8820	222815	05/04/15
1,3-Dichloropropane	ND	4.7	0.8820	222815	05/04/15

ND= Not Detected
RL= Reporting Limit

100.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(5)	Basis:	dry
Lab ID:	266525-020	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Tetrachloroethene	ND	4.7	0.8820	222815	05/04/15
Dibromochloromethane	ND	4.7	0.8820	222815	05/04/15
1,2-Dibromoethane	ND	4.7	0.8820	222815	05/04/15
Chlorobenzene	160	4.7	0.8820	222815	05/04/15
1,1,1,2-Tetrachloroethane	ND	4.7	0.8820	222815	05/04/15
Ethylbenzene	ND	4.7	0.8820	222815	05/04/15
m,p-Xylenes	ND	4.7	0.8820	222815	05/04/15
o-Xylene	ND	4.7	0.8820	222815	05/04/15
Styrene	ND	4.7	0.8820	222815	05/04/15
Bromoform	ND	4.7	0.8820	222815	05/04/15
Isopropylbenzene	ND	4.7	0.8820	222815	05/04/15
1,1,2,2-Tetrachloroethane	ND	4.7	0.8820	222815	05/04/15
1,2,3-Trichloropropane	ND	4.7	0.8820	222815	05/04/15
Propylbenzene	ND	4.7	0.8820	222815	05/04/15
Bromobenzene	ND	4.7	0.8820	222815	05/04/15
1,3,5-Trimethylbenzene	ND	4.7	0.8820	222815	05/04/15
2-Chlorotoluene	ND	4.7	0.8820	222815	05/04/15
4-Chlorotoluene	ND	4.7	0.8820	222815	05/04/15
tert-Butylbenzene	ND	4.7	0.8820	222815	05/04/15
1,2,4-Trimethylbenzene	ND	4.7	0.8820	222815	05/04/15
sec-Butylbenzene	ND	4.7	0.8820	222815	05/04/15
para-Isopropyl Toluene	ND	4.7	0.8820	222815	05/04/15
1,3-Dichlorobenzene	920	290	54.00	222910	05/06/15
1,4-Dichlorobenzene	59	4.7	0.8820	222815	05/04/15
n-Butylbenzene	ND	4.7	0.8820	222815	05/04/15
1,2-Dichlorobenzene	15	4.7	0.8820	222815	05/04/15
1,2-Dibromo-3-Chloropropane	ND	4.7	0.8820	222815	05/04/15
1,2,4-Trichlorobenzene	77	4.7	0.8820	222815	05/04/15
Hexachlorobutadiene	ND	4.7	0.8820	222815	05/04/15
Naphthalene	ND	4.7	0.8820	222815	05/04/15
1,2,3-Trichlorobenzene	ND	4.7	0.8820	222815	05/04/15

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	95	78-134	0.8820	222815	05/04/15
1,2-Dichloroethane-d4	102	80-138	0.8820	222815	05/04/15
Toluene-d8	108	80-120	0.8820	222815	05/04/15
Bromofluorobenzene	99	78-123	0.8820	222815	05/04/15

ND= Not Detected
RL= Reporting Limit

100.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(8)	Dil'n Fac:	1.073
Lab ID:	266525-021	Batch#:	222948
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/07/15

Moisture: 33%

Analyte	Result	RL
Freon 12	ND	16
Chloromethane	ND	16
Vinyl Chloride	ND	16
Bromomethane	ND	16
Chloroethane	ND	16
Trichlorofluoromethane	ND	8.0
Acetone	ND	32
Freon 113	ND	8.0
1,1-Dichloroethene	ND	8.0
Methylene Chloride	ND	32
Carbon Disulfide	ND	8.0
MTBE	ND	8.0
trans-1,2-Dichloroethene	ND	8.0
Vinyl Acetate	ND	80
1,1-Dichloroethane	ND	8.0
2-Butanone	ND	16
cis-1,2-Dichloroethene	ND	8.0
2,2-Dichloropropane	ND	8.0
Chloroform	ND	8.0
Bromochloromethane	ND	8.0
1,1,1-Trichloroethane	ND	8.0
1,1-Dichloropropene	ND	8.0
Carbon Tetrachloride	ND	8.0
1,2-Dichloroethane	ND	8.0
Benzene	ND	8.0
Trichloroethene	ND	8.0
1,2-Dichloropropane	ND	8.0
Bromodichloromethane	ND	8.0
Dibromomethane	ND	8.0
4-Methyl-2-Pentanone	ND	16
cis-1,3-Dichloropropene	ND	8.0
Toluene	ND	8.0
trans-1,3-Dichloropropene	ND	8.0
1,1,2-Trichloroethane	ND	8.0
2-Hexanone	ND	16
1,3-Dichloropropane	ND	8.0
Tetrachloroethene	ND	8.0
Dibromochloromethane	ND	8.0
1,2-Dibromoethane	ND	8.0
Chlorobenzene	ND	8.0
1,1,1,2-Tetrachloroethane	ND	8.0
Ethylbenzene	ND	8.0
m,p-Xylenes	ND	8.0
o-Xylene	ND	8.0
Styrene	ND	8.0
Bromoform	ND	8.0
Isopropylbenzene	ND	8.0
1,1,2,2-Tetrachloroethane	ND	8.0
1,2,3-Trichloropropane	ND	8.0
Propylbenzene	ND	8.0
Bromobenzene	ND	8.0
1,3,5-Trimethylbenzene	ND	8.0

ND= Not Detected
RL= Reporting Limit

101.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	APLB-2(8)	Dil'n Fac:	1.073
Lab ID:	266525-021	Batch#:	222948
Matrix:	Soil	Sampled:	05/01/15
Units:	ug/Kg	Received:	05/01/15
Basis:	dry	Analyzed:	05/07/15

Analyte	Result	RL
2-Chlorotoluene	ND	8.0
4-Chlorotoluene	ND	8.0
tert-Butylbenzene	ND	8.0
1,2,4-Trimethylbenzene	ND	8.0
sec-Butylbenzene	ND	8.0
para-Isopropyl Toluene	ND	8.0
1,3-Dichlorobenzene	ND	8.0
1,4-Dichlorobenzene	ND	8.0
n-Butylbenzene	ND	8.0
1,2-Dichlorobenzene	ND	8.0
1,2-Dibromo-3-Chloropropane	ND	8.0
1,2,4-Trichlorobenzene	ND	8.0
Hexachlorobutadiene	ND	8.0
Naphthalene	ND	8.0
1,2,3-Trichlorobenzene	ND	8.0

Surrogate	%REC	Limits
Dibromofluoromethane	117	78-134
1,2-Dichloroethane-d4	112	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	103	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222815
Units:	ug/Kg	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786455

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	19.58	78	70-134
Benzene	25.00	26.69	107	80-123
Trichloroethene	25.00	23.18	93	80-128
Toluene	25.00	27.46	110	80-120
Chlorobenzene	25.00	24.59	98	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	88	78-134
1,2-Dichloroethane-d4	85	80-138
Toluene-d8	106	80-120
Bromofluorobenzene	94	78-123

Type: BSD Lab ID: QC786456

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	20.66	83	70-134	5	22
Benzene	25.00	27.57	110	80-123	3	21
Trichloroethene	25.00	23.94	96	80-128	3	23
Toluene	25.00	27.28	109	80-120	1	20
Chlorobenzene	25.00	24.28	97	80-123	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	89	78-134
1,2-Dichloroethane-d4	88	80-138
Toluene-d8	110	80-120
Bromofluorobenzene	95	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786457	Batch#:	222815
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786457	Batch#:	222815
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	91	78-134
1,2-Dichloroethane-d4	96	80-138
Toluene-d8	105	80-120
Bromofluorobenzene	98	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222827
Units:	ug/Kg	Analyzed:	05/04/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786493

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.58	110	70-134
Benzene	25.00	27.07	108	80-123
Trichloroethene	25.00	26.50	106	80-128
Toluene	25.00	26.15	105	80-120
Chlorobenzene	25.00	26.06	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-134
1,2-Dichloroethane-d4	95	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	96	78-123

Type: BSD Lab ID: QC786494

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	25.35	101	70-134	8	22
Benzene	25.00	25.36	101	80-123	7	21
Trichloroethene	25.00	24.40	98	80-128	8	23
Toluene	25.00	24.90	100	80-120	5	20
Chlorobenzene	25.00	25.14	101	80-123	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	91	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	94	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786495	Batch#:	222827
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

105.0

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786495	Batch#:	222827
Matrix:	Soil	Analyzed:	05/04/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	98	80-138
Toluene-d8	95	80-120
Bromofluorobenzene	96	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786636	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	22.43	90	70-134
Benzene	25.00	27.15	109	80-123
Trichloroethene	25.00	24.76	99	80-128
Toluene	25.00	25.49	102	80-120
Chlorobenzene	25.00	24.24	97	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	87	78-134
1,2-Dichloroethane-d4	85	80-138
Toluene-d8	105	80-120
Bromofluorobenzene	93	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786637	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786637	Batch#:	222861
Matrix:	Soil	Analyzed:	05/05/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	88	78-134
1,2-Dichloroethane-d4	88	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	222861
MSS Lab ID:	266521-001	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Analyzed:	05/05/15
Basis:	as received		

Type: MS Diln Fac: 0.9452
Lab ID: QC786683

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4708	47.26	33.42	71	56-133
Benzene	<0.4054	47.26	30.28	64	57-120
Trichloroethene	<0.3359	47.26	32.82	69	49-145
Toluene	<0.4670	47.26	26.59	56	51-120
Chlorobenzene	<0.4970	47.26	20.91	44 *	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	87	78-134
1,2-Dichloroethane-d4	87	80-138
Toluene-d8	110	80-120
Bromofluorobenzene	102	78-123

Type: MSD Diln Fac: 0.9728
Lab ID: QC786684

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.64	39.26	81	56-133	13	46
Benzene	48.64	40.53	83	57-120	26	44
Trichloroethene	48.64	39.87	82	49-145	17	46
Toluene	48.64	39.06	80	51-120	35	47
Chlorobenzene	48.64	30.83	63	47-120	36	50

Surrogate	%REC	Limits
Dibromofluoromethane	85	78-134
1,2-Dichloroethane-d4	84	80-138
Toluene-d8	105	80-120
Bromofluorobenzene	99	78-123

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786830	Batch#:	222910
Matrix:	Soil	Analyzed:	05/06/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	24.04	120	70-134
Benzene	20.00	23.45	117	80-123
Trichloroethene	20.00	22.51	113	80-128
Toluene	20.00	21.95	110	80-120
Chlorobenzene	20.00	22.42	112	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-134
1,2-Dichloroethane-d4	94	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	93	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786832	Batch#:	222910
Matrix:	Soil	Analyzed:	05/06/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786832	Batch#:	222910
Matrix:	Soil	Analyzed:	05/06/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	103	78-134
1,2-Dichloroethane-d4	97	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	98	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	222910
MSS Lab ID:	266604-001	Sampled:	05/01/15
Matrix:	Soil	Received:	05/06/15
Units:	ug/Kg	Analyzed:	05/07/15
Basis:	as received		

Type: MS Diln Fac: 0.9766
Lab ID: QC786920

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.9267	48.83	55.33	113	56-133
Benzene	<0.8898	48.83	48.12	99	57-120
Trichloroethene	<0.8236	48.83	49.59	102	49-145
Toluene	<0.7015	48.83	45.47	93	51-120
Chlorobenzene	<0.6766	48.83	44.30	91	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	97	80-138
Toluene-d8	93	80-120
Bromofluorobenzene	91	78-123

Type: MSD Diln Fac: 0.9560
Lab ID: QC786921

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.80	55.66	116	56-133	3	46
Benzene	47.80	47.18	99	57-120	0	44
Trichloroethene	47.80	47.74	100	49-145	2	46
Toluene	47.80	45.24	95	51-120	2	47
Chlorobenzene	47.80	43.27	91	47-120	0	50

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-134
1,2-Dichloroethane-d4	97	80-138
Toluene-d8	94	80-120
Bromofluorobenzene	92	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222948
Units:	ug/Kg	Analyzed:	05/07/15
Diln Fac:	1.000		

Type: BS Lab ID: QC786996

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	20.15	101	70-134
Benzene	20.00	20.30	102	80-123
Trichloroethene	20.00	19.23	96	80-128
Toluene	20.00	18.40	92	80-120
Chlorobenzene	20.00	19.29	96	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	115	78-134
1,2-Dichloroethane-d4	103	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	90	78-123

Type: BSD Lab ID: QC786997

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	19.12	96	70-134	5	22
Benzene	20.00	18.51	93	80-123	9	21
Trichloroethene	20.00	18.19	91	80-128	6	23
Toluene	20.00	17.27	86	80-120	6	20
Chlorobenzene	20.00	17.95	90	80-123	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	114	78-134
1,2-Dichloroethane-d4	101	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	91	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786998	Batch#:	222948
Matrix:	Soil	Analyzed:	05/07/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786998	Batch#:	222948
Matrix:	Soil	Analyzed:	05/07/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	106	80-138
Toluene-d8	91	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	222980
Units:	ug/Kg	Analyzed:	05/08/15
Diln Fac:	1.000		

Type: BS Lab ID: QC787170

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	29.11	116	70-134
Benzene	25.00	26.26	105	80-123
Trichloroethene	25.00	23.74	95	80-128
Toluene	25.00	24.76	99	80-120
Chlorobenzene	25.00	25.59	102	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	104	78-134
1,2-Dichloroethane-d4	103	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	94	78-123

Type: BSD Lab ID: QC787171

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	29.37	117	70-134	1	22
Benzene	25.00	26.34	105	80-123	0	21
Trichloroethene	25.00	24.49	98	80-128	3	23
Toluene	25.00	24.57	98	80-120	1	20
Chlorobenzene	25.00	24.91	100	80-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	78-134
1,2-Dichloroethane-d4	104	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	93	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787172	Batch#:	222980
Matrix:	Soil	Analyzed:	05/08/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787172	Batch#:	222980
Matrix:	Soil	Analyzed:	05/08/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	109	80-138
Toluene-d8	98	80-120
Bromofluorobenzene	91	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	222980
MSS Lab ID:	266649-006	Sampled:	05/07/15
Matrix:	Soil	Received:	05/07/15
Units:	ug/Kg	Analyzed:	05/08/15
Basis:	as received		

Type: MS Diln Fac: 0.9728
Lab ID: QC787211

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<1.277	48.64	61.81	127	56-133
Benzene	<0.6928	48.64	49.98	103	57-120
Trichloroethene	<0.7479	48.64	82.29	169 *	49-145
Toluene	<0.4662	48.64	45.38	93	51-120
Chlorobenzene	<0.3523	48.64	46.40	95	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-134
1,2-Dichloroethane-d4	112	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	97	78-123

Type: MSD Diln Fac: 0.9747
Lab ID: QC787212

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.73	64.94	133	56-133	5	46
Benzene	48.73	50.70	104	57-120	1	44
Trichloroethene	48.73	86.46	177 *	49-145	5	46
Toluene	48.73	46.78	96	51-120	3	47
Chlorobenzene	48.73	45.18	93	47-120	3	50

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-134
1,2-Dichloroethane-d4	115	80-138
Toluene-d8	100	80-120
Bromofluorobenzene	97	78-123

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	223022
Units:	ug/Kg	Analyzed:	05/09/15
Diln Fac:	1.000		

Type: BS Lab ID: QC787352

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	15.00	15.26	102	70-134
Benzene	15.00	15.24	102	80-123
Trichloroethene	15.00	14.34	96	80-128
Toluene	15.00	13.93	93	80-120
Chlorobenzene	15.00	14.69	98	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-134
1,2-Dichloroethane-d4	97	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	91	78-123

Type: BSD Lab ID: QC787353

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	15.00	15.47	103	70-134	1	22
Benzene	15.00	15.46	103	80-123	1	21
Trichloroethene	15.00	14.69	98	80-128	2	23
Toluene	15.00	14.14	94	80-120	2	20
Chlorobenzene	15.00	14.79	99	80-123	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	101	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	90	78-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787354	Batch#:	223022
Matrix:	Soil	Analyzed:	05/09/15
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC787354	Batch#:	223022
Matrix:	Soil	Analyzed:	05/09/15
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	78-134
1,2-Dichloroethane-d4	101	80-138
Toluene-d8	92	80-120
Bromofluorobenzene	97	78-123

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : BFB IDF : 1.0
Seqnum : 435131479003 File : dd103 Time : 01-APR-2015 10:31

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	58297	27.87	
75	30% - 60% of mass 95	108866	52.05	
95		209173	100.00	
96	5% - 9% of mass 95	13910	6.65	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	139413	66.65	
175	5% - 9% of mass 174	10912	7.83	
176	> 95% and < 101% of mass 174	136026	97.57	
177	5% - 9% of mass 176	9022	6.63	

Analyst: DJA Date: 04/02/15 Reviewer: LW Date: 04/03/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : BFB IDF : 1.0
Seqnum : 435184888002 File : de802 Time : 08-MAY-2015 10:12

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	64066	18.98	
75	30% - 60% of mass 95	148448	43.97	
95		337578	100.00	
96	5% - 9% of mass 95	22492	6.66	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	260117	77.05	
175	5% - 9% of mass 174	18464	7.10	
176	> 95% and < 101% of mass 174	255210	98.11	
177	5% - 9% of mass 176	16197	6.35	

Analyst: DJA Date: 05/08/15 Reviewer: TKM Date: 05/11/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445154813012 File : edh12 Time : 17-APR-2015 18:00

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6388	22.40	
75	30% - 60% of mass 95	14154	49.63	
95		28520	100.00	
96	5% - 9% of mass 95	1939	6.80	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	22677	79.51	
175	5% - 9% of mass 174	1648	7.27	
176	> 95% and < 101% of mass 174	22103	97.47	
177	5% - 9% of mass 176	1322	5.98	

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445160525002 File : edl02 Time : 21-APR-2015 14:18

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6871	23.07	
75	30% - 60% of mass 95	14618	49.08	
95		29784	100.00	
96	5% - 9% of mass 95	1787	6.00	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	25338	85.07	
175	5% - 9% of mass 174	1840	7.26	
176	> 95% and < 101% of mass 174	24525	96.79	
177	5% - 9% of mass 176	1544	6.30	

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445179202002 File : ee402 Time : 04-MAY-2015 11:42

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	5851	21.74	
75	30% - 60% of mass 95	13587	50.49	
95		26909	100.00	
96	5% - 9% of mass 95	1865	6.93	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	20597	76.54	
175	5% - 9% of mass 174	1391	6.75	
176	> 95% and < 101% of mass 174	20285	98.49	
177	5% - 9% of mass 176	1409	6.95	

Analyst: DAR Date: 05/05/15 Reviewer: LW Date: 05/05/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445182112005 File : ee605 Time : 06-MAY-2015 15:17

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4375	21.86	
75	30% - 60% of mass 95	10192	50.93	
95		20011	100.00	
96	5% - 9% of mass 95	1448	7.24	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	15372	76.82	
175	5% - 9% of mass 174	1171	7.62	
176	> 95% and < 101% of mass 174	14745	95.92	
177	5% - 9% of mass 176	924	6.27	

Analyst: NJT Date: 05/07/15 Reviewer: LW Date: 05/07/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445183599002 File : ee702 Time : 07-MAY-2015 12:26

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6099	22.58	
75	30% - 60% of mass 95	14267	52.82	
95		27010	100.00	
96	5% - 9% of mass 95	1839	6.81	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	20599	76.26	
175	5% - 9% of mass 174	1405	6.82	
176	> 95% and < 101% of mass 174	20159	97.86	
177	5% - 9% of mass 176	1406	6.97	

Analyst: NJT Date: 05/08/15 Reviewer: TEW Date: 05/08/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : BFB IDF : 1.0
Seqnum : 445186424005 File : ee905 Time : 09-MAY-2015 14:33

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4610	21.51	
75	30% - 60% of mass 95	10899	50.86	
95		21429	100.00	
96	5% - 9% of mass 95	1347	6.29	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	16648	77.69	
175	5% - 9% of mass 174	1308	7.86	
176	> 95% and < 101% of mass 174	16293	97.87	
177	5% - 9% of mass 176	1021	6.27	

Analyst: KKM Date: 05/11/15 Reviewer: TEW Date: 05/11/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 455131716008 File : fd108 Time : 01-APR-2015 16:19

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	25442	19.37	
75	30% - 60% of mass 95	54949	41.82	
95		131381	100.00	
96	5% - 9% of mass 95	9216	7.01	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	97384	74.12	
175	5% - 9% of mass 174	7139	7.33	
176	> 95% and < 101% of mass 174	94106	96.63	
177	5% - 9% of mass 176	6262	6.65	

Analyst: DAR Date: 04/02/15 Reviewer: LW Date: 04/03/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 455133102002 File : fd202 Time : 02-APR-2015 11:14

Standards: S26000

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	29386	18.77	
75	30% - 60% of mass 95	63805	40.75	
95		156565	100.00	
96	5% - 9% of mass 95	10300	6.58	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	120173	76.76	
175	5% - 9% of mass 174	9373	7.80	
176	> 95% and < 101% of mass 174	115394	96.02	
177	5% - 9% of mass 176	7980	6.92	

Analyst: DAR Date: 04/02/15 Reviewer: LW Date: 04/03/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 455178923013 File : fe413 Time : 04-MAY-2015 15:34

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	20661	19.25	
75	30% - 60% of mass 95	43941	40.95	
95		107306	100.00	
96	5% - 9% of mass 95	6958	6.48	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	76816	71.59	
175	5% - 9% of mass 174	5770	7.51	
176	> 95% and < 101% of mass 174	77525	100.92	
177	5% - 9% of mass 176	5223	6.74	

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/05/15

CURTIS & TOMPKINS BFB TUNE FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 455180385005 File : fe505 Time : 05-MAY-2015 08:31

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	26408	17.82	
75	30% - 60% of mass 95	57942	39.10	
95		148202	100.00	
96	5% - 9% of mass 95	9688	6.54	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	110933	74.85	
175	5% - 9% of mass 174	8084	7.29	
176	> 95% and < 101% of mass 174	109170	98.41	
177	5% - 9% of mass 176	7447	6.82	

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Soil: EPA 8260B

Inst : MSVOA04 Name : 826GOX4S
Calnum : 435131479001 Date : 01-APR-2015 12:05 Type : SOIL
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	dd106	435131479006		01-APR-2015 12:05	S26948 (200000X), S26838 (200000X), S25156 (200000X), S26911 (5000X)
L2	dd107	435131479007		01-APR-2015 12:39	S26948 (100000X), S26838 (100000X), S25156 (100000X), S26911 (5000X)
L3	dd108	435131479008		01-APR-2015 13:12	S26948 (50000X), S26838 (50000X), S25156 (50000X), S26911 (5000X)
L4	dd109	435131479009		01-APR-2015 13:46	S26948 (25000X), S26838 (25000X), S25156 (25000X), S26911 (5000X)
L5	dd110	435131479010		01-APR-2015 14:20	S26948 (10000X), S26838 (10000X), S25156 (10000X), S26911 (5000X)
L6	dd111	435131479011		01-APR-2015 14:53	S26948 (8333X), S26838 (8333X), S25156 (8333X), S26911 (5000X)
L7	dd112	435131479012		01-APR-2015 15:27	S26948 (6667X), S26838 (6667X), S25156 (6667X), S26911 (5000X)
L8	dd113	435131479013		01-APR-2015 16:01	S26948 (5000X), S26838 (5000X), S25156 (5000X), S26911 (5000X)
L9	dd114	435131479014		01-APR-2015 16:34	S26948 (2500X), S26838 (2500X), S25156 (2500X), S26911 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.1605m	1.3630	1.3098m	1.2934m	1.3407m	1.2989m	1.2929m	1.1490m	AVRG		0.78368		1.2760	6	15	0.05	0.99	
Chloromethane		0.9949	1.0039	1.0233	1.0085	0.9765	1.0177	1.0222	0.8893	AVRG		1.00801		0.9921	4	15	0.10	0.99	
Vinyl Chloride		0.8455	0.8689	0.8653m	0.8212	0.8213	0.8608m	0.8554m	0.7577	AVRG		1.19471		0.8370	4	15	0.05	0.99	
Bromomethane		0.4701	0.4674m	0.4500	0.4541	0.4435	0.4574	0.4491	0.4131	AVRG		2.21941		0.4506	4	15	0.05	0.99	
Chloroethane		0.3505	0.4092	0.4107m	0.3881m	0.3599m	0.3824m	0.3546	0.3317	AVRG		2.67808		0.3734	8	15	0.05	0.99	
Trichlorofluoromethane		1.0072	1.1232	1.0821m	1.1058	1.0895m	1.0801	1.0935	1.0044	AVRG		0.93175		1.0732	4	15	0.05	0.99	
Acetone				0.2224	0.2073	0.1916	0.2134	0.1650	0.1677	AVRG		5.13969		0.1946	12	15	0.05	0.99	
Freon 113		0.5018	0.4211	0.5762	0.5814	0.5505	0.5761	0.5753	0.5618	AVRG		1.84150		0.5430	10	15	0.05	0.99	
1,1-Dichloroethene		0.4933	0.4431	0.4871	0.5044	0.4728	0.4774	0.4815	0.4409	AVRG		2.10509		0.4750	5	15	0.05	0.99	
Methylene Chloride		0.5625	0.5607	0.5698	0.5534	0.5356	0.5391	0.5340	0.4768	AVRG		1.84679		0.5415	5	15	0.05	0.99	
Carbon Disulfide		1.8275	1.6405	1.8611	1.8762	1.7071	1.7797	1.7028	1.5908	AVRG		0.57201		1.7482	6	15	0.05	0.99	
MTBE		1.3812	1.4095	1.1600	1.2439	1.6616	1.1878	1.3580	1.1966	AVRG		0.75481		1.3248	13	15	0.05	0.99	
trans-1,2-Dichloroethene		0.7793	0.7304	0.6607	0.6266	0.7448	0.5828	0.7211	0.6025	AVRG		1.46835		0.6810	11	15	0.05	0.99	
Vinyl Acetate				0.9184	1.2187	1.1950	1.2121	1.3395	1.3172	AVRG		0.83324		1.2001	13	15	0.05	0.99	
1,1-Dichloroethane		1.7256	1.6533	1.6271	1.6215	1.5826	1.5297	1.5427	1.3647	AVRG		0.63255		1.5809	7	15	0.10	0.99	
2-Butanone			0.3201	0.3490	0.4035	0.3823	0.4001	0.3648	0.3472	AVRG		2.72704		0.3667	8	15	0.05	0.99	
2,2-Dichloropropane		0.7881	0.7414	0.8457	0.8862	0.9020	0.8990	0.8829	0.8326	AVRG		1.18031		0.8472	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8002	0.8035	0.8091	0.7937	0.7811	0.7858	0.7414	0.6730	AVRG		1.29287		0.7735	6	15	0.05	0.99	
Chloroform		1.4309	1.3849	1.3823	1.3237	1.3141	1.3253	1.3234	1.1438	AVRG		0.75270		1.3286	6	15	0.05	0.99	
Bromochloromethane		0.4166	0.3788	0.3892	0.3650	0.3702	0.3584	0.3456	0.3082	AVRG		2.72864		0.3665	9	15	0.05	0.99	
1,1,1-Trichloroethane		1.0301	0.9169	1.0646	1.0878	1.0540	1.0590	0.9844	0.9574	AVRG		0.98109		1.0193	6	15	0.05	0.99	
1,1-Dichloropropene		0.6058	0.5466	0.6363	0.6523	0.6246	0.6193	0.6229	0.5713	AVRG		1.63961		0.6099	6	15	0.05	0.99	
Carbon Tetrachloride		0.5090	0.4806	0.5654	0.5536	0.5561	0.5609	0.5475	0.5232	AVRG		1.86209		0.5370	6	15	0.05	0.99	
1,2-Dichloroethane		0.7019	0.6805	0.6481	0.6236	0.6413	0.6179	0.6281	0.5632	AVRG		1.56731		0.6380	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6499	1.6669	1.6627	1.5864	1.6371	1.6371	1.5404	1.4241	AVRG		0.62477		1.6006	5	15	0.05	0.99	
Trichloroethene		0.4501	0.4266	0.4613	0.4529	0.4428	0.4635	0.4391	0.4106	AVRG		2.25551		0.4434	4	15	0.05	0.99	
1,2-Dichloropropane		0.5572	0.5178	0.5647	0.5226	0.5453	0.5396	0.5181	0.4480	AVRG		1.89871		0.5267	7	15	0.05	0.99	
Bromodichloromethane		0.6400	0.6349	0.6358	0.6228	0.6101	0.6138	0.5986	0.5636	AVRG		1.62618		0.6149	4	15	0.05	0.99	
Dibromomethane		0.3401	0.3315	0.3151	0.3057	0.3098	0.2946	0.2966	0.2739	AVRG		3.24241		0.3084	7	15	0.05	0.99	
4-Methyl-2-Pentanone		0.4391	0.4208	0.4463	0.4409	0.4978	0.4789	0.4597	0.4503	AVRG		2.20154		0.4542	5	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6204	0.6231	0.6267	0.6546	0.6606	0.6358	0.6614	0.6163	AVRG		1.56893		0.6374	3	15	0.05	0.99	
Toluene		1.1897	1.1812	1.1681	1.1328	1.1120	1.0708	1.0378	1.0310	AVRG		0.89651		1.1154	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5642	0.6283	0.6359	0.6574	0.6707	0.6581	0.6687	0.6918	AVRG		1.54587		0.6469	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.2407	0.2511	0.2513	0.2607	0.2569	0.2458	0.2482	0.2435	AVRG		4.00365		0.2498	3	15	0.05	0.99	
2-Hexanone		0.4328	0.3825	0.3966	0.3986	0.4081	0.3992	0.3781	0.3584	AVRG		2.53620		0.3943	6	15	0.05	0.99	
1,3-Dichloropropane		0.6954	0.6792	0.7245	0.7263	0.7217	0.7177	0.7267	0.7014	AVRG		1.40523		0.7116	2	15	0.05	0.99	
Tetrachloroethene		0.4523	0.4554	0.4957	0.4965	0.4821	0.4693	0.4743	0.4935	AVRG		2.09475		0.4774	4	15	0.05	0.99	
Dibromochloromethane		0.5082	0.5422	0.5524	0.5554	0.5606	0.5645	0.5572	0.5820	AVRG		1.80896		0.5528	4	15	0.05	0.99	
1,2-Dibromoethane		0.4567	0.4705	0.4696	0.4709	0.4633	0.4437	0.4525	0.4391	AVRG		2.18209		0.4583	3	15	0.05	0.99	
Chlorobenzene		1.3131	1.2979	1.3273	1.2879	1.2439	1.2380	1.2172	1.1955	AVRG		0.79044		1.2651	4	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4077	0.4582	0.4457	0.4647	0.4406	0.4633	0.4495	0.4704	AVRG		2.22209		0.4500	4	15	0.05	0.99	
Ethylbenzene		2.1429	2.2460	2.2192	2.1668	2.0311	2.0705	1.9074	1.8572	AVRG		0.48074		2.0801	7	15	0.05	0.99	
m,p-Xylenes	0.8682	0.8348	0.8492	0.8737	0.8099	0.7636	0.7740	0.7121	0.6661	AVRG		1.25844		0.7946	9	15	0.05	0.99	
o-Xylene		0.8067	0.8522	0.8720	0.7990	0.7615	0.7608	0.7349	0.7144	AVRG		1.26953		0.7877	7	15	0.05	0.99	
Styrene		1.3854	1.4948	1.4814	1.3848	1.3082	1.3846	1.2707	1.2082	AVRG		0.73273		1.3648	7	15	0.05	0.99	
Bromoform		0.3351	0.3467	0.3574	0.3784	0.3789	0.3779	0.3910	0.4083	AVRG		2.69040		0.3717	6	15	0.10	0.99	
Isopropylbenzene		4.0556	3.8147	4.3362	4.0522	3.9913	4.0403	3.9164	3.6697	AVRG		0.25097		3.9845	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.1586	1.2131	1.2779	1.2523	1.1999	1.1493	1.1791	1.1577	AVRG		0.83438		1.1985	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.9206	0.9387	0.9549	0.9714	0.9199	0.8812	0.8882	0.8715	AVRG		1.08897		0.9183	4	15	0.05	0.99	
Propylbenzene		5.0184	5.0232	5.7050	5.1332	4.7447	4.7823	4.6179	4.1560	AVRG		0.20418		4.8976	9	15	0.05	0.99	
Bromobenzene		1.0794	1.0870	1.1567	1.0951	1.0224	1.0274	1.0499	0.9826	AVRG		0.94113		1.0625	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		3.5709	3.4922	3.8055	3.5182	3.3567	3.4402	3.3000	2.8584	AVRG		0.29259		3.4178	8	15	0.05	0.99	
2-Chlorotoluene		3.4670	3.4797	3.6516	3.4548	3.1205	3.0890	3.0553	2.6593	AVRG		0.30796		3.2471	10	15	0.05	0.99	
4-Chlorotoluene		3.2728	3.1742	3.3547	3.2526	3.0129	2.9739	2.9074	2.6797	AVRG		0.32483		3.0785	7	15	0.05	0.99	
tert-Butylbenzene		2.6609	2.5750	3.0519	2.8434	2.7594	2.6960	2.6327	2.4649	AVRG		0.36893		2.7105	7	15	0.05	0.99	
1,2,4-Trimethylbenzene		3.8570	3.7393	3.7988	3.6865	3.3288	3.3594	3.3776	2.9768	AVRG		0.28445		3.5155	9	15	0.05	0.99	
sec-Butylbenzene		4.3758	4.2611	4.9864	4.6696	4.4381	4.5503	4.3390	4.0184	AVRG		0.22447		4.4548	6	15	0.05	0.99	
para-Isopropyl Toluene		3.5515	3.4294	3.8597	3.7522	3.5787	3.7266	3.4800	3.2972	AVRG		0.27899		3.5844	5	15	0.05	0.99	
1,3-Dichlorobenzene		2.0472	1.9574	2.0491	1.9268	1.7795	1.8046	1.7699	1.7400	AVRG		0.53070		1.8843	7	15	0.05	0.99	
1,4-Dichlorobenzene		2.0007	1.9670	1.9916	1.9393	1.8161	1.8282	1.8164	1.7500	AVRG		0.52948		1.8887	5	15	0.05	0.99	
n-Butylbenzene		3.8823	3.5323	4.0441	3.9412	3.6882	3.6001	3.5729	3.1284	AVRG		0.27221		3.6737	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.9043	1.8614	1.9750	1.8793	1.7526	1.7547	1.7421	1.6671	AVRG		0.55034		1.8171	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2364	0.2239	0.2305	0.2218	0.2217	0.2198	0.2100	0.2133	AVRG		4.50114		0.2222	4	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.2421	1.2164	1.3244	1.2739	1.1999	1.2065	1.2283	1.1856	AVRG		0.80995		1.2346	4	15	0.05	0.99	
Hexachlorobutadiene		0.7097	0.6652	0.8070	0.8124	0.7824	0.7695	0.7413	0.8030	AVRG		1.31352		0.7613	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		2.7929	2.7732	3.1642	3.0316	2.9711	2.9423	2.9762	2.8248	AVRG		0.34077		2.9345	5	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.1854	1.1843	1.2804	1.2220	1.1581	1.1457	1.1652	1.1420	AVRG		0.84361		1.1854	4	15	0.05	0.99	
Dibromofluoromethane	0.6254	0.6581	0.6482	0.6644	0.6449	0.6511	0.6445	0.6301	0.6022	AVRG		1.56009		0.6410	3	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4055	0.3991	0.4124	0.3914	0.3764	0.3831	0.3906	0.3761	0.3523	AVRG		2.58118		0.3874	5	15	0.05	0.99	
Trifluorotoluene	0.6602	0.6331	0.5565	0.6685	0.6238	0.6745	0.6480	0.6331	0.6240	AVRG		1.57298		0.6357	6	15	0.05	0.99	
Toluene-d8	1.2452	1.3212	1.3936	1.2478	1.3194	1.2969	1.2633	1.2704	1.3278	AVRG		0.77018		1.2984	4	15	0.05	0.99	
Bromofluorobenzene	1.0299	1.0661	1.0240	1.0339	1.0473	0.9936	1.0346	1.0323	1.0279	AVRG		0.96883		1.0322	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	-9	10.000	7	20.000	3	50.000	1	60.000	5	75.000	2	100.00	1	200.00	-10
Chloromethane			5.0000	0	10.000	1	20.000	3	50.000	2	60.000	-2	75.000	3	100.00	3	200.00	-10
Vinyl Chloride			5.0000	1	10.000	4	20.000	3	50.000	-2	60.000	-2	75.000	3	100.00	2	200.00	-9
Bromomethane			5.0000	4	10.000	4	20.000	0	50.000	1	60.000	-2	75.000	2	100.00	0	200.00	-8
Chloroethane			5.0000	-6	10.000	10	20.000	10	50.000	4	60.000	-4	75.000	2	100.00	-5	200.00	-11
Trichlorofluoromethane			5.0000	-6	10.000	5	20.000	1	50.000	3	60.000	2	75.000	1	100.00	2	200.00	-6
Acetone							20.000	14	50.000	7	60.000	-2	75.000	10	100.00	-15	200.00	-14
Freon 113			5.0000	-8	10.000	**-22**	20.000	6	50.000	7	60.000	1	75.000	6	100.00	6	200.00	3
1,1-Dichloroethene			5.0000	4	10.000	-7	20.000	3	50.000	6	60.000	0	75.000	0	100.00	1	200.00	-7
Methylene Chloride			5.0000	4	10.000	4	20.000	5	50.000	2	60.000	-1	75.000	0	100.00	-1	200.00	-12
Carbon Disulfide			5.0000	5	10.000	-6	20.000	6	50.000	7	60.000	-2	75.000	2	100.00	-3	200.00	-9
MTBE			5.0000	4	10.000	6	20.000	-12	50.000	-6	60.000	**25**	75.000	-10	100.00	3	200.00	-10
trans-1,2-Dichloroethene			5.0000	14	10.000	7	20.000	-3	50.000	-8	60.000	9	75.000	-14	100.00	6	200.00	-12
Vinyl Acetate							20.000	**-23**	50.000	2	60.000	0	75.000	1	100.00	12	200.00	10
1,1-Dichloroethane			5.0000	9	10.000	5	20.000	3	50.000	3	60.000	0	75.000	-3	100.00	-2	200.00	-14
2-Butanone					10.000	-13	20.000	-5	50.000	10	60.000	4	75.000	9	100.00	-1	200.00	-5
2,2-Dichloropropane			5.0000	-7	10.000	-12	20.000	0	50.000	5	60.000	6	75.000	6	100.00	4	200.00	-2
cis-1,2-Dichloroethene			5.0000	3	10.000	4	20.000	5	50.000	3	60.000	1	75.000	2	100.00	-4	200.00	-13
Chloroform			5.0000	8	10.000	4	20.000	4	50.000	0	60.000	-1	75.000	0	100.00	0	200.00	-14
Bromochloromethane			5.0000	14	10.000	3	20.000	6	50.000	0	60.000	1	75.000	-2	100.00	-6	200.00	-16
1,1,1-Trichloroethane			5.0000	1	10.000	-10	20.000	4	50.000	7	60.000	3	75.000	4	100.00	-3	200.00	-6
1,1-Dichloropropene			5.0000	-1	10.000	-10	20.000	4	50.000	7	60.000	2	75.000	2	100.00	2	200.00	-6
Carbon Tetrachloride			5.0000	-5	10.000	-11	20.000	5	50.000	3	60.000	4	75.000	4	100.00	2	200.00	-3
1,2-Dichloroethane			5.0000	10	10.000	7	20.000	2	50.000	-2	60.000	1	75.000	-3	100.00	-2	200.00	-12
Benzene			5.0000	3	10.000	4	20.000	4	50.000	-1	60.000	2	75.000	2	100.00	-4	200.00	-11
Trichloroethene			5.0000	2	10.000	-4	20.000	4	50.000	2	60.000	0	75.000	5	100.00	-1	200.00	-7
1,2-Dichloropropane			5.0000	6	10.000	-2	20.000	7	50.000	-1	60.000	4	75.000	2	100.00	-2	200.00	-15
Bromodichloromethane			5.0000	4	10.000	3	20.000	3	50.000	1	60.000	-1	75.000	0	100.00	-3	200.00	-8
Dibromomethane			5.0000	10	10.000	7	20.000	2	50.000	-1	60.000	0	75.000	-4	100.00	-4	200.00	-11
4-Methyl-2-Pentanone			5.0000	-3	10.000	-7	20.000	-2	50.000	-3	60.000	10	75.000	5	100.00	1	200.00	-1
cis-1,3-Dichloropropene			5.0000	-3	10.000	-2	20.000	-2	50.000	3	60.000	4	75.000	0	100.00	4	200.00	-3
Toluene			5.0000	7	10.000	6	20.000	5	50.000	2	60.000	0	75.000	-4	100.00	-7	200.00	-8
trans-1,3-Dichloropropene			5.0000	-13	10.000	-3	20.000	-2	50.000	2	60.000	4	75.000	2	100.00	3	200.00	7
1,1,2-Trichloroethane			5.0000	-4	10.000	1	20.000	1	50.000	4	60.000	3	75.000	-2	100.00	-1	200.00	-3
2-Hexanone			5.0000	10	10.000	-3	20.000	1	50.000	1	60.000	3	75.000	1	100.00	-4	200.00	-9
1,3-Dichloropropane			5.0000	-2	10.000	-5	20.000	2	50.000	2	60.000	1	75.000	1	100.00	2	200.00	-1
Tetrachloroethene			5.0000	-5	10.000	-5	20.000	4	50.000	4	60.000	1	75.000	-2	100.00	-1	200.00	3
Dibromochloromethane			5.0000	-8	10.000	-2	20.000	0	50.000	0	60.000	1	75.000	2	100.00	1	200.00	5
1,2-Dibromoethane			5.0000	0	10.000	3	20.000	2	50.000	3	60.000	1	75.000	-3	100.00	-1	200.00	-4
Chlorobenzene			5.0000	4	10.000	3	20.000	5	50.000	2	60.000	-2	75.000	-2	100.00	-4	200.00	-5
1,1,1,2-Tetrachloroethane			5.0000	-9	10.000	2	20.000	-1	50.000	3	60.000	-2	75.000	3	100.00	0	200.00	5
Ethylbenzene			5.0000	3	10.000	8	20.000	7	50.000	4	60.000	-2	75.000	0	100.00	-8	200.00	-11

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	9	10.000	5	20.000	7	40.000	10	100.00	2	120.00	-4	150.00	-3	200.00	-10	400.00	-16
o-Xylene			5.0000	2	10.000	8	20.000	11	50.000	1	60.000	-3	75.000	-3	100.00	-7	200.00	-9
Styrene			5.0000	2	10.000	10	20.000	9	50.000	1	60.000	-4	75.000	1	100.00	-7	200.00	-11
Bromoform			5.0000	-10	10.000	-7	20.000	-4	50.000	2	60.000	2	75.000	2	100.00	5	200.00	10
Isopropylbenzene			5.0000	2	10.000	-4	20.000	9	50.000	2	60.000	0	75.000	1	100.00	-2	200.00	-8
1,1,2,2-Tetrachloroethane			5.0000	-3	10.000	1	20.000	7	50.000	4	60.000	0	75.000	-4	100.00	-2	200.00	-3
1,2,3-Trichloropropane			5.0000	0	10.000	2	20.000	4	50.000	6	60.000	0	75.000	-4	100.00	-3	200.00	-5
Propylbenzene			5.0000	2	10.000	3	20.000	16	50.000	5	60.000	-3	75.000	-2	100.00	-6	200.00	-15
Bromobenzene			5.0000	2	10.000	2	20.000	9	50.000	3	60.000	-4	75.000	-3	100.00	-1	200.00	-8
1,3,5-Trimethylbenzene			5.0000	4	10.000	2	20.000	11	50.000	3	60.000	-2	75.000	1	100.00	-3	200.00	-16
2-Chlorotoluene			5.0000	7	10.000	7	20.000	12	50.000	6	60.000	-4	75.000	-5	100.00	-6	200.00	-18
4-Chlorotoluene			5.0000	6	10.000	3	20.000	9	50.000	6	60.000	-2	75.000	-3	100.00	-6	200.00	-13
tert-Butylbenzene			5.0000	-2	10.000	-5	20.000	13	50.000	5	60.000	2	75.000	-1	100.00	-3	200.00	-9
1,2,4-Trimethylbenzene			5.0000	10	10.000	6	20.000	8	50.000	5	60.000	-5	75.000	-4	100.00	-4	200.00	-15
sec-Butylbenzene			5.0000	-2	10.000	-4	20.000	12	50.000	5	60.000	0	75.000	2	100.00	-3	200.00	-10
para-Isopropyl Toluene			5.0000	-1	10.000	-4	20.000	8	50.000	5	60.000	0	75.000	4	100.00	-3	200.00	-8
1,3-Dichlorobenzene			5.0000	9	10.000	4	20.000	9	50.000	2	60.000	-6	75.000	-4	100.00	-6	200.00	-8
1,4-Dichlorobenzene			5.0000	6	10.000	4	20.000	5	50.000	3	60.000	-4	75.000	-3	100.00	-4	200.00	-7
n-Butylbenzene			5.0000	6	10.000	-4	20.000	10	50.000	7	60.000	0	75.000	-2	100.00	-3	200.00	-15
1,2-Dichlorobenzene			5.0000	5	10.000	2	20.000	9	50.000	3	60.000	-4	75.000	-3	100.00	-4	200.00	-8
1,2-Dibromo-3-Chloropropane			5.0000	6	10.000	1	20.000	4	50.000	0	60.000	0	75.000	-1	100.00	-5	200.00	-4
1,2,4-Trichlorobenzene			5.0000	1	10.000	-1	20.000	7	50.000	3	60.000	-3	75.000	-2	100.00	-1	200.00	-4
Hexachlorobutadiene			5.0000	-7	10.000	-13	20.000	6	50.000	7	60.000	3	75.000	1	100.00	-3	200.00	5
Naphthalene			5.0000	-5	10.000	-5	20.000	8	50.000	3	60.000	1	75.000	0	100.00	1	200.00	-4
1,2,3-Trichlorobenzene			5.0000	0	10.000	0	20.000	8	50.000	3	60.000	-2	75.000	-3	100.00	-2	200.00	-4
Dibromofluoromethane	50.000	-2	50.000	3	50.000	1	50.000	4	50.000	1	50.000	2	50.000	1	50.000	-2	50.000	-6
1,2-Dichloroethane-d4	50.000	5	50.000	3	50.000	6	50.000	1	50.000	-3	50.000	-1	50.000	1	50.000	-3	50.000	-9
Trifluorotoluene	2.5000	4	5.0000	0	10.000	-12	20.000	5	50.000	-2	60.000	6	75.000	2	100.00	0	200.00	-2
Toluene-d8	50.000	-4	50.000	2	50.000	7	50.000	-4	50.000	2	50.000	0	50.000	-3	50.000	-2	50.000	2
Bromofluorobenzene	50.000	0	50.000	3	50.000	-1	50.000	0	50.000	1	50.000	-4	50.000	0	50.000	0	50.000	0

DAR 04/03/15 [Freon 12]: Combined split peak in all levels.

DAR 04/03/15 [Bromomethane]: Combined split peak in (dd109).

DAR 04/03/15 [Vinyl Chloride]: Combined split peak in multiple levels.

DAR 04/03/15 [Chloroethane]: Combined split peak in multiple levels.

DAR 04/03/15 [Trichlorofluoromethane]: Combined split peak in multiple levels.

DAR 04/03/15 [Ethanol]: Combined split peak in multiple levels.

DAR 04/03/15 [Isopropanol]: Combined split peak in multiple levels.

DAR 04/03/15 [Acetone]: Combined split peak in (dd108).

Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

435131479001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Name : 826GOX4S
Calnum : 435131479001 Cal Date : 01-APR-2015 Type : SOIL

ICV 435131479015 (dd115 01-APR-2015) stds: S26672 (10000X), S26911 (5000X)
ICV 435131479016 (dd116 01-APR-2015) stds: S26876 (10000X), S26759 (10000X), S26642 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	435131479015	20.00	15.24	ug/L	**-24**	30	!v- m
Chloromethane	435131479015	20.00	16.42	ug/L	-18	30	
Vinyl Chloride	435131479015	20.00	18.50	ug/L	-7	20	
Bromomethane	435131479015	20.00	16.82	ug/L	-16	30	m
Chloroethane	435131479015	20.00	18.88	ug/L	-6	30	
Trichlorofluoromethane	435131479015	20.00	18.50	ug/L	-7	30	
Acetone	435131479016	25.00	25.47	ug/L	2	40	
Freon 113	435131479016	25.00	24.13	ug/L	-3	30	
1,1-Dichloroethene	435131479016	25.00	25.07	ug/L	0	20	
Methylene Chloride	435131479016	25.00	23.65	ug/L	-5	30	
Carbon Disulfide	435131479016	25.00	26.20	ug/L	5	30	
MTBE	435131479016	25.00	19.93	ug/L	-20	30	
trans-1,2-Dichloroethene	435131479016	25.00	18.53	ug/L	**-26**	30	!v-
Vinyl Acetate	435131479016	25.00	28.92	ug/L	16	40	
1,1-Dichloroethane	435131479016	25.00	23.57	ug/L	-6	30	
2-Butanone	435131479016	25.00	22.31	ug/L	-11	40	
2,2-Dichloropropane	435131479016	25.00	23.98	ug/L	-4	30	
cis-1,2-Dichloroethene	435131479016	25.00	24.11	ug/L	-4	30	
Chloroform	435131479016	25.00	24.43	ug/L	-2	20	
Bromochloromethane	435131479016	25.00	24.16	ug/L	-3	30	
1,1,1-Trichloroethane	435131479016	25.00	24.65	ug/L	-1	30	
1,1-Dichloropropene	435131479016	25.00	24.75	ug/L	-1	30	
Carbon Tetrachloride	435131479016	25.00	25.63	ug/L	3	30	
1,2-Dichloroethane	435131479016	25.00	23.91	ug/L	-4	30	
Benzene	435131479016	25.00	25.99	ug/L	4	30	
Trichloroethene	435131479016	25.00	24.57	ug/L	-2	30	
1,2-Dichloropropane	435131479016	25.00	23.69	ug/L	-5	20	
Bromodichloromethane	435131479016	25.00	24.38	ug/L	-2	30	
Dibromomethane	435131479016	25.00	26.11	ug/L	4	30	
4-Methyl-2-Pentanone	435131479016	25.00	27.43	ug/L	10	40	
cis-1,3-Dichloropropene	435131479016	25.00	23.81	ug/L	-5	30	
Toluene	435131479016	25.00	25.46	ug/L	2	20	
trans-1,3-Dichloropropene	435131479016	25.00	22.05	ug/L	-12	30	
1,1,2-Trichloroethane	435131479016	25.00	24.85	ug/L	-1	30	
2-Hexanone	435131479016	25.00	30.15	ug/L	**21**	40	!v+
1,3-Dichloropropane	435131479016	25.00	26.47	ug/L	6	30	
Tetrachloroethene	435131479016	25.00	25.97	ug/L	4	30	
Dibromochloromethane	435131479016	25.00	24.50	ug/L	-2	30	
1,2-Dibromoethane	435131479016	25.00	24.84	ug/L	-1	30	
Chlorobenzene	435131479016	25.00	25.01	ug/L	0	30	
1,1,1,2-Tetrachloroethane	435131479016	25.00	24.64	ug/L	-1	30	
Ethylbenzene	435131479016	25.00	26.65	ug/L	7	20	
m,p-Xylenes	435131479016	50.00	51.10	ug/L	2	30	
o-Xylene	435131479016	25.00	25.89	ug/L	4	30	
Styrene	435131479016	25.00	25.51	ug/L	2	30	
Bromoform	435131479016	25.00	24.63	ug/L	-1	30	
Isopropylbenzene	435131479016	25.00	25.87	ug/L	3	30	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	435131479016	25.00	25.05	ug/L	0	30	
1,2,3-Trichloropropane	435131479016	25.00	22.77	ug/L	-9	30	
Propylbenzene	435131479016	25.00	25.67	ug/L	3	30	
Bromobenzene	435131479016	25.00	25.14	ug/L	1	30	
1,3,5-Trimethylbenzene	435131479016	25.00	26.73	ug/L	7	30	
2-Chlorotoluene	435131479016	25.00	25.13	ug/L	1	30	
4-Chlorotoluene	435131479016	25.00	24.78	ug/L	-1	30	
tert-Butylbenzene	435131479016	25.00	25.65	ug/L	3	30	
1,2,4-Trimethylbenzene	435131479016	25.00	24.86	ug/L	-1	30	
sec-Butylbenzene	435131479016	25.00	26.30	ug/L	5	30	
para-Isopropyl Toluene	435131479016	25.00	23.81	ug/L	-5	30	
1,3-Dichlorobenzene	435131479016	25.00	23.90	ug/L	-4	30	
1,4-Dichlorobenzene	435131479016	25.00	23.89	ug/L	-4	30	
n-Butylbenzene	435131479016	25.00	25.96	ug/L	4	30	
1,2-Dichlorobenzene	435131479016	25.00	25.59	ug/L	2	30	
1,2-Dibromo-3-Chloropropane	435131479016	25.00	22.84	ug/L	-9	30	
1,2,4-Trichlorobenzene	435131479016	25.00	24.54	ug/L	-2	30	
Hexachlorobutadiene	435131479016	25.00	24.97	ug/L	0	30	
Naphthalene	435131479016	25.00	23.90	ug/L	-4	30	
1,2,3-Trichlorobenzene	435131479016	25.00	25.40	ug/L	2	30	

435131479015: Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15
435131479016: Analyst: DJA Date: 04/06/15 Reviewer: LW Date: 04/06/15

!=warning +=high bias -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Soil: EPA 8260B

Inst : MSVOA05 Name : 826GOX5S
Calnum : 445154813001 Date : 17-APR-2015 20:12 Type : SOIL
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	edh16	445154813016	2.5PPB	17-APR-2015 20:12	S26948 (200000X), S26838 (200000X), S26957 (200000X), S26911 (5000X)
L2	edh17	445154813017	5PPB	17-APR-2015 20:47	S26948 (100000X), S26838 (100000X), S26957 (100000X), S26911 (5000X)
L3	edh18	445154813018	10PPB	17-APR-2015 21:22	S26948 (50000X), S26838 (50000X), S26957 (50000X), S26911 (5000X)
L4	edh19	445154813019	20PPB	17-APR-2015 21:56	S26948 (25000X), S26838 (25000X), S26957 (25000X), S26911 (5000X)
L5	edh20	445154813020	50PPB	17-APR-2015 22:31	S26948 (10000X), S26838 (10000X), S26957 (10000X), S26911 (5000X)
L6	edh21	445154813021	60PPB	17-APR-2015 23:06	S26948 (8333X), S26838 (8333X), S26957 (8333X), S26911 (5000X)
L7	edh22	445154813022	75PPB	17-APR-2015 23:41	S26948 (6667X), S26838 (6667X), S26957 (6667X), S26911 (5000X)
L8	edh23	445154813023	100PPB	18-APR-2015 00:15	S26948 (5000X), S26838 (5000X), S26957 (5000X), S26911 (5000X)
L9	edh24	445154813024	200PPB	18-APR-2015 00:50	S26948 (2500X), S26838 (2500X), S26957 (2500X), S26911 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.1582m	1.1754m	1.1815m	1.1640m	0.9736m	1.0828m	1.0365m	1.1088m	AVRG		0.90083		1.1101	7	15	0.05	0.99	
Chloromethane		1.1678m	1.3486m	1.1646m	1.1960m	1.0302m	1.1690m	1.0551m	1.0797m	AVRG		0.86853		1.1514	9	15	0.10	0.99	
Vinyl Chloride		0.9664m	1.0118m	0.9537m	0.9539m	0.7946m	0.9153m	0.8147m	0.8748m	AVRG		1.09812		0.9106	8	15	0.05	0.99	
Bromomethane		0.6140m	0.6340	0.5948m	0.5734m	0.4570m	0.4931m	0.4468m		AVRG		1.83573		0.5447	14	15	0.05	0.99	
Chloroethane		0.4607m	0.5325m	0.4824m	0.4749m	0.4079m	0.4502m	0.4053m	0.4034m	AVRG		2.21152		0.4522	10	15	0.05	0.99	
Trichlorofluoromethane		1.1575m	1.1655m	1.1882m	1.1766m	0.9981m	1.1176m	1.0572m	1.1357m	AVRG		0.88924		1.1246	6	15	0.05	0.99	
Acetone			0.5890	0.4205	0.3995	0.2970	0.3225	0.2763	0.2843	LINR	-12.554	3.75000		0.3699	0.989	15	0.05	0.99	
Freon 113		0.5433	0.5693	0.5909	0.6271	0.4987	0.5186	0.5271	0.5539	AVRG		1.80636		0.5536	8	15	0.05	0.99	
1,1-Dichloroethene		0.4782	0.5321	0.5014	0.5473	0.4235	0.4570	0.4360	0.4688	AVRG		2.08103		0.4805	9	15	0.05	0.99	
Methylene Chloride		0.6659	0.7245	0.6690	0.7544	0.5574	0.6485	0.6130	0.6050	AVRG		1.52740		0.6547	10	15	0.05	0.99	
Carbon Disulfide		1.9764	2.1056	1.9936	2.2278	1.6698	1.8787	1.8836	1.8033	AVRG		0.51484		1.9423	9	15	0.05	0.99	
MTBE		1.9596	2.1117	1.9323	2.2445	1.6632	1.9106	1.7414	1.8122	AVRG		0.52030		1.9220	10	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5640	0.6319	0.5709	0.6383	0.4796	0.5285	0.5094	0.5125	AVRG		1.80378		0.5544	10	15	0.05	0.99	
Vinyl Acetate		1.4243	1.5645	1.4767	1.5267	1.2166	1.4580	1.3269	1.4612	AVRG		0.69839		1.4319	8	15	0.05	0.99	
1,1-Dichloroethane		1.1858	1.3345	1.2078	1.3490	1.0550	1.1304	1.0659	1.0758	AVRG		0.85068		1.1755	10	15	0.10	0.99	
2-Butanone			0.4825	0.4206	0.4543	0.3469	0.4026	0.3559	0.3731	AVRG		2.46831		0.4051	13	15	0.05	0.99	
2,2-Dichloropropane		1.0114	1.1084	1.0106	1.0929	0.8294	0.9305	0.9019	0.9237	AVRG		1.02447		0.9761	10	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6692	0.6881	0.6182	0.7023	0.5200	0.5947	0.5740	0.5622	AVRG		1.62317		0.6161	11	15	0.05	0.99	
Chloroform		1.1804	1.3122	1.1786	1.3532	1.0066	1.1618	1.0895	1.0894	AVRG		0.85362		1.1715	10	15	0.05	0.99	
Bromochloromethane		0.3059	0.3363	0.3063	0.3367	0.2435	0.2773	0.2663	0.2507	AVRG		3.44365		0.2904	13	15	0.05	0.99	
1,1,1-Trichloroethane		0.8931	1.0205	0.9303	1.0250	0.7784	0.8661	0.8587	0.8887	AVRG		1.10180		0.9076	9	15	0.05	0.99	
1,1-Dichloropropene		0.6208	0.6452	0.6271	0.6775	0.5226	0.5516	0.5595	0.5560	AVRG		1.68050		0.5951	9	15	0.05	0.99	
Carbon Tetrachloride		0.5107	0.5562	0.5392	0.6010	0.4587	0.4852	0.5154	0.5186	AVRG		1.91161		0.5231	8	15	0.05	0.99	
1,2-Dichloroethane		0.6933	0.7299	0.6833	0.7736	0.5553	0.6476	0.6260	0.6245	AVRG		1.49998		0.6667	10	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.6136	1.7175	1.5466	1.7323	1.2698	1.4148	1.3870	1.2824	AVRG		0.66867		1.4955	12	15	0.05	0.99	
Trichloroethene		0.4412	0.4607	0.4255	0.4818	0.3518	0.3931	0.3923	0.3887	AVRG		2.39875		0.4169	10	15	0.05	0.99	
1,2-Dichloropropane		0.4765	0.5000	0.4691	0.5438	0.3928	0.4403	0.4308	0.4227	AVRG		2.17623		0.4595	10	15	0.05	0.99	
Bromodichloromethane		0.6032	0.6955	0.6532	0.7776	0.5500	0.6315	0.6261	0.6194	AVRG		1.55146		0.6446	11	15	0.05	0.99	
Dibromomethane		0.3025	0.3403	0.3130	0.3615	0.2551	0.2944	0.2864	0.2858	AVRG		3.28007		0.3049	11	15	0.05	0.99	
4-Methyl-2-Pentanone			0.6844	0.6221	0.6891	0.5094	0.5931	0.5429	0.5830	AVRG		1.65723		0.6034	11	15	0.05	0.99	
cis-1,3-Dichloropropene		0.7584	0.7927	0.7354	0.8461	0.5990	0.7060	0.6761	0.6822	AVRG		1.38028		0.7245	11	15	0.05	0.99	
Toluene		1.0418	1.1460	1.0171	1.1044	0.8604	0.9608	0.9235	0.8819	AVRG		1.00809		0.9920	10	15	0.05	0.99	
trans-1,3-Dichloropropene		0.7418	0.8060	0.7647	0.8782	0.6448	0.7460	0.7172	0.7144	AVRG		1.33046		0.7516	9	15	0.05	0.99	
1,1,2-Trichloroethane		0.2449	0.2548	0.2404	0.2760	0.2016	0.2295	0.2226	0.2196	AVRG		4.23377		0.2362	10	15	0.05	0.99	
2-Hexanone			0.5271	0.5073	0.5576	0.4264	0.4878	0.4443	0.4703	AVRG		2.04633		0.4887	9	15	0.05	0.99	
1,3-Dichloropropane		0.7503	0.8198	0.7325	0.8369	0.6247	0.7025	0.6873	0.6626	AVRG		1.37535		0.7271	10	15	0.05	0.99	
Tetrachloroethene		0.4541	0.5283	0.4845	0.5123	0.3818	0.4160	0.4383	0.4198	AVRG		2.20082		0.4544	11	15	0.05	0.99	
Dibromochloromethane		0.4938	0.5653	0.5234	0.6027	0.4490	0.5108	0.4976	0.4906	AVRG		1.93560		0.5166	9	15	0.05	0.99	
1,2-Dibromoethane		0.4328	0.4653	0.4392	0.4883	0.3708	0.4174	0.4013	0.4031	AVRG		2.34045		0.4273	9	15	0.05	0.99	
Chlorobenzene		1.0922	1.2363	1.1145	1.2392	0.9352	1.0225	1.0104	0.9421	AVRG		0.93106		1.0740	11	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4514	0.5057	0.4356	0.5106	0.3696	0.4275	0.4170	0.4018	AVRG		2.27321		0.4399	11	15	0.05	0.99	
Ethylbenzene		2.0424	2.3366	2.0836	2.2387	1.7208	1.9216	1.8450	1.7390	AVRG		0.50226		1.9910	11	15	0.05	0.99	
m,p-Xylenes	0.7449	0.7026	0.7870	0.6843	0.7383	0.5583	0.6099	0.5860	0.5360	AVRG		1.51328		0.6608	14	15	0.05	0.99	
o-Xylene		0.7035	0.7969	0.6862	0.7753	0.5809	0.6352	0.6177	0.5774	AVRG		1.48890		0.6716	12	15	0.05	0.99	
Styrene		1.2116	1.3739	1.2217	1.3545	1.0115	1.1481	1.1011	1.0201	AVRG		0.84723		1.1803	12	15	0.05	0.99	
Bromoform		0.3848	0.4402	0.4062	0.4889	0.3477	0.3965	0.3892	0.3896	AVRG		2.46671		0.4054	10	15	0.10	0.99	
Isopropylbenzene		3.4099	3.5969	3.1839	3.4803	2.7197	2.9114	2.8970	2.8893	AVRG		0.31887		3.1360	10	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.1470	1.2232	1.1031	1.2405	0.9372	1.0686	1.0088	1.0211	AVRG		0.91433		1.0937	10	15	0.30	0.99	
1,2,3-Trichloropropane		0.8935	0.9084	0.8523	0.9594	0.7287	0.8373	0.7794	0.8133	AVRG		1.18130		0.8465	9	15	0.05	0.99	
Propylbenzene		4.3621	4.7052	4.3173	4.3725	3.4441	3.6849	3.4972	3.3488	AVRG		0.25211		3.9665	13	15	0.05	0.99	
Bromobenzene		0.9510	1.0538	0.9565	1.0467	0.7866	0.8598	0.8278	0.7964	AVRG		1.09912		0.9098	12	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.8009	2.9800	2.6756	2.8209	2.1931	2.4510	2.3120	2.2325	AVRG		0.39089		2.5582	12	15	0.05	0.99	
2-Chlorotoluene		3.0657	3.2387	2.8341	3.0137	2.3295	2.5932	2.3964	2.3152	AVRG		0.36720		2.7233	13	15	0.05	0.99	
4-Chlorotoluene		2.7803	2.9410	2.6761	2.9245	2.2068	2.4750	2.3451	2.2980	AVRG		0.38747		2.5809	11	15	0.05	0.99	
tert-Butylbenzene		2.3221	2.5566	2.2875	2.3806	1.8954	2.0700	2.0324	1.9851	AVRG		0.45637		2.1912	10	15	0.05	0.99	
1,2,4-Trimethylbenzene	2.9463	2.9440	3.1336	2.7648	2.9627	2.3350	2.5807	2.4301	2.3687	AVRG		0.36786		2.7184	11	15	0.05	0.99	
sec-Butylbenzene		3.6804	3.9165	3.6854	3.6997	2.9758	3.1954	3.1876	3.0190	AVRG		0.29240		3.4200	11	15	0.05	0.99	
para-Isopropyl Toluene		2.8774	3.1445	2.9346	3.0141	2.3573	2.5575	2.5389	2.4258	AVRG		0.36613		2.7313	11	15	0.05	0.99	
1,3-Dichlorobenzene		1.6651	1.8415	1.6228	1.8411	1.3731	1.5098	1.4617	1.3729	AVRG		0.63051		1.5860	12	15	0.05	0.99	
1,4-Dichlorobenzene		1.6235	1.8186	1.6281	1.7907	1.3638	1.5233	1.4590	1.3572	AVRG		0.63673		1.5705	11	15	0.05	0.99	
n-Butylbenzene		2.7654	2.9901	2.9223	3.0353	2.4515	2.5580	2.5241	2.4582	AVRG		0.36858		2.7131	9	15	0.05	0.99	
1,2-Dichlorobenzene		1.6194	1.7601	1.5850	1.7553	1.3265	1.4679	1.4375	1.3521	AVRG		0.65021		1.5380	11	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.2109	0.2154	0.2027	0.2392	0.1812	0.2083	0.1977	0.2153	AVRG		4.78821		0.2088	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.7205	0.9004	0.8622	1.0618	0.7869	0.8735	0.8637	0.8822	AVRG		1.15088		0.8689	11	15	0.05	0.99	
Hexachlorobutadiene		0.6008	0.6655	0.6445	0.6684	0.5314	0.5655	0.5877	0.6111	AVRG		1.64104		0.6094	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.2602	1.5834	1.6814	2.1515	1.6162	1.8778	1.8164	1.9774	QUAD	1.38062	0.54627	-0.00011	1.7456	0.995	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6538	0.8260	0.8259	0.9908	0.7615	0.8525	0.8464	0.8612	AVRG		1.20880		0.8273	11	15	0.05	0.99	
Dibromofluoromethane	0.4873	0.4966	0.4919	0.5008	0.5107	0.5133	0.5168	0.5092	0.4996	AVRG		1.98842		0.5029	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4728	0.4781	0.4450	0.4572	0.4532	0.4499	0.4498	0.4426	0.4386	AVRG		2.20196		0.4541	3	15	0.05	0.99	
Trifluorotoluene	0.6829	0.6763	0.7037	0.6838	0.7261	0.5426	0.5880	0.6162	0.6103	AVRG		1.54380		0.6478	9	15	0.05	0.99	
Toluene-d8	1.2938	1.2641	1.2890	1.2789	1.2790	1.2782	1.2857	1.2943	1.2721	AVRG		0.78022		1.2817	1	15	0.05	0.99	
Bromofluorobenzene	1.0550	1.0493	0.9975	1.0275	1.0140	1.0230	1.0525	1.0142	1.0521	AVRG		0.96928		1.0317	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	4	10.000	6	20.000	6	50.000	5	60.000	-12	75.000	-2	100.00	-7	200.00	0
Chloromethane			5.0000	1	10.000	17	20.000	1	50.000	4	60.000	-11	75.000	2	100.00	-8	200.00	-6
Vinyl Chloride			5.0000	6	10.000	11	20.000	5	50.000	5	60.000	-13	75.000	1	100.00	-11	200.00	-4
Bromomethane			5.0000	13	10.000	16	20.000	9	50.000	5	60.000	-16	75.000	-9	100.00	-18		
Chloroethane			5.0000	2	10.000	18	20.000	7	50.000	5	60.000	-10	75.000	0	100.00	-10	200.00	-11
Trichlorofluoromethane			5.0000	3	10.000	4	20.000	6	50.000	5	60.000	-11	75.000	-1	100.00	-6	200.00	1
Acetone					10.000	-5	20.000	-5	50.000	**25**	60.000	-10	75.000	4	100.00	-9	200.00	0
Freon 113			5.0000	-2	10.000	3	20.000	7	50.000	13	60.000	-10	75.000	-6	100.00	-5	200.00	0
1,1-Dichloroethene			5.0000	0	10.000	11	20.000	4	50.000	14	60.000	-12	75.000	-5	100.00	-9	200.00	-2
Methylene Chloride			5.0000	2	10.000	11	20.000	2	50.000	15	60.000	-15	75.000	-1	100.00	-6	200.00	-8
Carbon Disulfide			5.0000	2	10.000	8	20.000	3	50.000	15	60.000	-14	75.000	-3	100.00	-3	200.00	-7
MTBE			5.0000	2	10.000	10	20.000	1	50.000	17	60.000	-13	75.000	-1	100.00	-9	200.00	-6
trans-1,2-Dichloroethene			5.0000	2	10.000	14	20.000	3	50.000	15	60.000	-13	75.000	-5	100.00	-8	200.00	-8
Vinyl Acetate			5.0000	-1	10.000	9	20.000	3	50.000	7	60.000	-15	75.000	2	100.00	-7	200.00	2
1,1-Dichloroethane			5.0000	1	10.000	14	20.000	3	50.000	15	60.000	-10	75.000	-4	100.00	-9	200.00	-8
2-Butanone					10.000	19	20.000	4	50.000	12	60.000	-14	75.000	-1	100.00	-12	200.00	-8
2,2-Dichloropropane			5.0000	4	10.000	14	20.000	4	50.000	12	60.000	-15	75.000	-5	100.00	-8	200.00	-5
cis-1,2-Dichloroethene			5.0000	9	10.000	12	20.000	0	50.000	14	60.000	-16	75.000	-3	100.00	-7	200.00	-9
Chloroform			5.0000	1	10.000	12	20.000	1	50.000	16	60.000	-14	75.000	-1	100.00	-7	200.00	-7
Bromochloromethane			5.0000	5	10.000	16	20.000	5	50.000	16	60.000	-16	75.000	-5	100.00	-8	200.00	-14
1,1,1-Trichloroethane			5.0000	-2	10.000	12	20.000	2	50.000	13	60.000	-14	75.000	-5	100.00	-5	200.00	-2
1,1-Dichloropropene			5.0000	4	10.000	8	20.000	5	50.000	14	60.000	-12	75.000	-7	100.00	-6	200.00	-7
Carbon Tetrachloride			5.0000	-2	10.000	6	20.000	3	50.000	15	60.000	-12	75.000	-7	100.00	-1	200.00	-1
1,2-Dichloroethane			5.0000	4	10.000	9	20.000	2	50.000	16	60.000	-17	75.000	-3	100.00	-6	200.00	-6
Benzene			5.0000	8	10.000	15	20.000	3	50.000	16	60.000	-15	75.000	-5	100.00	-7	200.00	-14
Trichloroethene			5.0000	6	10.000	11	20.000	2	50.000	16	60.000	-16	75.000	-6	100.00	-6	200.00	-7
1,2-Dichloropropane			5.0000	4	10.000	9	20.000	2	50.000	18	60.000	-15	75.000	-4	100.00	-6	200.00	-8
Bromodichloromethane			5.0000	-6	10.000	8	20.000	1	50.000	**21**	60.000	-15	75.000	-2	100.00	-3	200.00	-4
Dibromomethane			5.0000	-1	10.000	12	20.000	3	50.000	19	60.000	-16	75.000	-3	100.00	-6	200.00	-6
4-Methyl-2-Pentanone					10.000	13	20.000	3	50.000	14	60.000	-16	75.000	-2	100.00	-10	200.00	-3
cis-1,3-Dichloropropene			5.0000	5	10.000	9	20.000	2	50.000	17	60.000	-17	75.000	-3	100.00	-7	200.00	-6
Toluene			5.0000	5	10.000	16	20.000	3	50.000	11	60.000	-13	75.000	-3	100.00	-7	200.00	-11
trans-1,3-Dichloropropene			5.0000	-1	10.000	7	20.000	2	50.000	17	60.000	-14	75.000	-1	100.00	-5	200.00	-5
1,1,2-Trichloroethane			5.0000	4	10.000	8	20.000	2	50.000	17	60.000	-15	75.000	-3	100.00	-6	200.00	-7
2-Hexanone					10.000	8	20.000	4	50.000	14	60.000	-13	75.000	0	100.00	-9	200.00	-4
1,3-Dichloropropane			5.0000	3	10.000	13	20.000	1	50.000	15	60.000	-14	75.000	-3	100.00	-5	200.00	-9
Tetrachloroethene			5.0000	0	10.000	16	20.000	7	50.000	13	60.000	-16	75.000	-8	100.00	-4	200.00	-8
Dibromochloromethane			5.0000	-4	10.000	9	20.000	1	50.000	17	60.000	-13	75.000	-1	100.00	-4	200.00	-5
1,2-Dibromoethane			5.0000	1	10.000	9	20.000	3	50.000	14	60.000	-13	75.000	-2	100.00	-6	200.00	-6
Chlorobenzene			5.0000	2	10.000	15	20.000	4	50.000	15	60.000	-13	75.000	-5	100.00	-6	200.00	-12
1,1,1,2-Tetrachloroethane			5.0000	3	10.000	15	20.000	-1	50.000	16	60.000	-16	75.000	-3	100.00	-5	200.00	-9
Ethylbenzene			5.0000	3	10.000	17	20.000	5	50.000	12	60.000	-14	75.000	-3	100.00	-7	200.00	-13

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	13	10.000	6	20.000	19	40.000	4	100.00	12	120.00	-16	150.00	-8	200.00	-11	400.00	-19
o-Xylene			5.0000	5	10.000	19	20.000	2	50.000	15	60.000	-14	75.000	-5	100.00	-8	200.00	-14
Styrene			5.0000	3	10.000	16	20.000	4	50.000	15	60.000	-14	75.000	-3	100.00	-7	200.00	-14
Bromoform			5.0000	-5	10.000	9	20.000	0	50.000	**21**	60.000	-14	75.000	-2	100.00	-4	200.00	-4
Isopropylbenzene			5.0000	9	10.000	15	20.000	2	50.000	11	60.000	-13	75.000	-7	100.00	-8	200.00	-8
1,1,2,2-Tetrachloroethane			5.0000	5	10.000	12	20.000	1	50.000	13	60.000	-14	75.000	-2	100.00	-8	200.00	-7
1,2,3-Trichloropropane			5.0000	6	10.000	7	20.000	1	50.000	13	60.000	-14	75.000	-1	100.00	-8	200.00	-4
Propylbenzene			5.0000	10	10.000	19	20.000	9	50.000	10	60.000	-13	75.000	-7	100.00	-12	200.00	-16
Bromobenzene			5.0000	5	10.000	16	20.000	5	50.000	15	60.000	-14	75.000	-6	100.00	-9	200.00	-12
1,3,5-Trimethylbenzene			5.0000	9	10.000	16	20.000	5	50.000	10	60.000	-14	75.000	-4	100.00	-10	200.00	-13
2-Chlorotoluene			5.0000	13	10.000	19	20.000	4	50.000	11	60.000	-14	75.000	-5	100.00	-12	200.00	-15
4-Chlorotoluene			5.0000	8	10.000	14	20.000	4	50.000	13	60.000	-14	75.000	-4	100.00	-9	200.00	-11
tert-Butylbenzene			5.0000	6	10.000	17	20.000	4	50.000	9	60.000	-14	75.000	-6	100.00	-7	200.00	-9
1,2,4-Trimethylbenzene	2.5000	8	5.0000	8	10.000	15	20.000	2	50.000	9	60.000	-14	75.000	-5	100.00	-11	200.00	-13
sec-Butylbenzene			5.0000	8	10.000	15	20.000	8	50.000	8	60.000	-13	75.000	-7	100.00	-7	200.00	-12
para-Isopropyl Toluene			5.0000	5	10.000	15	20.000	7	50.000	10	60.000	-14	75.000	-6	100.00	-7	200.00	-11
1,3-Dichlorobenzene			5.0000	5	10.000	16	20.000	2	50.000	16	60.000	-13	75.000	-5	100.00	-8	200.00	-13
1,4-Dichlorobenzene			5.0000	3	10.000	16	20.000	4	50.000	14	60.000	-13	75.000	-3	100.00	-7	200.00	-14
n-Butylbenzene			5.0000	2	10.000	10	20.000	8	50.000	12	60.000	-10	75.000	-6	100.00	-7	200.00	-9
1,2-Dichlorobenzene			5.0000	5	10.000	14	20.000	3	50.000	14	60.000	-14	75.000	-5	100.00	-7	200.00	-12
1,2-Dibromo-3-Chloropropane			5.0000	1	10.000	3	20.000	-3	50.000	15	60.000	-13	75.000	0	100.00	-5	200.00	3
1,2,4-Trichlorobenzene			5.0000	-17	10.000	4	20.000	-1	50.000	**22**	60.000	-9	75.000	1	100.00	-1	200.00	2
Hexachlorobutadiene			5.0000	-1	10.000	9	20.000	6	50.000	10	60.000	-13	75.000	-7	100.00	-4	200.00	0
Naphthalene			5.0000	-4	10.000	0	20.000	-2	50.000	18	60.000	-11	75.000	2	100.00	-3	200.00	0
1,2,3-Trichlorobenzene			5.0000	**-21**	10.000	0	20.000	0	50.000	20	60.000	-8	75.000	3	100.00	2	200.00	4
Dibromofluoromethane	50.000	-3	50.000	-1	50.000	-2	50.000	0	50.000	2	50.000	2	50.000	3	50.000	1	50.000	-1
1,2-Dichloroethane-d4	50.000	4	50.000	5	50.000	-2	50.000	1	50.000	0	50.000	-1	50.000	-1	50.000	-3	50.000	-3
Trifluorotoluene	2.5000	5	5.0000	4	10.000	9	20.000	6	50.000	12	60.000	-16	75.000	-9	100.00	-5	200.00	-6
Toluene-d8	50.000	1	50.000	-1	50.000	1	50.000	0	50.000	0	50.000	0	50.000	0	50.000	1	50.000	-1
Bromofluorobenzene	50.000	2	50.000	2	50.000	-3	50.000	0	50.000	-2	50.000	-1	50.000	2	50.000	-2	50.000	2

NJT 04/21/15 [Freon 12]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Chloroethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Bromomethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Chloromethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Trichlorofluoromethane]: Corrected fronting or tailing peak integration in multiple levels.

NJT 04/21/15 [Ethanol]: Corrected fronting or tailing peak integration in multiple levels.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

445154813001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Name : 826GOX5S
Calnum : 445154813001 Cal Date : 17-APR-2015 Type : SOIL

ICV 445154813026 (edh26 18-APR-2015) stds: S26876 (10000X), S27022 (10000X), S26759 (10000X), S26911 (5000X)
ICV 445160525003 (edl03 21-APR-2015) stds: S26358 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	445160525003	21-APR-2015	20.00	17.67	ug/L	-12	30	m
Chloromethane	445160525003	21-APR-2015	20.00	22.09	ug/L	10	30	m
Vinyl Chloride	445160525003	21-APR-2015	20.00	22.24	ug/L	11	20	m
Bromomethane	445160525003	21-APR-2015	20.00	15.32	ug/L	**-23**	30	!v- m
Chloroethane	445160525003	21-APR-2015	20.00	22.34	ug/L	12	30	m
Trichlorofluoromethane	445160525003	21-APR-2015	20.00	18.93	ug/L	-5	30	m
Acetone	445154813026	18-APR-2015	25.00	24.77	ug/L	-1	40	
Freon 113	445154813026	18-APR-2015	25.00	23.27	ug/L	-7	30	
1,1-Dichloroethene	445154813026	18-APR-2015	25.00	25.33	ug/L	1	20	
Methylene Chloride	445154813026	18-APR-2015	25.00	25.16	ug/L	1	30	
Carbon Disulfide	445154813026	18-APR-2015	25.00	26.30	ug/L	5	30	
MTBE	445154813026	18-APR-2015	25.00	27.93	ug/L	12	30	
trans-1,2-Dichloroethene	445154813026	18-APR-2015	25.00	24.23	ug/L	-3	30	
Vinyl Acetate	445154813026	18-APR-2015	25.00	33.15	ug/L	**33**	40	!v+
1,1-Dichloroethane	445154813026	18-APR-2015	25.00	25.42	ug/L	2	30	
2-Butanone	445154813026	18-APR-2015	25.00	25.02	ug/L	0	40	
2,2-Dichloropropane	445154813026	18-APR-2015	25.00	25.31	ug/L	1	30	
cis-1,2-Dichloroethene	445154813026	18-APR-2015	25.00	25.48	ug/L	2	30	
Chloroform	445154813026	18-APR-2015	25.00	25.09	ug/L	0	20	
Bromochloromethane	445154813026	18-APR-2015	25.00	25.08	ug/L	0	30	
1,1,1-Trichloroethane	445154813026	18-APR-2015	25.00	25.19	ug/L	1	30	
1,1-Dichloropropene	445154813026	18-APR-2015	25.00	24.28	ug/L	-3	30	
Carbon Tetrachloride	445154813026	18-APR-2015	25.00	25.03	ug/L	0	30	
1,2-Dichloroethane	445154813026	18-APR-2015	25.00	24.08	ug/L	-4	30	
Benzene	445154813026	18-APR-2015	25.00	25.83	ug/L	3	30	
Trichloroethene	445154813026	18-APR-2015	25.00	24.98	ug/L	0	30	
1,2-Dichloropropane	445154813026	18-APR-2015	25.00	23.89	ug/L	-4	20	
Bromodichloromethane	445154813026	18-APR-2015	25.00	24.12	ug/L	-4	30	
Dibromomethane	445154813026	18-APR-2015	25.00	24.83	ug/L	-1	30	
4-Methyl-2-Pentanone	445154813026	18-APR-2015	25.00	24.86	ug/L	-1	40	
cis-1,3-Dichloropropene	445154813026	18-APR-2015	25.00	24.58	ug/L	-2	30	
Toluene	445154813026	18-APR-2015	25.00	25.44	ug/L	2	20	
trans-1,3-Dichloropropene	445154813026	18-APR-2015	25.00	23.03	ug/L	-8	30	
1,1,2-Trichloroethane	445154813026	18-APR-2015	25.00	24.59	ug/L	-2	30	
2-Hexanone	445154813026	18-APR-2015	25.00	24.96	ug/L	0	40	
1,3-Dichloropropane	445154813026	18-APR-2015	25.00	25.36	ug/L	1	30	
Tetrachloroethene	445154813026	18-APR-2015	25.00	25.07	ug/L	0	30	
Dibromochloromethane	445154813026	18-APR-2015	25.00	23.71	ug/L	-5	30	
1,2-Dibromoethane	445154813026	18-APR-2015	25.00	24.76	ug/L	-1	30	
Chlorobenzene	445154813026	18-APR-2015	25.00	24.96	ug/L	0	30	
1,1,1,2-Tetrachloroethane	445154813026	18-APR-2015	25.00	23.85	ug/L	-5	30	
Ethylbenzene	445154813026	18-APR-2015	25.00	25.50	ug/L	2	20	
m,p-Xylenes	445154813026	18-APR-2015	50.00	49.37	ug/L	-1	30	
o-Xylene	445154813026	18-APR-2015	25.00	25.34	ug/L	1	30	
Styrene	445154813026	18-APR-2015	25.00	24.78	ug/L	-1	30	
Bromoform	445154813026	18-APR-2015	25.00	23.33	ug/L	-7	30	
Isopropylbenzene	445154813026	18-APR-2015	25.00	24.06	ug/L	-4	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	445154813026	18-APR-2015	25.00	23.79	ug/L	-5	30	
1,2,3-Trichloropropane	445154813026	18-APR-2015	25.00	23.16	ug/L	-7	30	
Propylbenzene	445154813026	18-APR-2015	25.00	24.63	ug/L	-1	30	
Bromobenzene	445154813026	18-APR-2015	25.00	24.28	ug/L	-3	30	
1,3,5-Trimethylbenzene	445154813026	18-APR-2015	25.00	25.65	ug/L	3	30	
2-Chlorotoluene	445154813026	18-APR-2015	25.00	24.49	ug/L	-2	30	
4-Chlorotoluene	445154813026	18-APR-2015	25.00	23.38	ug/L	-6	30	
tert-Butylbenzene	445154813026	18-APR-2015	25.00	24.65	ug/L	-1	30	
1,2,4-Trimethylbenzene	445154813026	18-APR-2015	25.00	23.23	ug/L	-7	30	
sec-Butylbenzene	445154813026	18-APR-2015	25.00	24.63	ug/L	-1	30	
para-Isopropyl Toluene	445154813026	18-APR-2015	25.00	24.13	ug/L	-3	30	
1,3-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.09	ug/L	-4	30	
1,4-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.24	ug/L	-3	30	
n-Butylbenzene	445154813026	18-APR-2015	25.00	24.16	ug/L	-3	30	
1,2-Dichlorobenzene	445154813026	18-APR-2015	25.00	24.29	ug/L	-3	30	
1,2-Dibromo-3-Chloropropane	445154813026	18-APR-2015	25.00	22.44	ug/L	-10	30	
1,2,4-Trichlorobenzene	445154813026	18-APR-2015	25.00	22.39	ug/L	-10	30	
Hexachlorobutadiene	445154813026	18-APR-2015	25.00	23.16	ug/L	-7	30	
Naphthalene	445154813026	18-APR-2015	25.00	21.74	ug/L	-13	30	
1,2,3-Trichlorobenzene	445154813026	18-APR-2015	25.00	22.48	ug/L	-10	30	

445154813026: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15
445160525003: Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

!=warning +=high bias -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSVOA Soil: EPA 8260B

Inst : MSVOA06 Name : 826GOX6S
Calnum : 455131716001 Date : 01-APR-2015 18:37 Type : SOIL
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	fd112	455131716012	2.5PPB	01-APR-2015 18:37	S26948 (200000X), S26838 (200000X), S26957 (200000X), S26911 (5000X)
L2	fd113	455131716013	5PPB	01-APR-2015 19:12	S26911 (5000X), S26948 (100000X), S26838 (100000X), S26957 (100000X)
L3	fd114	455131716014	10PPB	01-APR-2015 19:48	S26911 (5000X), S26948 (50000X), S26838 (50000X), S26957 (50000X)
L4	fd115	455131716015	20PPB	01-APR-2015 20:23	S26911 (5000X), S26948 (25000X), S26838 (25000X), S26957 (25000X)
L5	fd116	455131716016	50PPB	01-APR-2015 20:59	S26911 (5000X), S26948 (10000X), S26838 (10000X), S26957 (10000X)
L6	fd117	455131716017	60PPB	01-APR-2015 21:35	S26911 (5000X), S26948 (8333X), S26838 (8333X), S26957 (8333X)
L7	fd118	455131716018	75PPB	01-APR-2015 22:10	S26911 (5000X), S26948 (6667X), S26838 (6667X), S26957 (6667X)
L8	fd119	455131716019	100PPB	01-APR-2015 22:46	S26911 (5000X), S26948 (5000X), S26838 (5000X), S26957 (5000X)
L9	fd120	455131716020	200PPB	01-APR-2015 23:22	S26911 (5000X), S26948 (2500X), S26838 (2500X), S26957 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		1.0634m	1.2436	1.1719	1.0902	1.1219	1.0738	1.0973	1.0220	AVRG		0.90048		1.1105	6	15	0.05	0.99	
Chloromethane		1.0768m	1.0493m	1.0385m	0.8770m	0.9214m	0.8355m	0.8483m	0.8198m	AVRG		1.07144		0.9333	11	15	0.10	0.99	
Vinyl Chloride		0.7951	0.8618	0.8771	0.7793	0.8047	0.7937	0.7801	0.8033	AVRG		1.23169		0.8119	5	15	0.05	0.99	
Bromomethane		0.5484m	0.5315m	0.5444	0.4572	0.4746	0.4478	0.4488	0.4402	AVRG		2.05503		0.4866	10	15	0.05	0.99	
Chloroethane		0.5988m	0.6247	0.6006	0.5584	0.5671	0.5404	0.5435	0.5567	AVRG		1.74284		0.5738	5	15	0.05	0.99	
Trichlorofluoromethane		1.1237m	1.2328	1.2480	1.1355	1.1328	1.0840	1.1088	1.0817	AVRG		0.87457		1.1434	6	15	0.05	0.99	
Acetone				0.5360	0.4177	0.4598m	0.3800	0.3717	0.3648	LINR	-11.734	2.90865		0.4217	0.995	15	0.05	0.99	
Freon 113		0.5780	0.5486	0.7010	0.6630	0.6781	0.6457	0.6487	0.6586	AVRG		1.56198		0.6402	8	15	0.05	0.99	
1,1-Dichloroethene		0.6373	0.5807m	0.6411	0.6071	0.6059	0.6033	0.5958	0.6062	AVRG		1.64018		0.6097	3	15	0.05	0.99	
Methylene Chloride		0.8157	0.8358	0.8401	0.7927	0.7915	0.7775	0.7272	0.7406	AVRG		1.26559		0.7901	5	15	0.05	0.99	
Carbon Disulfide		2.4396	2.2860	2.5386	2.2708	2.2569	2.2183	2.1428	2.1516	AVRG		0.43705		2.2881	6	15	0.05	0.99	
MTBE		2.2332	2.1229	2.2565	2.1190	2.0976	2.0895	2.0208	1.9528	AVRG		0.47359		2.1115	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.7289	0.6909	0.7383	0.6719	0.6810	0.6484	0.6293	0.6310	AVRG		1.47616		0.6774	6	15	0.05	0.99	
Vinyl Acetate		1.7420	1.6293	1.6440	1.6621	1.6018	1.6724	1.5954	1.5744	AVRG		0.60969		1.6402	3	15	0.05	0.99	
1,1-Dichloroethane		1.5190	1.4418	1.4911	1.3431	1.3440	1.2887	1.2542	1.1536	AVRG		0.73831		1.3544	9	15	0.10	0.99	
2-Butanone		0.6229	0.6201	0.6280	0.5920	0.6296	0.5988	0.5660	0.5741	AVRG		1.65583		0.6039	4	15	0.05	0.99	
2,2-Dichloropropane		1.0498	1.0054	1.0710	0.9965	0.9819	0.9336	0.9176	0.8696	AVRG		1.02232		0.9782	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8147	0.7900	0.8280	0.7484	0.7324	0.7338	0.6955	0.6915	AVRG		1.32576		0.7543	7	15	0.05	0.99	
Chloroform		1.4043	1.3708	1.3946	1.2760	1.2545	1.2124	1.1813	1.1274	AVRG		0.78268		1.2777	8	15	0.05	0.99	
Bromochloromethane		0.3744	0.3633	0.3597	0.3341	0.3369	0.3306	0.3097	0.2933	AVRG		2.96081		0.3377	8	15	0.05	0.99	
1,1,1-Trichloroethane		1.0298	0.9715	1.0731	0.9981	0.9488	0.8932	0.8967	0.8690	AVRG		1.04164		0.9600	7	15	0.05	0.99	
1,1-Dichloropropene		0.5227	0.5048	0.5620	0.5346	0.5290	0.4876	0.4819	0.4679	AVRG		1.95577		0.5113	6	15	0.05	0.99	
Carbon Tetrachloride		0.4477	0.4444	0.4831	0.4639	0.4474	0.4162	0.4150	0.4078	AVRG		2.26921		0.4407	6	15	0.05	0.99	
1,2-Dichloroethane		0.6194	0.5997	0.6055	0.5694	0.5402	0.5255	0.5042	0.4906	AVRG		1.79591		0.5568	9	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.4699	1.4927	1.4489	1.4159	1.3799	1.3373	1.2972	1.2618	AVRG		0.72049		1.3880	6	15	0.05	0.99	
Trichloroethene		0.3753	0.3924	0.4073	0.3770	0.3780	0.3565	0.3553	0.3420	AVRG		2.68115		0.3730	6	15	0.05	0.99	
1,2-Dichloropropane		0.4795	0.4830	0.4700	0.4307	0.4338	0.4113	0.4019	0.3682	AVRG		2.29994		0.4348	9	15	0.05	0.99	
Bromodichloromethane		0.5809	0.5807	0.5924	0.5557	0.5603	0.5198	0.5071	0.4926	AVRG		1.82256		0.5487	7	15	0.05	0.99	
Dibromomethane		0.3031	0.3049	0.3098	0.2967	0.2896	0.2763	0.2720	0.2641	AVRG		3.45355		0.2896	6	15	0.05	0.99	
4-Methyl-2-Pentanone		0.6233	0.5982	0.6111	0.6081	0.6205	0.6041	0.5887	0.5675	AVRG		1.65920		0.6027	3	15	0.05	0.99	
cis-1,3-Dichloropropene		0.7124	0.6924	0.6984	0.6460	0.6483	0.6089	0.6112	0.5751	AVRG		1.54060		0.6491	8	15	0.05	0.99	
Toluene		1.0490	1.0005	1.0208	0.9946	0.9368	0.8999	0.8948	0.8678	AVRG		1.04381		0.9580	7	15	0.05	0.99	
trans-1,3-Dichloropropene		0.7357	0.7299	0.7785	0.7468	0.6850	0.6890	0.6770	0.6595	AVRG		1.40318		0.7127	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.2485	0.2338	0.2524	0.2521	0.2331	0.2317	0.2305	0.2289	AVRG		4.18601		0.2389	4	15	0.05	0.99	
2-Hexanone		0.5838	0.5437	0.5559	0.5421	0.5426	0.5232	0.5162	0.4957	AVRG		1.85912		0.5379	5	15	0.05	0.99	
1,3-Dichloropropane		0.7813	0.7295	0.7429	0.7372	0.6859	0.6794	0.6797	0.6458	AVRG		1.40805		0.7102	6	15	0.05	0.99	
Tetrachloroethene		0.3700	0.3654	0.3964	0.3803	0.3731	0.3714	0.3713	0.3783	AVRG		2.66126		0.3758	3	15	0.05	0.99	
Dibromochloromethane		0.5278	0.4955	0.5556	0.5288	0.5026	0.4943	0.4983	0.4944	AVRG		1.95257		0.5121	4	15	0.05	0.99	
1,2-Dibromoethane		0.4949	0.4717	0.5282	0.5120	0.4922	0.4806	0.4886	0.4797	AVRG		2.02629		0.4935	4	15	0.05	0.99	
Chlorobenzene		1.1649	1.0956	1.1365	1.0672	1.0101	1.0124	0.9923	0.9544	AVRG		0.94861		1.0542	7	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4051	0.4012	0.4003	0.4022	0.3814	0.3590	0.3672	0.3482	AVRG		2.61044		0.3831	6	15	0.05	0.99	
Ethylbenzene		2.0290	1.9931	2.0009	1.8326	1.7038	1.6703	1.6386	1.4885	AVRG		0.55723		1.7946	11	15	0.05	0.99	
m,p-Xylenes	0.7502	0.7419	0.7073	0.7202	0.6623	0.6022	0.5979	0.6029	0.5298	AVRG		1.52163		0.6572	12	15	0.05	0.99	
o-Xylene		0.7144	0.7448	0.7650	0.6798	0.6489	0.6333	0.6314	0.5712	AVRG		1.48460		0.6736	10	15	0.05	0.99	
Styrene		1.3122	1.3372	1.3079	1.1922	1.1184	1.1202	1.1288	1.0359	AVRG		0.83744		1.1941	9	15	0.05	0.99	
Bromoform		0.3942	0.3711	0.4077	0.4010	0.3761	0.3838	0.3809	0.3845	AVRG		2.58133		0.3874	3	15	0.10	0.99	
Isopropylbenzene		3.2335	3.1896	3.2604	3.0795	3.1419	2.9599	2.9644	2.7658	AVRG		0.32527		3.0744	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		1.2836	1.2359	1.2692	1.1996	1.2164	1.1991	1.2200	1.1365	AVRG		0.81964		1.2200	4	15	0.30	0.99	
1,2,3-Trichloropropane		1.0381	0.9467	1.0333	0.9831	0.9654	0.9305	0.9375	0.8914	AVRG		1.03546		0.9658	5	15	0.05	0.99	
Propylbenzene		4.1954	4.1705	4.3752	3.9531	3.7874	3.8444	3.6379	3.3106	AVRG		0.25580		3.9093	9	15	0.05	0.99	
Bromobenzene		0.8864	0.9200	0.9039	0.8430	0.8582	0.8447	0.8303	0.7754	AVRG		1.16588		0.8577	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.9266	2.8563	2.9237	2.7675	2.7093	2.5917	2.5772	2.3149	AVRG		0.36922		2.7084	8	15	0.05	0.99	
2-Chlorotoluene		3.0387	2.9601	2.9878	2.7678	2.7299	2.5624	2.5699	2.3438	AVRG		0.36429		2.7450	9	15	0.05	0.99	
4-Chlorotoluene		2.8408	2.8049	2.7682	2.5801	2.5555	2.4331	2.5211	2.2444	AVRG		0.38558		2.5935	8	15	0.05	0.99	
tert-Butylbenzene		2.2485	2.2082	2.2844	2.2112	2.2323	2.0908	2.0972	1.9632	AVRG		0.46148		2.1670	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		3.0052	3.1192	3.0904	2.8333	2.8219	2.6330	2.7041	2.4308	AVRG		0.35339		2.8297	8	15	0.05	0.99	
sec-Butylbenzene		3.5776	3.5304	3.8033	3.4839	3.4870	3.3906	3.2573	3.0790	AVRG		0.28976		3.4511	6	15	0.05	0.99	
para-Isopropyl Toluene		2.8463	2.8197	3.0797	2.8163	2.8119	2.5896	2.6743	2.4296	AVRG		0.36252		2.7584	7	15	0.05	0.99	
1,3-Dichlorobenzene		1.6323	1.6597	1.5919	1.5090	1.5393	1.4946	1.4341	1.3201	AVRG		0.65676		1.5226	7	15	0.05	0.99	
1,4-Dichlorobenzene		1.6852	1.6510	1.6592	1.5408	1.5387	1.4467	1.4922	1.3342	AVRG		0.64788		1.5435	8	15	0.05	0.99	
n-Butylbenzene		3.0712	3.1128	3.1781	2.8971	2.9007	2.7250	2.8016	2.4547	AVRG		0.34571		2.8926	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.7169	1.7261	1.6590	1.5510	1.5531	1.5189	1.4991	1.3927	AVRG		0.63408		1.5771	7	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.3171	0.3195	0.2780	0.2899	0.2914	0.2848	0.2875	0.2661	AVRG		3.42736		0.2918	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.2105	1.2099	1.1881	1.0803	1.0893	1.0400	1.0306	0.9486	AVRG		0.90938		1.0997	9	15	0.05	0.99	
Hexachlorobutadiene		0.5535	0.5308	0.5707	0.5613	0.5480	0.5363	0.5354	0.4963	AVRG		1.84657		0.5415	4	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.4613	3.5877	3.3902	3.2793	3.2649	3.2210	3.1896	2.8374	AVRG		0.30498		3.2789	7	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.1946	1.2055	1.1466	1.0430	1.0544	1.0411	1.0054	0.9396	AVRG		0.92696		1.0788	9	15	0.05	0.99	
Dibromofluoromethane	0.7257	0.7466	0.7315	0.7433	0.7077	0.7048	0.6852	0.6914	0.6732	AVRG		1.40416		0.7122	4	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4565	0.4477	0.4436	0.4172	0.4081	0.3974	0.3875	0.3761	0.3695	AVRG		2.43001		0.4115	8	15	0.05	0.99	
Trifluorotoluene		0.4866	0.4872	0.5373	0.5048	0.5250	0.5000	0.5001	0.4795	AVRG		1.98983		0.5026	4	15	0.05	0.99	
Toluene-d8	1.3396	1.3403	1.2904	1.3605	1.3285	1.2911	1.2354	1.3225	1.3402	AVRG		0.75959		1.3165	3	15	0.05	0.99	
Bromofluorobenzene	1.0373	1.0805	1.0417	1.0851	1.0791	1.0734	1.0175	1.0913	1.1006	AVRG		0.93687		1.0674	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			5.0000	-4	10.000	12	20.000	6	50.000	-2	60.000	1	75.000	-3	100.00	-1	200.00	-8
Chloromethane			5.0000	15	10.000	12	20.000	11	50.000	-6	60.000	-1	75.000	-10	100.00	-9	200.00	-12
Vinyl Chloride			5.0000	-2	10.000	6	20.000	8	50.000	-4	60.000	-1	75.000	-2	100.00	-4	200.00	-1
Bromomethane			5.0000	13	10.000	9	20.000	12	50.000	-6	60.000	-2	75.000	-8	100.00	-8	200.00	-10
Chloroethane			5.0000	4	10.000	9	20.000	5	50.000	-3	60.000	-1	75.000	-6	100.00	-5	200.00	-3
Trichlorofluoromethane			5.0000	-2	10.000	8	20.000	9	50.000	-1	60.000	-1	75.000	-5	100.00	-3	200.00	-5
Acetone							20.000	-3	50.000	-2	60.000	14	75.000	-5	100.00	-4	200.00	0
Freon 113			5.0000	-10	10.000	-14	20.000	9	50.000	4	60.000	6	75.000	1	100.00	1	200.00	3
1,1-Dichloroethene			5.0000	5	10.000	-5	20.000	5	50.000	0	60.000	-1	75.000	-1	100.00	-2	200.00	-1
Methylene Chloride			5.0000	3	10.000	6	20.000	6	50.000	0	60.000	0	75.000	-2	100.00	-8	200.00	-6
Carbon Disulfide			5.0000	7	10.000	0	20.000	11	50.000	-1	60.000	-1	75.000	-3	100.00	-6	200.00	-6
MTBE			5.0000	6	10.000	1	20.000	7	50.000	0	60.000	-1	75.000	-1	100.00	-4	200.00	-8
trans-1,2-Dichloroethene			5.0000	8	10.000	2	20.000	9	50.000	-1	60.000	1	75.000	-4	100.00	-7	200.00	-7
Vinyl Acetate			5.0000	6	10.000	-1	20.000	0	50.000	1	60.000	-2	75.000	2	100.00	-3	200.00	-4
1,1-Dichloroethane			5.0000	12	10.000	6	20.000	10	50.000	-1	60.000	-1	75.000	-5	100.00	-7	200.00	-15
2-Butanone			5.0000	3	10.000	3	20.000	4	50.000	-2	60.000	4	75.000	-1	100.00	-6	200.00	-5
2,2-Dichloropropane			5.0000	7	10.000	3	20.000	9	50.000	2	60.000	0	75.000	-5	100.00	-6	200.00	-11
cis-1,2-Dichloroethene			5.0000	8	10.000	5	20.000	10	50.000	-1	60.000	-3	75.000	-3	100.00	-8	200.00	-8
Chloroform			5.0000	10	10.000	7	20.000	9	50.000	0	60.000	-2	75.000	-5	100.00	-8	200.00	-12
Bromochloromethane			5.0000	11	10.000	8	20.000	6	50.000	-1	60.000	0	75.000	-2	100.00	-8	200.00	-13
1,1,1-Trichloroethane			5.0000	7	10.000	1	20.000	12	50.000	4	60.000	-1	75.000	-7	100.00	-7	200.00	-9
1,1-Dichloropropene			5.0000	2	10.000	-1	20.000	10	50.000	5	60.000	3	75.000	-5	100.00	-6	200.00	-8
Carbon Tetrachloride			5.0000	2	10.000	1	20.000	10	50.000	5	60.000	2	75.000	-6	100.00	-6	200.00	-7
1,2-Dichloroethane			5.0000	11	10.000	8	20.000	9	50.000	2	60.000	-3	75.000	-6	100.00	-9	200.00	-12
Benzene			5.0000	6	10.000	8	20.000	4	50.000	2	60.000	-1	75.000	-4	100.00	-7	200.00	-9
Trichloroethene			5.0000	1	10.000	5	20.000	9	50.000	1	60.000	1	75.000	-4	100.00	-5	200.00	-8
1,2-Dichloropropane			5.0000	10	10.000	11	20.000	8	50.000	-1	60.000	0	75.000	-5	100.00	-8	200.00	-15
Bromodichloromethane			5.0000	6	10.000	6	20.000	8	50.000	1	60.000	2	75.000	-5	100.00	-8	200.00	-10
Dibromomethane			5.0000	5	10.000	5	20.000	7	50.000	2	60.000	0	75.000	-5	100.00	-6	200.00	-9
4-Methyl-2-Pentanone			5.0000	3	10.000	-1	20.000	1	50.000	1	60.000	3	75.000	0	100.00	-2	200.00	-6
cis-1,3-Dichloropropene			5.0000	10	10.000	7	20.000	8	50.000	0	60.000	0	75.000	-6	100.00	-6	200.00	-11
Toluene			5.0000	9	10.000	4	20.000	7	50.000	4	60.000	-2	75.000	-6	100.00	-7	200.00	-9
trans-1,3-Dichloropropene			5.0000	3	10.000	2	20.000	9	50.000	5	60.000	-4	75.000	-3	100.00	-5	200.00	-7
1,1,2-Trichloroethane			5.0000	4	10.000	-2	20.000	6	50.000	6	60.000	-2	75.000	-3	100.00	-3	200.00	-4
2-Hexanone			5.0000	9	10.000	1	20.000	3	50.000	1	60.000	1	75.000	-3	100.00	-4	200.00	-8
1,3-Dichloropropane			5.0000	10	10.000	3	20.000	5	50.000	4	60.000	-3	75.000	-4	100.00	-4	200.00	-9
Tetrachloroethene			5.0000	-2	10.000	-3	20.000	5	50.000	1	60.000	-1	75.000	-1	100.00	-1	200.00	1
Dibromochloromethane			5.0000	3	10.000	-3	20.000	8	50.000	3	60.000	-2	75.000	-3	100.00	-3	200.00	-3
1,2-Dibromoethane			5.0000	0	10.000	-4	20.000	7	50.000	4	60.000	0	75.000	-3	100.00	-1	200.00	-3
Chlorobenzene			5.0000	10	10.000	4	20.000	8	50.000	1	60.000	-4	75.000	-4	100.00	-6	200.00	-9
1,1,1,2-Tetrachloroethane			5.0000	6	10.000	5	20.000	4	50.000	5	60.000	0	75.000	-6	100.00	-4	200.00	-9
Ethylbenzene			5.0000	13	10.000	11	20.000	11	50.000	2	60.000	-5	75.000	-7	100.00	-9	200.00	-17

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	5.0000	14	10.000	13	20.000	8	40.000	10	100.00	1	120.00	-8	150.00	-9	200.00	-8	400.00	-19
o-Xylene			5.0000	6	10.000	11	20.000	14	50.000	1	60.000	-4	75.000	-6	100.00	-6	200.00	-15
Styrene			5.0000	10	10.000	12	20.000	10	50.000	0	60.000	-6	75.000	-6	100.00	-5	200.00	-13
Bromoform			5.0000	2	10.000	-4	20.000	5	50.000	4	60.000	-3	75.000	-1	100.00	-2	200.00	-1
Isopropylbenzene			5.0000	5	10.000	4	20.000	6	50.000	0	60.000	2	75.000	-4	100.00	-4	200.00	-10
1,1,2,2-Tetrachloroethane			5.0000	5	10.000	1	20.000	4	50.000	-2	60.000	0	75.000	-2	100.00	0	200.00	-7
1,2,3-Trichloropropane			5.0000	7	10.000	-2	20.000	7	50.000	2	60.000	0	75.000	-4	100.00	-3	200.00	-8
Propylbenzene			5.0000	7	10.000	7	20.000	12	50.000	1	60.000	-3	75.000	-2	100.00	-7	200.00	-15
Bromobenzene			5.0000	3	10.000	7	20.000	5	50.000	-2	60.000	0	75.000	-2	100.00	-3	200.00	-10
1,3,5-Trimethylbenzene			5.0000	8	10.000	5	20.000	8	50.000	2	60.000	0	75.000	-4	100.00	-5	200.00	-15
2-Chlorotoluene			5.0000	11	10.000	8	20.000	9	50.000	1	60.000	-1	75.000	-7	100.00	-6	200.00	-15
4-Chlorotoluene			5.0000	10	10.000	8	20.000	7	50.000	-1	60.000	-1	75.000	-6	100.00	-3	200.00	-13
tert-Butylbenzene			5.0000	4	10.000	2	20.000	5	50.000	2	60.000	3	75.000	-4	100.00	-3	200.00	-9
1,2,4-Trimethylbenzene			5.0000	6	10.000	10	20.000	9	50.000	0	60.000	0	75.000	-7	100.00	-4	200.00	-14
sec-Butylbenzene			5.0000	4	10.000	2	20.000	10	50.000	1	60.000	1	75.000	-2	100.00	-6	200.00	-11
para-Isopropyl Toluene			5.0000	3	10.000	2	20.000	12	50.000	2	60.000	2	75.000	-6	100.00	-3	200.00	-12
1,3-Dichlorobenzene			5.0000	7	10.000	9	20.000	5	50.000	-1	60.000	1	75.000	-2	100.00	-6	200.00	-13
1,4-Dichlorobenzene			5.0000	9	10.000	7	20.000	7	50.000	0	60.000	0	75.000	-6	100.00	-3	200.00	-14
n-Butylbenzene			5.0000	6	10.000	8	20.000	10	50.000	0	60.000	0	75.000	-6	100.00	-3	200.00	-15
1,2-Dichlorobenzene			5.0000	9	10.000	9	20.000	5	50.000	-2	60.000	-2	75.000	-4	100.00	-5	200.00	-12
1,2-Dibromo-3-Chloropropane			5.0000	9	10.000	9	20.000	-5	50.000	-1	60.000	0	75.000	-2	100.00	-1	200.00	-9
1,2,4-Trichlorobenzene			5.0000	10	10.000	10	20.000	8	50.000	-2	60.000	-1	75.000	-5	100.00	-6	200.00	-14
Hexachlorobutadiene			5.0000	2	10.000	-2	20.000	5	50.000	4	60.000	1	75.000	-1	100.00	-1	200.00	-8
Naphthalene			5.0000	6	10.000	9	20.000	3	50.000	0	60.000	0	75.000	-2	100.00	-3	200.00	-13
1,2,3-Trichlorobenzene			5.0000	11	10.000	12	20.000	6	50.000	-3	60.000	-2	75.000	-3	100.00	-7	200.00	-13
Dibromofluoromethane	50.000	2	50.000	5	50.000	3	50.000	4	50.000	-1	50.000	-1	50.000	-4	50.000	-3	50.000	-5
1,2-Dichloroethane-d4	50.000	11	50.000	9	50.000	8	50.000	1	50.000	-1	50.000	-3	50.000	-6	50.000	-9	50.000	-10
Trifluorotoluene			5.0000	-3	10.000	-3	20.000	7	50.000	0	60.000	4	75.000	-1	100.00	0	200.00	-5
Toluene-d8	50.000	2	50.000	2	50.000	-2	50.000	3	50.000	1	50.000	-2	50.000	-6	50.000	0	50.000	2
Bromofluorobenzene	50.000	-3	50.000	1	50.000	-2	50.000	2	50.000	1	50.000	1	50.000	-5	50.000	2	50.000	3

DAR 04/02/15 [Freon 12]: Combined split peak in 5PPB (fd113).

DAR 04/02/15 [Chloromethane]: Combined split peak in all levels.

DAR 04/02/15 [Bromomethane]: Combined split peak in multiple levels.

DAR 04/02/15 [Chloroethane]: Combined split peak in 5PPB (fd113).

DAR 04/02/15 [Trichlorofluoromethane]: Combined split peak in 5PPB (fd113).

DAR 04/02/15 [Acetone]: Separated from coeluting peak in 60PPB (fd117).

DAR 04/02/15 [Iodomethane]: Combined split peak in multiple levels.

DAR 04/02/15 [1,1-Dichloroethene]: Combined split peak in 10PPB (fd114).

Analyst: DAR Date: 04/02/15 * Reviewer: LW Date: 04/03/15 *

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 Name : 826GOX6S
Calnum : 455131716001 Cal Date : 01-APR-2015 Type : SOIL

ICV 455131716021 (fd121 01-APR-2015) stds: S26359 (10000X), S26911 (5000X)
ICV 455133102003 (fd203 02-APR-2015) stds: S26759 (10000X), S26642 (10000X), S26569 (10000X), S26911 (5000X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	455131716021	01-APR-2015	20.00	14.37	ug/L	**-28**	30	!v-
Chloromethane	455131716021	01-APR-2015	20.00	16.22	ug/L	-19	30	m
Vinyl Chloride	455131716021	01-APR-2015	20.00	17.69	ug/L	-12	20	
Bromomethane	455131716021	01-APR-2015	20.00	15.60	ug/L	**-22**	30	!v- m
Chloroethane	455131716021	01-APR-2015	20.00	19.08	ug/L	-5	30	
Trichlorofluoromethane	455131716021	01-APR-2015	20.00	17.54	ug/L	-12	30	
Acetone	455133102003	02-APR-2015	25.00	19.07	ug/L	**-24**	40	!v-
Freon 113	455133102003	02-APR-2015	25.00	23.64	ug/L	-5	30	
1,1-Dichloroethene	455133102003	02-APR-2015	25.00	23.16	ug/L	-7	20	
Methylene Chloride	455133102003	02-APR-2015	25.00	24.11	ug/L	-4	30	
Carbon Disulfide	455133102003	02-APR-2015	25.00	25.97	ug/L	4	30	
MTBE	455133102003	02-APR-2015	25.00	20.59	ug/L	-18	30	
trans-1,2-Dichloroethene	455133102003	02-APR-2015	25.00	24.48	ug/L	-2	30	
Vinyl Acetate	455133102003	02-APR-2015	25.00	27.61	ug/L	10	40	
1,1-Dichloroethane	455133102003	02-APR-2015	25.00	23.90	ug/L	-4	30	
2-Butanone	455133102003	02-APR-2015	25.00	21.21	ug/L	-15	40	
2,2-Dichloropropane	455133102003	02-APR-2015	25.00	26.70	ug/L	7	30	
cis-1,2-Dichloroethene	455133102003	02-APR-2015	25.00	24.49	ug/L	-2	30	
Chloroform	455133102003	02-APR-2015	25.00	24.70	ug/L	-1	20	
Bromochloromethane	455133102003	02-APR-2015	25.00	25.11	ug/L	0	30	
1,1,1-Trichloroethane	455133102003	02-APR-2015	25.00	24.98	ug/L	0	30	
1,1-Dichloropropene	455133102003	02-APR-2015	25.00	25.51	ug/L	2	30	
Carbon Tetrachloride	455133102003	02-APR-2015	25.00	26.41	ug/L	6	30	
1,2-Dichloroethane	455133102003	02-APR-2015	25.00	23.52	ug/L	-6	30	
Benzene	455133102003	02-APR-2015	25.00	25.07	ug/L	0	30	
Trichloroethene	455133102003	02-APR-2015	25.00	24.74	ug/L	-1	30	
1,2-Dichloropropane	455133102003	02-APR-2015	25.00	23.02	ug/L	-8	20	
Bromodichloromethane	455133102003	02-APR-2015	25.00	23.55	ug/L	-6	30	
Dibromomethane	455133102003	02-APR-2015	25.00	23.90	ug/L	-4	30	
4-Methyl-2-Pentanone	455133102003	02-APR-2015	25.00	21.37	ug/L	-15	40	
cis-1,3-Dichloropropene	455133102003	02-APR-2015	25.00	23.04	ug/L	-8	30	
Toluene	455133102003	02-APR-2015	25.00	25.82	ug/L	3	20	
trans-1,3-Dichloropropene	455133102003	02-APR-2015	25.00	22.49	ug/L	-10	30	
1,1,2-Trichloroethane	455133102003	02-APR-2015	25.00	23.56	ug/L	-6	30	
2-Hexanone	455133102003	02-APR-2015	25.00	22.61	ug/L	-10	40	
1,3-Dichloropropane	455133102003	02-APR-2015	25.00	24.98	ug/L	0	30	
Tetrachloroethene	455133102003	02-APR-2015	25.00	28.84	ug/L	15	30	
Dibromochloromethane	455133102003	02-APR-2015	25.00	23.59	ug/L	-6	30	
1,2-Dibromoethane	455133102003	02-APR-2015	25.00	23.99	ug/L	-4	30	
Chlorobenzene	455133102003	02-APR-2015	25.00	26.22	ug/L	5	30	
1,1,1,2-Tetrachloroethane	455133102003	02-APR-2015	25.00	25.55	ug/L	2	30	
Ethylbenzene	455133102003	02-APR-2015	25.00	26.51	ug/L	6	20	
m,p-Xylenes	455133102003	02-APR-2015	50.00	54.00	ug/L	8	30	
o-Xylene	455133102003	02-APR-2015	25.00	26.50	ug/L	6	30	
Styrene	455133102003	02-APR-2015	25.00	26.43	ug/L	6	30	
Bromoform	455133102003	02-APR-2015	25.00	24.05	ug/L	-4	30	
Isopropylbenzene	455133102003	02-APR-2015	25.00	26.55	ug/L	6	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	455133102003	02-APR-2015	25.00	24.27	ug/L	-3	30	
1,2,3-Trichloropropane	455133102003	02-APR-2015	25.00	22.18	ug/L	-11	30	
Propylbenzene	455133102003	02-APR-2015	25.00	26.95	ug/L	8	30	
Bromobenzene	455133102003	02-APR-2015	25.00	26.29	ug/L	5	30	
1,3,5-Trimethylbenzene	455133102003	02-APR-2015	25.00	28.34	ug/L	13	30	
2-Chlorotoluene	455133102003	02-APR-2015	25.00	26.22	ug/L	5	30	
4-Chlorotoluene	455133102003	02-APR-2015	25.00	27.42	ug/L	10	30	
tert-Butylbenzene	455133102003	02-APR-2015	25.00	26.70	ug/L	7	30	
1,2,4-Trimethylbenzene	455133102003	02-APR-2015	25.00	27.08	ug/L	8	30	
sec-Butylbenzene	455133102003	02-APR-2015	25.00	27.45	ug/L	10	30	
para-Isopropyl Toluene	455133102003	02-APR-2015	25.00	29.37	ug/L	17	30	
1,3-Dichlorobenzene	455133102003	02-APR-2015	25.00	28.37	ug/L	13	30	
1,4-Dichlorobenzene	455133102003	02-APR-2015	25.00	29.10	ug/L	16	30	
n-Butylbenzene	455133102003	02-APR-2015	25.00	29.91	ug/L	20	30	
1,2-Dichlorobenzene	455133102003	02-APR-2015	25.00	27.84	ug/L	11	30	
1,2-Dibromo-3-Chloropropane	455133102003	02-APR-2015	25.00	22.05	ug/L	-12	30	
1,2,4-Trichlorobenzene	455133102003	02-APR-2015	25.00	30.95	ug/L	**24**	30	!v+
Hexachlorobutadiene	455133102003	02-APR-2015	25.00	30.20	ug/L	**21**	30	!v+
Naphthalene	455133102003	02-APR-2015	25.00	23.97	ug/L	-4	30	
1,2,3-Trichlorobenzene	455133102003	02-APR-2015	25.00	29.66	ug/L	19	30	

455131716021: Analyst: DAR Date: 04/02/15 * Reviewer: LW Date: 04/03/15
455133102003: Analyst: DAR Date: 04/02/15 Reviewer: LW Date: 04/03/15

!=warning +=high bias -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA04 Run Name : QC787170 IDF : 1.0
Seqnum : 435184888003.2 File : de803 Time : 08-MAY-2015 10:42
Cal : 435131479001 Caldate : 01-APR-2015 Caltype : SOIL
Standards: S27177 (10000X), S27022 (10000X), S27179 (10000X), S26672 (10000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.2760	1.1093	20.00	17.39	ug/L	-13	30	0.0500	!v- u
Chloromethane	0.9921	1.1336	20.00	22.85	ug/L	14	30	0.1000	u
Vinyl Chloride	0.8370	0.9639	20.00	23.03	ug/L	15	20	0.0500	u
Bromomethane	0.4506	0.7152	20.00	31.75	ug/L	**59**	30	0.0500	c+ u ***
Chloroethane	0.3734	0.4775	20.00	25.58	ug/L	28	30	0.0500	u
Trichlorofluoromethane	1.0732	1.2486	20.00	23.27	ug/L	16	30	0.0500	u
Acetone	0.1946	0.2142	25.00	27.52	ug/L	10	40	0.0500	u
Freon 113	0.5430	0.5530	25.00	25.46	ug/L	2	30	0.0500	u
1,1-Dichloroethene	0.4750	0.5532	25.00	29.11	ug/L	16	20	0.0500	u
Methylene Chloride	0.5415	0.8974	25.00	41.43	ug/L	**66**	30	0.0500	c+ u ***
Carbon Disulfide	1.7482	1.9638	25.00	28.08	ug/L	12	30	0.0500	u
MTBE	1.3248	1.4683	25.00	27.71	ug/L	11	30	0.0500	u
trans-1,2-Dichloroethene	0.6810	0.7769	25.00	28.52	ug/L	14	30	0.0500	!v- u
Vinyl Acetate	1.2001	1.0705	25.00	22.30	ug/L	-11	40	0.0500	u
1,1-Dichloroethane	1.5809	1.5226	25.00	24.08	ug/L	-4	30	0.1000	u
2-Butanone	0.3667	0.2667	25.00	18.18	ug/L	-27	40	0.0500	u
cis-1,2-Dichloroethene	0.7735	0.8004	25.00	25.87	ug/L	3	30	0.0500	u
2,2-Dichloropropane	0.8472	0.8565	25.00	25.27	ug/L	1	30	0.0500	u
Chloroform	1.3286	1.3558	25.00	25.51	ug/L	2	20	0.0500	u
Bromochloromethane	0.3665	0.3956	25.00	26.98	ug/L	8	30	0.0500	u
1,1,1-Trichloroethane	1.0193	1.0297	25.00	25.26	ug/L	1	30	0.0500	u
1,1-Dichloropropene	0.6099	0.5725	25.00	23.47	ug/L	-6	30	0.0500	u
Carbon Tetrachloride	0.5370	0.5477	25.00	25.50	ug/L	2	30	0.0500	u
1,2-Dichloroethane	0.6380	0.6460	25.00	25.31	ug/L	1	30	0.0500	u
Benzene	1.6006	1.6811	25.00	26.26	ug/L	5	30	0.0500	u
Trichloroethene	0.4434	0.4209	25.00	23.74	ug/L	-5	30	0.0500	u
1,2-Dichloropropane	0.5267	0.4697	25.00	22.30	ug/L	-11	20	0.0500	u
Bromodichloromethane	0.6149	0.5957	25.00	24.22	ug/L	-3	30	0.0500	u
Dibromomethane	0.3084	0.3241	25.00	26.27	ug/L	5	30	0.0500	u
4-Methyl-2-Pentanone	0.4542	0.3672	25.00	20.21	ug/L	-19	40	0.0500	u
cis-1,3-Dichloropropene	0.6374	0.5777	25.00	22.66	ug/L	-9	30	0.0500	u
Toluene	1.1154	1.1045	25.00	24.76	ug/L	-1	20	0.0500	u
trans-1,3-Dichloropropene	0.6469	0.5133	25.00	19.84	ug/L	-21	30	0.0500	u
1,1,2-Trichloroethane	0.2498	0.2309	25.00	23.11	ug/L	-8	30	0.0500	u
2-Hexanone	0.3943	0.3185	25.00	20.19	ug/L	-19	40	0.0500	!v+ u
1,3-Dichloropropane	0.7116	0.6911	25.00	24.28	ug/L	-3	30	0.0500	u
Tetrachloroethene	0.4774	0.4989	25.00	26.13	ug/L	5	30	0.0500	u
Dibromochloromethane	0.5528	0.5291	25.00	23.93	ug/L	-4	30	0.0500	u
1,2-Dibromoethane	0.4583	0.4094	25.00	22.33	ug/L	-11	30	0.0500	u
Chlorobenzene	1.2651	1.2948	25.00	25.59	ug/L	2	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.4500	0.4345	25.00	24.14	ug/L	-3	30	0.0500	u
Ethylbenzene	2.0801	2.1383	25.00	25.70	ug/L	3	20	0.0500	u
m,p-Xylenes	0.7946	0.8415	50.00	52.95	ug/L	6	30	0.0500	u
o-Xylene	0.7877	0.8409	25.00	26.69	ug/L	7	30	0.0500	u
Styrene	1.3648	1.3925	25.00	25.51	ug/L	2	30	0.0500	u
Bromoform	0.3717	0.3447	25.00	23.19	ug/L	-7	30	0.1000	u
Isopropylbenzene	3.9845	3.8553	25.00	24.19	ug/L	-3	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.1985	1.1069	25.00	23.09	ug/L	-8	30	0.3000	u
1,2,3-Trichloropropane	0.9183	0.8243	25.00	22.44	ug/L	-10	30	0.0500	u
Propylbenzene	4.8976	4.7859	25.00	24.43	ug/L	-2	30	0.0500	u
Bromobenzene	1.0625	1.0448	25.00	24.58	ug/L	-2	30	0.0500	u
1,3,5-Trimethylbenzene	3.4178	3.7222	25.00	27.23	ug/L	9	30	0.0500	u
2-Chlorotoluene	3.2471	3.3249	25.00	25.60	ug/L	2	30	0.0500	u
4-Chlorotoluene	3.0785	3.0260	25.00	24.57	ug/L	-2	30	0.0500	u
tert-Butylbenzene	2.7105	2.7545	25.00	25.41	ug/L	2	30	0.0500	u
1,2,4-Trimethylbenzene	3.5155	3.5034	25.00	24.91	ug/L	0	30	0.0500	u
sec-Butylbenzene	4.4548	4.1667	25.00	23.38	ug/L	-6	30	0.0500	u
para-Isopropyl Toluene	3.5844	3.8439	25.00	26.81	ug/L	7	30	0.0500	u
1,3-Dichlorobenzene	1.8843	1.9986	25.00	26.52	ug/L	6	30	0.0500	u
1,4-Dichlorobenzene	1.8887	2.0362	25.00	26.95	ug/L	8	30	0.0500	u
n-Butylbenzene	3.6737	3.7039	25.00	25.21	ug/L	1	30	0.0500	u
1,2-Dichlorobenzene	1.8171	1.9082	25.00	26.25	ug/L	5	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2222	0.1995	25.00	22.45	ug/L	-10	30	0.0500	u
1,2,4-Trichlorobenzene	1.2346	1.3125	25.00	26.58	ug/L	6	30	0.0500	u
Hexachlorobutadiene	0.7613	0.6844	25.00	22.48	ug/L	-10	30	0.0500	u
Naphthalene	2.9345	2.7023	25.00	23.02	ug/L	-8	30	0.0500	u
1,2,3-Trichlorobenzene	1.1854	1.2075	25.00	25.47	ug/L	2	30	0.0500	u
Dibromofluoromethane	0.6410	0.6638	50.00	51.78	ug/L	4	30	0.0500	u
1,2-Dichloroethane-d4	0.3874	0.3990	50.00	51.49	ug/L	3	30	0.0500	u
Toluene-d8	1.2984	1.3095	50.00	50.43	ug/L	1	30	0.0500	u
Bromofluorobenzene	1.0322	0.9684	50.00	46.91	ug/L	-6	30	0.0500	u

ISTD (ICAL dd110)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	831165	969032	16.59	9.53	9.54	0.01
1,4-Difluorobenzene	1353475	1424067	5.22	10.66	10.67	0.01
Chlorobenzene-d5	1056105	1217069	15.24	14.87	14.88	0.01
1,4-Dichlorobenzene-d4	538655	672373	24.82	17.60	17.61	0.01

Analyst: KKM Date: 05/11/15 Reviewer: TKM Date: 05/11/15

!=warning +=high bias -=low bias c=CCV u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : 35PPB IDF : 1.0
Seqnum : 445179202003 File : ee403 Time : 04-MAY-2015 12:09
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S27172 (20000X), S27151 (20000X), S26957 (20000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	1.0092	25.00	22.73	ug/L	-9	30	0.0500	m
Chloromethane	1.1514	1.1852	25.00	25.73	ug/L	3	30	0.1000	
Vinyl Chloride	0.9106	0.9778	25.00	26.84	ug/L	7	20	0.0500	m
Bromomethane	0.5447	0.6669	25.00	30.61	ug/L	**22**	30	0.0500	!c+ !v-
Chloroethane	0.4522	0.5217	25.00	28.84	ug/L	15	30	0.0500	
Trichlorofluoromethane	1.1246	1.2276	25.00	27.29	ug/L	9	30	0.0500	
Acetone	0.3699	0.3496	25.00	20.23	ug/L	-19	40	0.0500	
Freon 113	0.5536	0.5952	25.00	26.88	ug/L	8	30	0.0500	
1,1-Dichloroethene	0.4805	0.5526	25.00	28.75	ug/L	15	20	0.0500	
Methylene Chloride	0.6547	0.7732	25.00	29.53	ug/L	18	30	0.0500	
Carbon Disulfide	1.9423	2.2680	25.00	29.19	ug/L	17	30	0.0500	
MTBE	1.9220	2.0667	25.00	26.88	ug/L	8	30	0.0500	
trans-1,2-Dichloroethene	0.5544	0.6508	25.00	29.35	ug/L	17	30	0.0500	
Vinyl Acetate	1.4319	1.5101	25.00	26.37	ug/L	5	40	0.0500	!v+
1,1-Dichloroethane	1.1755	1.2534	25.00	26.66	ug/L	7	30	0.1000	
2-Butanone	0.4051	0.3888	25.00	23.99	ug/L	-4	40	0.0500	
2,2-Dichloropropane	0.9761	1.0781	25.00	27.61	ug/L	10	30	0.0500	
cis-1,2-Dichloroethene	0.6161	0.6841	25.00	27.76	ug/L	11	30	0.0500	
Chloroform	1.1715	1.2826	25.00	27.37	ug/L	9	20	0.0500	
Bromochloromethane	0.2904	0.3336	25.00	28.72	ug/L	15	30	0.0500	
1,1,1-Trichloroethane	0.9076	0.9776	25.00	26.93	ug/L	8	30	0.0500	
1,1-Dichloropropene	0.5951	0.5886	25.00	24.73	ug/L	-1	30	0.0500	
Carbon Tetrachloride	0.5231	0.5199	25.00	24.85	ug/L	-1	30	0.0500	
1,2-Dichloroethane	0.6667	0.6699	25.00	25.12	ug/L	0	30	0.0500	
Benzene	1.4955	1.5976	25.00	26.71	ug/L	7	30	0.0500	
Trichloroethene	0.4169	0.4215	25.00	25.28	ug/L	1	30	0.0500	
1,2-Dichloropropane	0.4595	0.4500	25.00	24.48	ug/L	-2	20	0.0500	
Bromodichloromethane	0.6446	0.6574	25.00	25.50	ug/L	2	30	0.0500	
Dibromomethane	0.3049	0.3049	25.00	25.00	ug/L	0	30	0.0500	
4-Methyl-2-Pentanone	0.6034	0.5222	25.00	21.63	ug/L	-13	40	0.0500	
cis-1,3-Dichloropropene	0.7245	0.7359	25.00	25.40	ug/L	2	30	0.0500	
Toluene	0.9920	0.9700	25.00	24.45	ug/L	-2	20	0.0500	
trans-1,3-Dichloropropene	0.7516	0.7302	25.00	24.29	ug/L	-3	30	0.0500	
1,1,2-Trichloroethane	0.2362	0.2313	25.00	24.48	ug/L	-2	30	0.0500	
2-Hexanone	0.4887	0.4160	25.00	21.28	ug/L	-15	40	0.0500	
1,3-Dichloropropane	0.7271	0.7088	25.00	24.37	ug/L	-3	30	0.0500	
Tetrachloroethene	0.4544	0.4403	25.00	24.23	ug/L	-3	30	0.0500	
Dibromochloromethane	0.5166	0.4932	25.00	23.87	ug/L	-5	30	0.0500	
1,2-Dibromoethane	0.4273	0.4098	25.00	23.98	ug/L	-4	30	0.0500	
Chlorobenzene	1.0740	1.0570	25.00	24.60	ug/L	-2	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4399	0.4194	25.00	23.83	ug/L	-5	30	0.0500	
Ethylbenzene	1.9910	1.9435	25.00	24.40	ug/L	-2	20	0.0500	
m,p-Xylenes	0.6608	0.6495	50.00	49.14	ug/L	-2	30	0.0500	
o-Xylene	0.6716	0.6754	25.00	25.14	ug/L	1	30	0.0500	
Styrene	1.1803	1.1615	25.00	24.60	ug/L	-2	30	0.0500	
Bromoform	0.4054	0.3600	25.00	22.20	ug/L	-11	30	0.1000	
Isopropylbenzene	3.1360	2.8953	25.00	23.08	ug/L	-8	30	0.0500	
1,1,2,2-Tetrachloroethane	1.0937	0.9980	25.00	22.81	ug/L	-9	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8465	0.7549	25.00	22.29	ug/L	-11	30	0.0500	
Propylbenzene	3.9665	3.8422	25.00	24.22	ug/L	-3	30	0.0500	
Bromobenzene	0.9098	0.8906	25.00	24.47	ug/L	-2	30	0.0500	
1,3,5-Trimethylbenzene	2.5582	2.5269	25.00	24.69	ug/L	-1	30	0.0500	
2-Chlorotoluene	2.7233	2.6376	25.00	24.21	ug/L	-3	30	0.0500	
4-Chlorotoluene	2.5809	2.5183	25.00	24.39	ug/L	-2	30	0.0500	
tert-Butylbenzene	2.1912	2.0220	25.00	23.07	ug/L	-8	30	0.0500	
1,2,4-Trimethylbenzene	2.7184	2.6282	25.00	24.17	ug/L	-3	30	0.0500	
sec-Butylbenzene	3.4200	3.1946	25.00	23.35	ug/L	-7	30	0.0500	
para-Isopropyl Toluene	2.7313	2.6684	25.00	24.42	ug/L	-2	30	0.0500	
1,3-Dichlorobenzene	1.5860	1.5997	25.00	25.22	ug/L	1	30	0.0500	
1,4-Dichlorobenzene	1.5705	1.6321	25.00	25.98	ug/L	4	30	0.0500	
n-Butylbenzene	2.7131	2.5634	25.00	23.62	ug/L	-6	30	0.0500	
1,2-Dichlorobenzene	1.5380	1.5437	25.00	25.09	ug/L	0	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2088	0.1669	25.00	19.98	ug/L	-20	30	0.0500	
1,2,4-Trichlorobenzene	0.8689	0.8545	25.00	24.59	ug/L	-2	30	0.0500	
Hexachlorobutadiene	0.6094	0.5655	25.00	23.20	ug/L	-7	30	0.0500	
Naphthalene	1.7456	1.4773	25.00	21.41	ug/L	-14	30	0.0500	
1,2,3-Trichlorobenzene	0.8273	0.7542	25.00	22.79	ug/L	-9	30	0.0500	
Dibromofluoromethane	0.5029	0.5425	50.00	53.93	ug/L	8	30	0.0500	
1,2-Dichloroethane-d4	0.4541	0.4232	50.00	46.60	ug/L	-7	30	0.0500	
Trifluorotoluene	0.6478	0.6653	25.00	25.68	ug/L	3	30	0.0500	
Toluene-d8	1.2817	1.2105	50.00	47.22	ug/L	-6	30	0.0500	
Bromofluorobenzene	1.0317	0.9525	50.00	46.16	ug/L	-8	30	0.0500	

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	301814	3.99	9.69	9.68	-0.01
1,4-Difluorobenzene	407688	450471	10.49	10.79	10.79	0.00
Chlorobenzene-d5	373793	415722	11.22	14.90	14.91	0.01
1,4-Dichlorobenzene-d4	222007	249945	12.58	17.65	17.65	0.00

DAR 05/04/15 [Freon 12]: Combined split peak.

DAR 05/04/15 [Vinyl Chloride]: Combined split peak.

Analyst: DAR Date: 05/05/15 Reviewer: LW Date: 05/05/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : 35PPB IDF : 1.0
Seqnum : 445182112006 File : ee606 Time : 06-MAY-2015 15:43
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S27172 (14290X), S27151 (14290X), S26957 (14290X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	1.3773	35.00	43.43	ug/L	**24**	30	0.0500	!c+ m
Chloromethane	1.1514	1.2034	35.00	36.58	ug/L	5	30	0.1000	m
Vinyl Chloride	0.9106	1.0125	35.00	38.91	ug/L	11	20	0.0500	m
Bromomethane	0.5447	0.6558	35.00	42.14	ug/L	20	30	0.0500	!v- m
Chloroethane	0.4522	0.5218	35.00	40.39	ug/L	15	30	0.0500	
Trichlorofluoromethane	1.1246	1.3335	35.00	41.50	ug/L	19	30	0.0500	m
Acetone	0.3699	0.3574	35.00	34.35	ug/L	-2	40	0.0500	
Freon 113	0.5536	0.6213	35.00	39.28	ug/L	12	30	0.0500	
1,1-Dichloroethene	0.4805	0.5169	35.00	37.65	ug/L	8	20	0.0500	
Methylene Chloride	0.6547	0.7344	35.00	39.26	ug/L	12	30	0.0500	
Carbon Disulfide	1.9423	2.1354	35.00	38.48	ug/L	10	30	0.0500	
MTBE	1.9220	2.0941	35.00	38.14	ug/L	9	30	0.0500	
trans-1,2-Dichloroethene	0.5544	0.6057	35.00	38.24	ug/L	9	30	0.0500	
Vinyl Acetate	1.4319	1.5250	35.00	37.28	ug/L	7	40	0.0500	!v+
1,1-Dichloroethane	1.1755	1.1707	35.00	34.86	ug/L	0	30	0.1000	
2-Butanone	0.4051	0.4194	35.00	36.23	ug/L	4	40	0.0500	
2,2-Dichloropropane	0.9761	1.0229	35.00	36.68	ug/L	5	30	0.0500	
cis-1,2-Dichloroethene	0.6161	0.6448	35.00	36.63	ug/L	5	30	0.0500	
Chloroform	1.1715	1.2481	35.00	37.29	ug/L	7	20	0.0500	
Bromochloromethane	0.2904	0.3316	35.00	39.96	ug/L	14	30	0.0500	
1,1,1-Trichloroethane	0.9076	0.9530	35.00	36.75	ug/L	5	30	0.0500	
1,1-Dichloropropene	0.5951	0.6004	35.00	35.32	ug/L	1	30	0.0500	
Carbon Tetrachloride	0.5231	0.5374	35.00	35.96	ug/L	3	30	0.0500	
1,2-Dichloroethane	0.6667	0.6496	35.00	34.10	ug/L	-3	30	0.0500	
Benzene	1.4955	1.4920	35.00	34.92	ug/L	0	30	0.0500	
Trichloroethene	0.4169	0.4140	35.00	34.76	ug/L	-1	30	0.0500	
1,2-Dichloropropane	0.4595	0.4306	35.00	32.80	ug/L	-6	20	0.0500	
Bromodichloromethane	0.6446	0.6474	35.00	35.16	ug/L	0	30	0.0500	
Dibromomethane	0.3049	0.2964	35.00	34.03	ug/L	-3	30	0.0500	
4-Methyl-2-Pentanone	0.6034	0.5842	35.00	33.89	ug/L	-3	40	0.0500	
cis-1,3-Dichloropropene	0.7245	0.7125	35.00	34.42	ug/L	-2	30	0.0500	
Toluene	0.9920	0.9306	35.00	32.83	ug/L	-6	20	0.0500	
trans-1,3-Dichloropropene	0.7516	0.7136	35.00	33.23	ug/L	-5	30	0.0500	
1,1,2-Trichloroethane	0.2362	0.2257	35.00	33.45	ug/L	-4	30	0.0500	
2-Hexanone	0.4887	0.4527	35.00	32.42	ug/L	-7	40	0.0500	
1,3-Dichloropropane	0.7271	0.6858	35.00	33.01	ug/L	-6	30	0.0500	
Tetrachloroethene	0.4544	0.4326	35.00	33.32	ug/L	-5	30	0.0500	
Dibromochloromethane	0.5166	0.5063	35.00	34.30	ug/L	-2	30	0.0500	
1,2-Dibromoethane	0.4273	0.4196	35.00	34.37	ug/L	-2	30	0.0500	
Chlorobenzene	1.0740	1.0289	35.00	33.53	ug/L	-4	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4399	0.4176	35.00	33.23	ug/L	-5	30	0.0500	
Ethylbenzene	1.9910	1.8099	35.00	31.82	ug/L	-9	20	0.0500	
m,p-Xylenes	0.6608	0.6234	70.00	66.04	ug/L	-6	30	0.0500	
o-Xylene	0.6716	0.6285	35.00	32.75	ug/L	-6	30	0.0500	
Styrene	1.1803	1.0685	35.00	31.68	ug/L	-9	30	0.0500	
Bromoform	0.4054	0.3812	35.00	32.91	ug/L	-6	30	0.1000	
Isopropylbenzene	3.1360	2.6819	35.00	29.93	ug/L	-14	30	0.0500	
1,1,2,2-Tetrachloroethane	1.0937	1.0116	35.00	32.37	ug/L	-8	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8465	0.7513	35.00	31.06	ug/L	-11	30	0.0500	
Propylbenzene	3.9665	3.4649	35.00	30.57	ug/L	-13	30	0.0500	
Bromobenzene	0.9098	0.8402	35.00	32.32	ug/L	-8	30	0.0500	
1,3,5-Trimethylbenzene	2.5582	2.2871	35.00	31.29	ug/L	-11	30	0.0500	
2-Chlorotoluene	2.7233	2.3765	35.00	30.54	ug/L	-13	30	0.0500	
4-Chlorotoluene	2.5809	2.2349	35.00	30.31	ug/L	-13	30	0.0500	
tert-Butylbenzene	2.1912	1.9574	35.00	31.27	ug/L	-11	30	0.0500	
1,2,4-Trimethylbenzene	2.7184	2.3905	35.00	30.78	ug/L	-12	30	0.0500	
sec-Butylbenzene	3.4200	3.0512	35.00	31.23	ug/L	-11	30	0.0500	
para-Isopropyl Toluene	2.7313	2.5153	35.00	32.23	ug/L	-8	30	0.0500	
1,3-Dichlorobenzene	1.5860	1.4512	35.00	32.03	ug/L	-8	30	0.0500	
1,4-Dichlorobenzene	1.5705	1.4426	35.00	32.15	ug/L	-8	30	0.0500	
n-Butylbenzene	2.7131	2.3628	35.00	30.48	ug/L	-13	30	0.0500	
1,2-Dichlorobenzene	1.5380	1.4526	35.00	33.06	ug/L	-6	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2088	0.1866	35.00	31.27	ug/L	-11	30	0.0500	
1,2,4-Trichlorobenzene	0.8689	0.8062	35.00	32.48	ug/L	-7	30	0.0500	
Hexachlorobutadiene	0.6094	0.5544	35.00	31.84	ug/L	-9	30	0.0500	
Naphthalene	1.7456	1.6802	35.00	33.12	ug/L	-5	30	0.0500	
1,2,3-Trichlorobenzene	0.8273	0.7706	35.00	32.60	ug/L	-7	30	0.0500	
Dibromofluoromethane	0.5029	0.5451	50.00	54.19	ug/L	8	30	0.0500	
1,2-Dichloroethane-d4	0.4541	0.4333	50.00	47.71	ug/L	-5	30	0.0500	
Trifluorotoluene	0.6478	0.6714	35.00	36.28	ug/L	4	30	0.0500	
Toluene-d8	1.2817	1.1572	50.00	45.14	ug/L	-10	30	0.0500	
Bromofluorobenzene	1.0317	0.9380	50.00	45.46	ug/L	-9	30	0.0500	

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	203019	-30.05	9.69	9.69	0.00
1,4-Difluorobenzene	407688	301518	-26.04	10.79	10.78	-0.01
Chlorobenzene-d5	373793	286239	-23.42	14.90	14.90	0.00
1,4-Dichlorobenzene-d4	222007	178298	-19.69	17.65	17.65	0.00

NJT 05/07/15 [Freon 12]: Corrected fronting or tailing peak integration.

NJT 05/07/15 [Chloromethane]: Corrected fronting or tailing peak integration.

NJT 05/07/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration.

NJT 05/07/15 [Bromomethane]: Corrected fronting or tailing peak integration.

NJT 05/07/15 [Trichlorofluoromethane]: Corrected fronting or tailing peak integration.

Analyst: NJT Date: 05/07/15 Reviewer: LW Date: 05/07/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : QC786996 IDF : 1.0
Seqnum : 445183599004.2 File : ee704 Time : 07-MAY-2015 13:26
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S25696 (12500X), S27177 (12500X), S27022 (12500X), S27179 (12500X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	0.8164	16.00	11.77	ug/L	-26	30	0.0500	m u
Chloromethane	1.1514	1.2947	16.00	17.99	ug/L	12	30	0.1000	m u
Vinyl Chloride	0.9106	1.0767	16.00	18.92	ug/L	18	20	0.0500	m u
Bromomethane	0.5447	0.8093	16.00	23.77	ug/L	**49**	30	0.0500	!v- c+ m u ***
Chloroethane	0.4522	0.5531	16.00	19.57	ug/L	22	30	0.0500	m u
Trichlorofluoromethane	1.1246	1.4281	16.00	20.32	ug/L	27	30	0.0500	m u
Acetone	0.3699	0.3534	20.00	13.95	ug/L	-30	40	0.0500	u
Freon 113	0.5536	0.5155	20.00	18.62	ug/L	-7	30	0.0500	u
1,1-Dichloroethene	0.4805	0.4842	20.00	20.15	ug/L	1	20	0.0500	u
Methylene Chloride	0.6547	0.7264	20.00	22.19	ug/L	11	30	0.0500	u
Carbon Disulfide	1.9423	1.8796	20.00	19.35	ug/L	-3	30	0.0500	u
MTBE	1.9220	1.9750	20.00	20.55	ug/L	3	30	0.0500	u
trans-1,2-Dichloroethene	0.5544	0.5850	20.00	21.10	ug/L	6	30	0.0500	u
Vinyl Acetate	1.4319	1.6462	20.00	22.99	ug/L	15	40	0.0500	!v+ u
1,1-Dichloroethane	1.1755	1.1667	20.00	19.85	ug/L	-1	30	0.1000	u
2-Butanone	0.4051	0.3497	20.00	17.27	ug/L	-14	40	0.0500	u
cis-1,2-Dichloroethene	0.6161	0.6326	20.00	20.54	ug/L	3	30	0.0500	u
2,2-Dichloropropane	0.9761	1.0799	20.00	22.13	ug/L	11	30	0.0500	u
Chloroform	1.1715	1.2531	20.00	21.39	ug/L	7	20	0.0500	u
Bromochloromethane	0.2904	0.3137	20.00	21.61	ug/L	8	30	0.0500	u
1,1,1-Trichloroethane	0.9076	0.9653	20.00	21.27	ug/L	6	30	0.0500	u
1,1-Dichloropropene	0.5951	0.5377	20.00	18.07	ug/L	-10	30	0.0500	u
Carbon Tetrachloride	0.5231	0.5183	20.00	19.82	ug/L	-1	30	0.0500	u
1,2-Dichloroethane	0.6667	0.6676	20.00	20.03	ug/L	0	30	0.0500	u
Benzene	1.4955	1.5180	20.00	20.30	ug/L	2	30	0.0500	u
Trichloroethene	0.4169	0.4009	20.00	19.23	ug/L	-4	30	0.0500	u
1,2-Dichloropropane	0.4595	0.3973	20.00	17.29	ug/L	-14	20	0.0500	u
Bromodichloromethane	0.6446	0.6328	20.00	19.63	ug/L	-2	30	0.0500	u
Dibromomethane	0.3049	0.2930	20.00	19.22	ug/L	-4	30	0.0500	u
4-Methyl-2-Pentanone	0.6034	0.4690	20.00	15.55	ug/L	-22	40	0.0500	u
cis-1,3-Dichloropropene	0.7245	0.6773	20.00	18.70	ug/L	-7	30	0.0500	u
Toluene	0.9920	0.9124	20.00	18.40	ug/L	-8	20	0.0500	u
trans-1,3-Dichloropropene	0.7516	0.6281	20.00	16.71	ug/L	-16	30	0.0500	u
1,1,2-Trichloroethane	0.2362	0.2094	20.00	17.73	ug/L	-11	30	0.0500	u
2-Hexanone	0.4887	0.3518	20.00	14.40	ug/L	-28	40	0.0500	u
1,3-Dichloropropane	0.7271	0.6577	20.00	18.09	ug/L	-10	30	0.0500	u
Tetrachloroethene	0.4544	0.4096	20.00	18.03	ug/L	-10	30	0.0500	u
Dibromochloromethane	0.5166	0.4488	20.00	17.37	ug/L	-13	30	0.0500	u
1,2-Dibromoethane	0.4273	0.3826	20.00	17.91	ug/L	-10	30	0.0500	u
Chlorobenzene	1.0740	1.0360	20.00	19.29	ug/L	-4	30	0.3000	u
1,1,1,2-Tetrachloroethane	0.4399	0.4081	20.00	18.55	ug/L	-7	30	0.0500	u
Ethylbenzene	1.9910	1.8604	20.00	18.69	ug/L	-7	20	0.0500	u
m,p-Xylenes	0.6608	0.6385	40.00	38.65	ug/L	-3	30	0.0500	u
o-Xylene	0.6716	0.6313	20.00	18.80	ug/L	-6	30	0.0500	u
Styrene	1.1803	1.1077	20.00	18.77	ug/L	-6	30	0.0500	u
Bromoform	0.4054	0.3241	20.00	15.99	ug/L	-20	30	0.1000	u
Isopropylbenzene	3.1360	2.5751	20.00	16.42	ug/L	-18	30	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	1.0937	0.8912	20.00	16.30	ug/L	-19	30	0.3000	u
1,2,3-Trichloropropane	0.8465	0.6609	20.00	15.62	ug/L	-22	30	0.0500	u
Propylbenzene	3.9665	3.5725	20.00	18.01	ug/L	-10	30	0.0500	u
Bromobenzene	0.9098	0.8275	20.00	18.19	ug/L	-9	30	0.0500	u
1,3,5-Trimethylbenzene	2.5582	2.3839	20.00	18.64	ug/L	-7	30	0.0500	u
2-Chlorotoluene	2.7233	2.4720	20.00	18.15	ug/L	-9	30	0.0500	u
4-Chlorotoluene	2.5809	2.3445	20.00	18.17	ug/L	-9	30	0.0500	u
tert-Butylbenzene	2.1912	1.9639	20.00	17.93	ug/L	-10	30	0.0500	u
1,2,4-Trimethylbenzene	2.7184	2.3683	20.00	17.42	ug/L	-13	30	0.0500	u
sec-Butylbenzene	3.4200	3.0287	20.00	17.71	ug/L	-11	30	0.0500	u
para-Isopropyl Toluene	2.7313	2.5576	20.00	18.73	ug/L	-6	30	0.0500	u
1,3-Dichlorobenzene	1.5860	1.5411	20.00	19.43	ug/L	-3	30	0.0500	u
1,4-Dichlorobenzene	1.5705	1.5426	20.00	19.64	ug/L	-2	30	0.0500	u
n-Butylbenzene	2.7131	2.4844	20.00	18.31	ug/L	-8	30	0.0500	u
1,2-Dichlorobenzene	1.5380	1.4827	20.00	19.28	ug/L	-4	30	0.0500	u
1,2-Dibromo-3-Chloropropane	0.2088	0.1532	20.00	14.67	ug/L	-27	30	0.0500	u
1,2,4-Trichlorobenzene	0.8689	0.8077	20.00	18.59	ug/L	-7	30	0.0500	u
Hexachlorobutadiene	0.6094	0.5775	20.00	18.95	ug/L	-5	30	0.0500	u
Naphthalene	1.7456	1.2210	20.00	14.66	ug/L	-27	30	0.0500	u
1,2,3-Trichlorobenzene	0.8273	0.7400	20.00	17.89	ug/L	-11	30	0.0500	u
Dibromofluoromethane	0.5029	0.5762	50.00	57.29	ug/L	15	30	0.0500	u
1,2-Dichloroethane-d4	0.4541	0.4698	50.00	51.72	ug/L	3	30	0.0500	u
Toluene-d8	1.2817	1.1805	50.00	46.05	ug/L	-8	30	0.0500	u
Bromofluorobenzene	1.0317	0.9279	50.00	44.97	ug/L	-10	30	0.0500	u

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	224396	-22.68	9.69	9.68	-0.01
1,4-Difluorobenzene	407688	334874	-17.86	10.79	10.79	0.00
Chlorobenzene-d5	373793	324487	-13.19	14.90	14.91	0.01
1,4-Dichlorobenzene-d4	222007	212420	-4.32	17.65	17.66	0.01

NJT 05/08/15 [Freon 12]: Corrected fronting or tailing peak integration. [general version]

NJT 05/08/15 [Chloromethane]: Corrected fronting or tailing peak integration. [general version]

NJT 05/08/15 [Vinyl Chloride]: Corrected fronting or tailing peak integration. [general version]

NJT 05/08/15 [Bromomethane]: Corrected fronting or tailing peak integration. [general version]

NJT 05/08/15 [Chloroethane]: Corrected fronting or tailing peak integration. [general version]

NJT 05/08/15 [Trichlorofluoromethane]: Corrected fronting or tailing peak integration. [general version]

Analyst: KKM Date: 05/11/15 Reviewer: TKM Date: 05/11/15

!=warning +=high bias -=low bias c=CCV m=manual integration u=use v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA05 Run Name : 20PPB IDF : 1.0
Seqnum : 445186424006 File : ee906 Time : 09-MAY-2015 14:59
Cal : 445154813001 Caldate : 17-APR-2015 Caltype : SOIL
Standards: S27172 (25000X), S27151 (25000X), S26957 (25000X), S26911 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1101	1.2654	20.00	22.80	ug/L	14	30	0.0500	m
Chloromethane	1.1514	1.1719	20.00	20.36	ug/L	2	30	0.1000	m
Vinyl Chloride	0.9106	0.9688	20.00	21.28	ug/L	6	20	0.0500	
Bromomethane	0.5447	0.6156	20.00	22.60	ug/L	13	30	0.0500	!v-
Chloroethane	0.4522	0.5162	20.00	22.83	ug/L	14	30	0.0500	m
Trichlorofluoromethane	1.1246	1.3482	20.00	23.98	ug/L	20	30	0.0500	
Acetone	0.3699	0.3726	20.00	15.39	ug/L	**-23**	40	0.0500	!c-
Freon 113	0.5536	0.6570	20.00	23.73	ug/L	19	30	0.0500	
1,1-Dichloroethene	0.4805	0.5448	20.00	22.68	ug/L	13	20	0.0500	
Methylene Chloride	0.6547	0.7434	20.00	22.71	ug/L	14	30	0.0500	
Carbon Disulfide	1.9423	2.1015	20.00	21.64	ug/L	8	30	0.0500	
MTBE	1.9220	2.1388	20.00	22.26	ug/L	11	30	0.0500	
trans-1,2-Dichloroethene	0.5544	0.6257	20.00	22.57	ug/L	13	30	0.0500	
Vinyl Acetate	1.4319	1.2682	20.00	17.71	ug/L	-11	40	0.0500	!v+
1,1-Dichloroethane	1.1755	1.2127	20.00	20.63	ug/L	3	30	0.1000	
2-Butanone	0.4051	0.3470	20.00	17.13	ug/L	-14	40	0.0500	
2,2-Dichloropropane	0.9761	1.0993	20.00	22.52	ug/L	13	30	0.0500	
cis-1,2-Dichloroethene	0.6161	0.6724	20.00	21.83	ug/L	9	30	0.0500	
Chloroform	1.1715	1.3097	20.00	22.36	ug/L	12	20	0.0500	
Bromochloromethane	0.2904	0.3385	20.00	23.31	ug/L	17	30	0.0500	
1,1,1-Trichloroethane	0.9076	1.0108	20.00	22.28	ug/L	11	30	0.0500	
1,1-Dichloropropene	0.5951	0.6192	20.00	20.81	ug/L	4	30	0.0500	
Carbon Tetrachloride	0.5231	0.5868	20.00	22.43	ug/L	12	30	0.0500	
1,2-Dichloroethane	0.6667	0.7140	20.00	21.42	ug/L	7	30	0.0500	
Benzene	1.4955	1.6033	20.00	21.44	ug/L	7	30	0.0500	
Trichloroethene	0.4169	0.4603	20.00	22.08	ug/L	10	30	0.0500	
1,2-Dichloropropane	0.4595	0.4303	20.00	18.73	ug/L	-6	20	0.0500	
Bromodichloromethane	0.6446	0.6847	20.00	21.25	ug/L	6	30	0.0500	
Dibromomethane	0.3049	0.3127	20.00	20.51	ug/L	3	30	0.0500	
4-Methyl-2-Pentanone	0.6034	0.4905	20.00	16.26	ug/L	-19	40	0.0500	
cis-1,3-Dichloropropene	0.7245	0.7370	20.00	20.35	ug/L	2	30	0.0500	
Toluene	0.9920	0.9375	20.00	18.90	ug/L	-5	20	0.0500	
trans-1,3-Dichloropropene	0.7516	0.7062	20.00	18.79	ug/L	-6	30	0.0500	
1,1,2-Trichloroethane	0.2362	0.2187	20.00	18.52	ug/L	-7	30	0.0500	
2-Hexanone	0.4887	0.3741	20.00	15.31	ug/L	**-23**	40	0.0500	!c-
1,3-Dichloropropane	0.7271	0.6923	20.00	19.04	ug/L	-5	30	0.0500	
Tetrachloroethene	0.4544	0.4492	20.00	19.77	ug/L	-1	30	0.0500	
Dibromochloromethane	0.5166	0.5091	20.00	19.71	ug/L	-1	30	0.0500	
1,2-Dibromoethane	0.4273	0.4074	20.00	19.07	ug/L	-5	30	0.0500	
Chlorobenzene	1.0740	1.0456	20.00	19.47	ug/L	-3	30	0.3000	
1,1,1,2-Tetrachloroethane	0.4399	0.4374	20.00	19.88	ug/L	-1	30	0.0500	
Ethylbenzene	1.9910	1.9041	20.00	19.13	ug/L	-4	20	0.0500	
m,p-Xylenes	0.6608	0.6386	40.00	38.66	ug/L	-3	30	0.0500	
o-Xylene	0.6716	0.6625	20.00	19.73	ug/L	-1	30	0.0500	
Styrene	1.1803	1.1260	20.00	19.08	ug/L	-5	30	0.0500	
Bromoform	0.4054	0.3580	20.00	17.66	ug/L	-12	30	0.1000	
Isopropylbenzene	3.1360	2.7313	20.00	17.42	ug/L	-13	30	0.0500	
1,1,2,2-Tetrachloroethane	1.0937	0.9152	20.00	16.74	ug/L	-16	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8465	0.6915	20.00	16.34	ug/L	-18	30	0.0500	
Propylbenzene	3.9665	3.5999	20.00	18.15	ug/L	-9	30	0.0500	
Bromobenzene	0.9098	0.8567	20.00	18.83	ug/L	-6	30	0.0500	
1,3,5-Trimethylbenzene	2.5582	2.3810	20.00	18.61	ug/L	-7	30	0.0500	
2-Chlorotoluene	2.7233	2.4844	20.00	18.25	ug/L	-9	30	0.0500	
4-Chlorotoluene	2.5809	2.2975	20.00	17.80	ug/L	-11	30	0.0500	
tert-Butylbenzene	2.1912	2.0272	20.00	18.50	ug/L	-7	30	0.0500	
1,2,4-Trimethylbenzene	2.7184	2.4075	20.00	17.71	ug/L	-11	30	0.0500	
sec-Butylbenzene	3.4200	3.0993	20.00	18.12	ug/L	-9	30	0.0500	
para-Isopropyl Toluene	2.7313	2.5275	20.00	18.51	ug/L	-7	30	0.0500	
1,3-Dichlorobenzene	1.5860	1.5237	20.00	19.21	ug/L	-4	30	0.0500	
1,4-Dichlorobenzene	1.5705	1.5321	20.00	19.51	ug/L	-2	30	0.0500	
n-Butylbenzene	2.7131	2.3846	20.00	17.58	ug/L	-12	30	0.0500	
1,2-Dichlorobenzene	1.5380	1.4921	20.00	19.40	ug/L	-3	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2088	0.1661	20.00	15.91	ug/L	-20	30	0.0500	
1,2,4-Trichlorobenzene	0.8689	0.7451	20.00	17.15	ug/L	-14	30	0.0500	
Hexachlorobutadiene	0.6094	0.5515	20.00	18.10	ug/L	-9	30	0.0500	
Naphthalene	1.7456	1.3721	20.00	16.29	ug/L	-19	30	0.0500	
1,2,3-Trichlorobenzene	0.8273	0.7094	20.00	17.15	ug/L	-14	30	0.0500	
Dibromofluoromethane	0.5029	0.5404	50.00	53.72	ug/L	7	30	0.0500	
1,2-Dichloroethane-d4	0.4541	0.4570	50.00	50.31	ug/L	1	30	0.0500	
Trifluorotoluene	0.6478	0.6944	20.00	21.44	ug/L	7	30	0.0500	
Toluene-d8	1.2817	1.1590	50.00	45.22	ug/L	-10	30	0.0500	
Bromofluorobenzene	1.0317	0.9292	50.00	45.03	ug/L	-10	30	0.0500	

ISTD (ICAL edh20)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	290231	202536	-30.22	9.69	9.69	0.00
1,4-Difluorobenzene	407688	288355	-29.27	10.79	10.79	0.00
Chlorobenzene-d5	373793	281898	-24.58	14.90	14.91	0.01
1,4-Dichlorobenzene-d4	222007	181044	-18.45	17.65	17.65	0.00

KKM 05/11/15 [Freon 12]: Corrected fronting or tailing peak integration.

KKM 05/11/15 [Chloromethane]: Combined split peak.

KKM 05/11/15 [Chloroethane]: Corrected fronting or tailing peak integration.

Analyst: KKM Date: 05/11/15 Reviewer: TEW Date: 05/11/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 IDF : 1.0
Seqnum : 455178923014 File : fe414 Time : 04-MAY-2015 16:31
Cal : 455131716001 Caldate : 01-APR-2015 Caltype : SOIL
Standards: S27172 (20000X), S27151 (20000X), S26957 (20000X), S27137 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1105	0.7350	25.00	16.55	ug/L	**-34**	30	0.0500	!v- c- ***
Chloromethane	0.9333	0.8894	25.00	23.82	ug/L	-5	30	0.1000	m
Vinyl Chloride	0.8119	0.7978	25.00	24.57	ug/L	-2	20	0.0500	
Bromomethane	0.4866	0.3766	25.00	19.35	ug/L	**-23**	30	0.0500	!c- !v-
Chloroethane	0.5738	0.5933	25.00	25.85	ug/L	3	30	0.0500	
Trichlorofluoromethane	1.1434	0.8087	25.00	17.68	ug/L	**-29**	30	0.0500	!c-
Acetone	0.4217	0.4997	25.00	24.60	ug/L	-2	40	0.0500	!v-
Freon 113	0.6402	0.5980	25.00	23.35	ug/L	-7	30	0.0500	
1,1-Dichloroethene	0.6097	0.5419	25.00	22.22	ug/L	-11	20	0.0500	
Methylene Chloride	0.7901	0.7792	25.00	24.65	ug/L	-1	30	0.0500	
Carbon Disulfide	2.2881	2.3392	25.00	25.56	ug/L	2	30	0.0500	
MTBE	2.1115	1.8542	25.00	21.95	ug/L	-12	30	0.0500	
trans-1,2-Dichloroethene	0.6774	0.6379	25.00	23.54	ug/L	-6	30	0.0500	
Vinyl Acetate	1.6402	1.9648	25.00	29.95	ug/L	20	40	0.0500	
1,1-Dichloroethane	1.3544	1.3234	25.00	24.43	ug/L	-2	30	0.1000	
2-Butanone	0.6039	0.6607	25.00	27.35	ug/L	9	40	0.0500	
2,2-Dichloropropane	0.9782	0.8303	25.00	21.22	ug/L	-15	30	0.0500	
cis-1,2-Dichloroethene	0.7543	0.6874	25.00	22.78	ug/L	-9	30	0.0500	
Chloroform	1.2777	1.1205	25.00	21.92	ug/L	-12	20	0.0500	
Bromochloromethane	0.3377	0.3103	25.00	22.97	ug/L	-8	30	0.0500	
1,1,1-Trichloroethane	0.9600	0.7229	25.00	18.82	ug/L	**-25**	30	0.0500	!c-
1,1-Dichloropropene	0.5113	0.5232	25.00	25.58	ug/L	2	30	0.0500	
Carbon Tetrachloride	0.4407	0.3383	25.00	19.19	ug/L	**-23**	30	0.0500	!c-
1,2-Dichloroethane	0.5568	0.4344	25.00	19.50	ug/L	**-22**	30	0.0500	!c-
Benzene	1.3880	1.4576	25.00	26.25	ug/L	5	30	0.0500	
Trichloroethene	0.3730	0.3439	25.00	23.05	ug/L	-8	30	0.0500	
1,2-Dichloropropane	0.4348	0.4794	25.00	27.57	ug/L	10	20	0.0500	
Bromodichloromethane	0.5487	0.4198	25.00	19.13	ug/L	**-23**	30	0.0500	!c- m
Dibromomethane	0.2896	0.2657	25.00	22.94	ug/L	-8	30	0.0500	
4-Methyl-2-Pentanone	0.6027	0.6613	25.00	27.43	ug/L	10	40	0.0500	
cis-1,3-Dichloropropene	0.6491	0.6517	25.00	25.10	ug/L	0	30	0.0500	
Toluene	0.9580	0.9548	25.00	24.92	ug/L	0	20	0.0500	
trans-1,3-Dichloropropene	0.7127	0.6874	25.00	24.11	ug/L	-4	30	0.0500	
1,1,2-Trichloroethane	0.2389	0.2475	25.00	25.90	ug/L	4	30	0.0500	
2-Hexanone	0.5379	0.6399	25.00	29.74	ug/L	19	40	0.0500	
1,3-Dichloropropane	0.7102	0.7510	25.00	26.44	ug/L	6	30	0.0500	
Tetrachloroethene	0.3758	0.3506	25.00	23.33	ug/L	-7	30	0.0500	
Dibromochloromethane	0.5121	0.4309	25.00	21.03	ug/L	-16	30	0.0500	
1,2-Dibromoethane	0.4935	0.4519	25.00	22.89	ug/L	-8	30	0.0500	
Chlorobenzene	1.0542	0.9693	25.00	22.99	ug/L	-8	30	0.3000	
1,1,1,2-Tetrachloroethane	0.3831	0.3347	25.00	21.84	ug/L	-13	30	0.0500	
Ethylbenzene	1.7946	1.7678	25.00	24.63	ug/L	-1	20	0.0500	
m,p-Xylenes	0.6572	0.6102	50.00	46.42	ug/L	-7	30	0.0500	
o-Xylene	0.6736	0.6066	25.00	22.51	ug/L	-10	30	0.0500	
Styrene	1.1941	1.0911	25.00	22.84	ug/L	-9	30	0.0500	
Bromoform	0.3874	0.3069	25.00	19.80	ug/L	**-21**	30	0.1000	!c-
Isopropylbenzene	3.0744	2.9098	25.00	23.66	ug/L	-5	30	0.0500	
1,1,2,2-Tetrachloroethane	1.2200	1.3376	25.00	27.41	ug/L	10	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.9658	0.9613	25.00	24.88	ug/L	0	30	0.0500	
Propylbenzene	3.9093	4.0746	25.00	26.06	ug/L	4	30	0.0500	
Bromobenzene	0.8577	0.7956	25.00	23.19	ug/L	-7	30	0.0500	
1,3,5-Trimethylbenzene	2.7084	2.3859	25.00	22.02	ug/L	-12	30	0.0500	
2-Chlorotoluene	2.7450	2.5734	25.00	23.44	ug/L	-6	30	0.0500	
4-Chlorotoluene	2.5935	2.5238	25.00	24.33	ug/L	-3	30	0.0500	
tert-Butylbenzene	2.1670	1.9390	25.00	22.37	ug/L	-11	30	0.0500	
1,2,4-Trimethylbenzene	2.8297	2.6087	25.00	23.05	ug/L	-8	30	0.0500	
sec-Butylbenzene	3.4511	3.4271	25.00	24.83	ug/L	-1	30	0.0500	
para-Isopropyl Toluene	2.7584	2.5844	25.00	23.42	ug/L	-6	30	0.0500	
1,3-Dichlorobenzene	1.5226	1.4729	25.00	24.18	ug/L	-3	30	0.0500	
1,4-Dichlorobenzene	1.5435	1.5320	25.00	24.81	ug/L	-1	30	0.0500	
n-Butylbenzene	2.8926	3.2092	25.00	27.74	ug/L	11	30	0.0500	
1,2-Dichlorobenzene	1.5771	1.4792	25.00	23.45	ug/L	-6	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2918	0.2570	25.00	22.02	ug/L	-12	30	0.0500	
1,2,4-Trichlorobenzene	1.0997	1.0257	25.00	23.32	ug/L	-7	30	0.0500	!v+
Hexachlorobutadiene	0.5415	0.4839	25.00	22.34	ug/L	-11	30	0.0500	!v+
Naphthalene	3.2789	3.0152	25.00	22.99	ug/L	-8	30	0.0500	
1,2,3-Trichlorobenzene	1.0788	0.8984	25.00	20.82	ug/L	-17	30	0.0500	
Dibromofluoromethane	0.7122	0.6362	50.00	44.67	ug/L	-11	30	0.0500	
1,2-Dichloroethane-d4	0.4115	0.3415	50.00	41.49	ug/L	-17	30	0.0500	
Trifluorotoluene	0.5026	0.4938	25.00	24.57	ug/L	-2	30	0.0500	
Toluene-d8	1.3165	1.3945	50.00	52.96	ug/L	6	30	0.0500	
Bromofluorobenzene	1.0674	1.0292	50.00	48.21	ug/L	-4	30	0.0500	

ISTD (ICAL fd116)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	524760	599862	14.31	11.91	11.93	0.02
1,4-Difluorobenzene	920018	1009843	9.76	13.23	13.26	0.03
Chlorobenzene-d5	764373	827881	8.31	17.99	18.01	0.02
1,4-Dichlorobenzene-d4	426593	428896	0.54	20.86	20.87	0.01

MCT 05/05/15 [Chloromethane]: Combined split peak.

MCT 05/05/15 [Bromodichloromethane]: Combined split peak.

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/05/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSVOA Soil
EPA 8260B

Inst : MSVOA06 IDF : 1.0
Seqnum : 455180385006 File : fe506 Time : 05-MAY-2015 09:06
Cal : 455131716001 Caldate : 01-APR-2015 Caltype : SOIL
Standards: S27172 (20000X), S27151 (20000X), S26957 (20000X), S27137 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	1.1105	0.7420	25.00	16.70	ug/L	**-33**	30	0.0500	!v- c- ***
Chloromethane	0.9333	0.8709	25.00	23.33	ug/L	-7	30	0.1000	m
Vinyl Chloride	0.8119	0.7420	25.00	22.85	ug/L	-9	20	0.0500	
Bromomethane	0.4866	0.4210	25.00	21.63	ug/L	-13	30	0.0500	!v-
Chloroethane	0.5738	0.5607	25.00	24.43	ug/L	-2	30	0.0500	
Trichlorofluoromethane	1.1434	0.8416	25.00	18.40	ug/L	**-26**	30	0.0500	!c-
Acetone	0.4217	0.4217	25.00	18.93	ug/L	**-24**	40	0.0500	!c- !v-
Freon 113	0.6402	0.6264	25.00	24.46	ug/L	-2	30	0.0500	
1,1-Dichloroethene	0.6097	0.5610	25.00	23.00	ug/L	-8	20	0.0500	
Methylene Chloride	0.7901	0.7454	25.00	23.58	ug/L	-6	30	0.0500	
Carbon Disulfide	2.2881	2.3449	25.00	25.62	ug/L	2	30	0.0500	
MTBE	2.1115	1.6881	25.00	19.99	ug/L	-20	30	0.0500	
trans-1,2-Dichloroethene	0.6774	0.6227	25.00	22.98	ug/L	-8	30	0.0500	
Vinyl Acetate	1.6402	1.7206	25.00	26.23	ug/L	5	40	0.0500	
1,1-Dichloroethane	1.3544	1.2407	25.00	22.90	ug/L	-8	30	0.1000	
2-Butanone	0.6039	0.5698	25.00	23.59	ug/L	-6	40	0.0500	
2,2-Dichloropropane	0.9782	0.8159	25.00	20.85	ug/L	-17	30	0.0500	
cis-1,2-Dichloroethene	0.7543	0.6874	25.00	22.78	ug/L	-9	30	0.0500	
Chloroform	1.2777	1.0558	25.00	20.66	ug/L	-17	20	0.0500	
Bromochloromethane	0.3377	0.3001	25.00	22.21	ug/L	-11	30	0.0500	
1,1,1-Trichloroethane	0.9600	0.7037	25.00	18.33	ug/L	**-27**	30	0.0500	!c-
1,1-Dichloropropene	0.5113	0.5264	25.00	25.74	ug/L	3	30	0.0500	
Carbon Tetrachloride	0.4407	0.3618	25.00	20.52	ug/L	-18	30	0.0500	
1,2-Dichloroethane	0.5568	0.4161	25.00	18.68	ug/L	**-25**	30	0.0500	!c-
Benzene	1.3880	1.4851	25.00	26.75	ug/L	7	30	0.0500	
Trichloroethene	0.3730	0.3605	25.00	24.16	ug/L	-3	30	0.0500	
1,2-Dichloropropane	0.4348	0.4675	25.00	26.88	ug/L	8	20	0.0500	
Bromodichloromethane	0.5487	0.4820	25.00	21.96	ug/L	-12	30	0.0500	
Dibromomethane	0.2896	0.2631	25.00	22.72	ug/L	-9	30	0.0500	
4-Methyl-2-Pentanone	0.6027	0.5840	25.00	24.22	ug/L	-3	40	0.0500	
cis-1,3-Dichloropropene	0.6491	0.6360	25.00	24.50	ug/L	-2	30	0.0500	
Toluene	0.9580	0.9923	25.00	25.89	ug/L	4	20	0.0500	
trans-1,3-Dichloropropene	0.7127	0.6620	25.00	23.22	ug/L	-7	30	0.0500	
1,1,2-Trichloroethane	0.2389	0.2511	25.00	26.28	ug/L	5	30	0.0500	
2-Hexanone	0.5379	0.5563	25.00	25.85	ug/L	3	40	0.0500	
1,3-Dichloropropane	0.7102	0.7176	25.00	25.26	ug/L	1	30	0.0500	
Tetrachloroethene	0.3758	0.3881	25.00	25.82	ug/L	3	30	0.0500	
Dibromochloromethane	0.5121	0.4362	25.00	21.30	ug/L	-15	30	0.0500	
1,2-Dibromoethane	0.4935	0.4421	25.00	22.39	ug/L	-10	30	0.0500	
Chlorobenzene	1.0542	1.0313	25.00	24.46	ug/L	-2	30	0.3000	
1,1,1,2-Tetrachloroethane	0.3831	0.3381	25.00	22.06	ug/L	-12	30	0.0500	
Ethylbenzene	1.7946	1.8940	25.00	26.38	ug/L	6	20	0.0500	
m,p-Xylenes	0.6572	0.6490	50.00	49.38	ug/L	-1	30	0.0500	
o-Xylene	0.6736	0.6424	25.00	23.84	ug/L	-5	30	0.0500	
Styrene	1.1941	1.1153	25.00	23.35	ug/L	-7	30	0.0500	
Bromoform	0.3874	0.3058	25.00	19.73	ug/L	**-21**	30	0.1000	!c-
Isopropylbenzene	3.0744	2.9397	25.00	23.90	ug/L	-4	30	0.0500	
1,1,2,2-Tetrachloroethane	1.2200	1.2252	25.00	25.11	ug/L	0	30	0.3000	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.9658	0.9214	25.00	23.85	ug/L	-5	30	0.0500	
Propylbenzene	3.9093	4.2473	25.00	27.16	ug/L	9	30	0.0500	
Bromobenzene	0.8577	0.8192	25.00	23.88	ug/L	-4	30	0.0500	
1,3,5-Trimethylbenzene	2.7084	2.6146	25.00	24.13	ug/L	-3	30	0.0500	
2-Chlorotoluene	2.7450	2.7151	25.00	24.73	ug/L	-1	30	0.0500	
4-Chlorotoluene	2.5935	2.5301	25.00	24.39	ug/L	-2	30	0.0500	
tert-Butylbenzene	2.1670	1.9757	25.00	22.79	ug/L	-9	30	0.0500	
1,2,4-Trimethylbenzene	2.8297	2.6570	25.00	23.47	ug/L	-6	30	0.0500	
sec-Butylbenzene	3.4511	3.6297	25.00	26.29	ug/L	5	30	0.0500	
para-Isopropyl Toluene	2.7584	2.8110	25.00	25.48	ug/L	2	30	0.0500	
1,3-Dichlorobenzene	1.5226	1.5548	25.00	25.53	ug/L	2	30	0.0500	
1,4-Dichlorobenzene	1.5435	1.5906	25.00	25.76	ug/L	3	30	0.0500	
n-Butylbenzene	2.8926	3.3391	25.00	28.86	ug/L	15	30	0.0500	
1,2-Dichlorobenzene	1.5771	1.5274	25.00	24.21	ug/L	-3	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.2918	0.2307	25.00	19.76	ug/L	**-21**	30	0.0500	!c-
1,2,4-Trichlorobenzene	1.0997	1.3256	25.00	30.14	ug/L	**21**	30	0.0500	!c+ !v+
Hexachlorobutadiene	0.5415	0.5444	25.00	25.13	ug/L	1	30	0.0500	!v+
Naphthalene	3.2789	3.0079	25.00	22.93	ug/L	-8	30	0.0500	
1,2,3-Trichlorobenzene	1.0788	1.0426	25.00	24.16	ug/L	-3	30	0.0500	
Dibromofluoromethane	0.7122	0.5979	50.00	41.98	ug/L	-16	30	0.0500	
1,2-Dichloroethane-d4	0.4115	0.3372	50.00	40.96	ug/L	-18	30	0.0500	
Trifluorotoluene	0.5026	0.5280	25.00	26.27	ug/L	5	30	0.0500	
Toluene-d8	1.3165	1.3838	50.00	52.56	ug/L	5	30	0.0500	
Bromofluorobenzene	1.0674	1.0155	50.00	47.57	ug/L	-5	30	0.0500	

ISTD (ICAL fd116)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	524760	654835	24.79	11.91	11.92	0.01
1,4-Difluorobenzene	920018	1062629	15.50	13.23	13.25	0.02
Chlorobenzene-d5	764373	868979	13.69	17.99	18.00	0.01
1,4-Dichlorobenzene-d4	426593	469062	9.96	20.86	20.87	0.01

MCT 05/05/15 [Chloromethane]: Combined split peak.

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/06/15

!=warning +=high bias -=low bias c=CCV m=manual integration v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 435184888

Date : 05/08/15 Reference : dd110
Sequence : MSVOA04 de8 Analyzed : 04/01/15 14:20

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	831165	9.53	1353475	10.66	1056105	14.87	538655	17.60
		LOWER LIMIT	415583	9.03	676738	10.16	528053	14.37	269328	17.10
		UPPER LIMIT	1662330	10.03	2706950	11.16	2112210	15.37	1077310	18.10
001	IB		984362	9.53	1420386	10.66	1280096	14.88	685814	17.61
003	CCV/BS	QC787170	969032	9.54	1424067	10.67	1217069	14.88	672373	17.61
004	BSD	QC787171	972603	9.54	1413074	10.67	1244396	14.88	670647	17.60
005	IB		814526	9.53	1256926	10.67	1052085	14.87	592712	17.60
006	BLANK	QC787172	802728	9.54	1215727	10.66	1042593	14.88	582077	17.60
007	SAMPLE	266597-001	837806	9.53	1320433	10.66	1102859	14.88	600326	17.61
008	SAMPLE	266597-002	805861	9.53	1247627	10.67	1061359	14.87	586942	17.60
009	SAMPLE	266597-003	793046	9.53	1197741	10.66	1002852	14.88	564562	17.60
010	SAMPLE	266597-004	728084	9.53	1171218	10.66	914405	14.88	549373	17.61
011	SAMPLE	266597-005	670910	9.54	1066930	10.67	895952	14.88	503209	17.60
012	MSS	266649-006	720477	9.54	1131626	10.67	953593	14.88	479560	17.60
013	MS	QC787211	789416	9.54	1316503	10.67	1122113	14.88	621698	17.60
014	MSD	QC787212	806755	9.53	1303956	10.67	1102505	14.87	632904	17.60
015	SAMPLE	266525-011	766375	9.53	1175752	10.67	1018944	14.88	554155	17.61
016	SAMPLE	266645-002	749935	9.54	1136753	10.67	946869	14.88	537103	17.60
017	SAMPLE	266647-001	735737	9.53	1101626	10.67	955783	14.87	474867	17.60
018	SAMPLE	266647-002	886988	9.53	1313155	10.66	1315347	14.88	755436	17.61

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445179202

Date : 05/04/15 Reference : edh20
Sequence : MSVOA05 ee4 Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		235991	9.68	348230	10.79	315201	14.91	170369	17.66
003	CCV	35PPB	301814	9.68	450471	10.79	415722	14.91	249945	17.65
004	BS	QC786493	287484	9.68	426134	10.79	396015	14.91	235264	17.66
005	BSD	QC786494	288336	9.69	429456	10.78	391610	14.90	230693	17.65
006	IB		214602	9.68	314411	10.79	286409	14.91	158827	17.66
007	BLANK	QC786495	271384	9.69	399053	10.79	365014	14.91	218970	17.65
008	SAMPLE	266548-001	265445	9.68	394949	10.79	359815	14.90	210377	17.65
009	SAMPLE	266466-002	256716	9.69	386826	10.79	366394	14.90	212389	17.65
010	SAMPLE	266466-004	254419	9.68	377432	10.79	351237	14.91	213612	17.66
011	SAMPLE	266511-021	245023	9.69	363963	10.79	332822	14.91	192987	17.65
012	SAMPLE	266511-022	215256	9.68	322433	10.79	303631	14.91	176067	17.66
013	SAMPLE	266511-023	238720	9.69	359370	10.79	338612	14.91	202508	17.66
014	SAMPLE	266511-024	241560	9.69	352444	10.79	329757	14.91	207217	17.65
015	SAMPLE	266511-025	223023	9.69	331783	10.79	307458	14.91	172710	17.65
016	SAMPLE	266511-026	257076	9.69	384946	10.79	358132	14.90	211244	17.65
017	SAMPLE	266511-027	237497	9.69	352113	10.79	331992	14.91	194317	17.66
018	SAMPLE	266511-028	39966 *	9.68	59517 *	10.78	56887 *	14.90	21846 *	17.65
019	SAMPLE	266525-010	210967	9.69	320017	10.79	299309	14.91	180400	17.65
020	SAMPLE	266525-012	26948 *	9.68	38114 *	10.78	37477 *	14.91	9787 *	17.66
021	SAMPLE	266525-014	230526	9.68	341969	10.79	313607	14.91	203754	17.66
022	SAMPLE	266525-011	220935	9.69	334026	10.79	310838	14.91	188732	17.66
023	IB		246847	9.69	368221	10.79	337643	14.91	192809	17.65
024	IB		214398	9.69	317499	10.79	291803	14.91	168629	17.66

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445182112

Date : 05/06/15 Reference : edh20
Sequence : MSVOA05 ee6 Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		274197	9.68	406936	10.78	362948	14.90	195803	17.65
003	CCV	35PPB	291168	9.69	435398	10.78	402330	14.90	248378	17.65
004	CCV/BS	QC786830	286135	9.69	434899	10.79	408398	14.90	246245	17.65
006	CCV	35PPB	203019	9.69	301518	10.78	286239	14.90	178298	17.65
008	LCS	QC786830	205925	9.69	298370	10.79	278235	14.90	170067	17.65
009	BLANK	QC786832	206942	9.69	304268	10.79	276502	14.91	165467	17.65
010	PREPBLK	QC786917	199618	9.68	293857	10.78	279788	14.90	160730	17.65
011	PREPBLK	QC786918	207847	9.68	306202	10.78	292801	14.90	169600	17.65
012	SAMPLE	266505-002	207162	9.68	309794	10.79	287010	14.91	180365	17.65
013	SAMPLE	266531-001	238334	9.68	356054	10.79	336476	14.91	201743	17.66
014	SAMPLE	266525-011	240220	9.68	351725	10.78	331152	14.90	196328	17.65
015	SAMPLE	266525-013	241867	9.67	356490	10.78	338862	14.90	206747	17.65
016	SAMPLE	266525-014	245459	9.67	374710	10.78	355730	14.91	216598	17.66
017	SAMPLE	266525-019	243801	9.68	361220	10.78	339947	14.90	199053	17.65
018	SAMPLE	266525-020	250165	9.67	378065	10.78	360892	14.91	212108	17.65
019	SAMPLE	266525-021	252390	9.67	377800	10.78	359352	14.91	206986	17.66
020	SAMPLE	266525-015	239300	9.69	354382	10.79	342759	14.91	210522	17.65
021	SAMPLE	266525-017	183698	9.69	307270	10.79	296261	14.91	176339	17.65
022	SAMPLE	266525-018	236232	9.68	339411	10.79	322366	14.91	194719	17.66
023	MSS	266604-001	217239	9.69	334685	10.79	320963	14.91	185041	17.65
024	MS	QC786920	217441	9.68	327513	10.79	308428	14.91	193943	17.66
025	MSD	QC786921	230039	9.69	342540	10.79	320606	14.91	202863	17.65
026	IB		223725	9.69	321644	10.79	309663	14.91	175493	17.65
027	IB		210222	9.69	311553	10.79	275880	14.91	159622	17.66
028	SAMPLE	266354-001	209058	9.69	307485	10.79	291942	14.90	172637	17.65
029	SAMPLE	266354-002	200960	9.69	301459	10.79	289651	14.91	163942	17.65
030	SAMPLE	266354-003	203104	9.69	301801	10.79	280701	14.91	162064	17.65
031	SAMPLE	266354-004	186314	9.69	284251	10.79	275669	14.91	157989	17.66
032	SAMPLE	266354-005	185406	9.69	279291	10.79	270063	14.91	162488	17.66
033	SAMPLE	266354-006	184422	9.69	279731	10.79	265540	14.91	157023	17.65
034	IB	BOX 3	179449	9.69	275801	10.79	270070	14.91	160146	17.66
035	IB	BOX 4	181817	9.69	271029	10.80	260518	14.90	153221	17.65
036	IB	BOX 5	173731	9.69	263161	10.79	253859	14.91	145412	17.65

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445183599

Date : 05/07/15 Reference : edh20
Sequence : MSVOA05 ee7 Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		215702	9.68	327351	10.79	310614	14.91	176369	17.65
003	CCV	15PPB	205839	9.69	315884	10.80	307557	14.91	200662	17.66
004	CCV/BS	QC786996	224396	9.68	334874	10.79	324487	14.91	212420	17.66
005	BSD	QC786997	224244	9.69	338785	10.79	318500	14.91	207308	17.65
006	BLANK	QC786998	226356	9.68	334535	10.79	323083	14.91	189486	17.66
007	SAMPLE	266597-001	218550	9.69	339611	10.79	324945	14.91	185882	17.65
008	SAMPLE	266597-002	199808	9.69	296629	10.79	283842	14.91	165793	17.65
009	SAMPLE	266597-003	216671	9.68	326105	10.79	304430	14.91	185033	17.66
010	SAMPLE	266597-004	153772	9.68	234571	10.79	223834	14.91	129357	17.66
011	SAMPLE	266597-005	216808	9.69	324200	10.79	306967	14.90	182557	17.65
012	PREPBLK	QC787109	219343	9.67	330858	10.78	318282	14.91	185364	17.66
013	SAMPLE	266525-021	208557	9.69	305323	10.79	279162	14.90	147845	17.65
014	SAMPLE	266525-011	218397	9.67	333102	10.78	329729	14.91	193135	17.65
015	SAMPLE	266525-017	225972	9.69	334391	10.79	317669	14.91	203113	17.65
016	SAMPLE	266525-018	212462	9.69	324255	10.79	305841	14.91	195448	17.66
017	IB		223086	9.69	333693	10.79	318375	14.91	183250	17.66
018	IB		222209	9.69	339681	10.79	322478	14.91	185645	17.65

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 445186424

Date : 05/09/15 Reference : edh20
Sequence : MSVOA05 ee9 Analyzed : 04/17/15 22:31

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	290231	9.69	407688	10.79	373793	14.90	222007	17.65
		LOWER LIMIT	145116	9.19	203844	10.29	186897	14.40	111004	17.15
		UPPER LIMIT	580462	10.19	815376	11.29	747586	15.40	444014	18.15
001	IB		273465	9.69	405741	10.78	376768	14.90	216873	17.65
003	CCV	20PPB	250051	9.68	364073	10.78	347822	14.90	227671	17.65
004	CCV/BS	QC787352	265689	9.69	377812	10.79	363307	14.91	243382	17.65
006	CCV	20PPB	202536	9.69	288355	10.79	281898	14.91	181044	17.65
007	BS	QC787352	203260	9.69	298057	10.78	277100	14.90	179579	17.65
008	BSD	QC787353	201409	9.69	292153	10.79	278364	14.91	180916	17.65
009	BLANK	QC787354	199660	9.69	293163	10.79	274405	14.91	164447	17.65
010	PREPBLK	QC787361	207214	9.68	309227	10.78	292692	14.91	176663	17.65
011	SAMPLE	266525-012	196552	9.68	303488	10.79	288177	14.91	171564	17.65
012	SAMPLE	266604-002	205756	9.69	296086	10.78	276956	14.90	167724	17.65
013	SAMPLE	266558-001	200366	9.68	292417	10.78	273354	14.90	178274	17.65
014	SAMPLE	266608-021	213095	9.68	307447	10.78	300369	14.91	188391	17.66
015	SAMPLE	266531-011	270885	9.69	392183	10.79	366996	14.91	229257	17.66
016	SAMPLE	266531-012	292080	9.68	411420	10.79	378956	14.90	236077	17.65
017	IB		291008	9.69	420337	10.79	383395	14.91	214389	17.65
018	IB		288489	9.69	412405	10.79	381693	14.91	219747	17.65
019	LOD	242601-016	290267	9.68	417195	10.79	391620	14.91	238979	17.65
020	LOD	242601-016	293607	9.68	415627	10.78	393830	14.91	240497	17.65
021	LOD	242203-018	280398	9.69	407412	10.78	386112	14.90	231556	17.65

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 455178923

Date : 05/04/15 Reference : fd116
Sequence : MSVOA06 fe4 Analyzed : 04/01/15 20:59

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	524760	11.91	920018	13.23	764373	17.99	426593	20.86
		LOWER LIMIT	262380	11.41	460009	12.73	382187	17.49	213297	20.36
		UPPER LIMIT	1049520	12.41	1840036	13.73	1528746	18.49	853186	21.36
003	CCV		750073	11.92	1250814	13.25	1105273	18.00	607830	20.86
007	CCV		620866	11.92	1067147	13.25	920749	18.00	513310	20.86
008	BS	QC786455	630053	11.92	1075313	13.24	952429	18.00	519962	20.87
009	BSD	QC786456	639069	11.92	1095090	13.25	915067	18.00	512319	20.87
011	CCV		712042	11.92	1202225	13.25	1047033	18.00	590543	20.87
012	CCV		964667	11.93	1498246	13.25	1208752	18.00	656547	20.86
014	CCV		599862	11.93	1009843	13.26	827881	18.01	428896	20.87
015	BS	QC786455	609079	11.93	997959	13.25	797407	18.00	432230	20.87
016	BSD	QC786456	520450	11.92	869890	13.25	694937	18.00	384530	20.87
017	IB		480034	11.92	797004	13.24	659907	18.00	356731	20.86
018	BLANK	QC786457	455875	11.92	739211	13.25	621973	18.01	320008	20.86
019	SAMPLE	266525-016	415937	11.92	693782	13.24	539863	18.00	212033 *	20.87
020	SAMPLE	266525-020	358717	11.92	612245	13.25	507538	18.00	268618	20.87
021	SAMPLE	266466-001	347550	11.92	617110	13.25	436852	17.99	159259 *	20.86
022	SAMPLE	266462-009	414391	11.91	735366	13.24	635883	18.00	361340	20.87
023	SAMPLE	266462-012	558998	11.91	928009	13.24	760656	18.00	409616	20.87
024	SAMPLE	266462-013	566135	11.91	959507	13.24	769286	18.00	419833	20.87
025	SAMPLE	266525-013	539225	11.91	914019	13.24	742172	18.00	414959	20.87
026	SAMPLE	266525-015	553377	11.92	880768	13.25	742289	18.00	401909	20.86
027	SAMPLE	266525-017	450729	11.91	695188	13.24	745415	18.01	115606 *	20.87
028	SAMPLE	266525-018	509452	11.91	829847	13.24	701324	18.00	376606	20.86
029	SAMPLE	266525-019	483491	11.92	779186	13.24	657713	18.00	355135	20.86
030	SAMPLE	266525-021	446555	11.92	751207	13.25	613938	18.00	331916	20.86
031	IB		266277	11.92	435466 *	13.25	353013 *	18.00	184989 *	20.86
032	IB		216196 *	11.92	360871 *	13.25	286736 *	17.99	155028 *	20.86

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 455180385

Date : 05/05/15 Reference : fd116
Sequence : MSVOA06 fe5 Analyzed : 04/01/15 20:59

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	524760	11.91	920018	13.23	764373	17.99	426593	20.86
		LOWER LIMIT	262380	11.41	460009	12.73	382187	17.49	213297	20.36
		UPPER LIMIT	1049520	12.41	1840036	13.73	1528746	18.49	853186	21.36
004	CCV		427000	11.92	714183	13.24	591606	18.00	341639	20.87
006	CCV		654835	11.92	1062629	13.25	868979	18.00	469062	20.87
009	LCS	QC786636	581380	11.92	942599	13.24	793936	18.00	442180	20.87
010	BLANK	QC786637	572466	11.92	921179	13.24	782068	18.00	429742	20.87
011	MSS	266521-001	502662	11.91	829635	13.24	675152	17.99	346387	20.86
012	SAMPLE	266525-016	519016	11.91	861790	13.24	656272	18.00	273967	20.87
013	SAMPLE	266531-001	493004	11.92	857833	13.25	563383	17.99	191874 *	20.86
014	SAMPLE	266511-028	613118	11.91	988491	13.24	823079	17.99	457229	20.86
015	SAMPLE	266525-017	402054	11.91	842126	13.24	207680 *	18.02	10043 *	20.87
016	SAMPLE	266511-013	563695	11.91	903025	13.24	730997	17.99	341214	20.86
017	MS	QC786683	550345	11.91	889102	13.24	722858	18.00	371751	20.87
018	MSD	QC786684	567284	11.91	917210	13.24	761590	18.00	392318	20.87
023	SAMPLE	266354-001	453092	11.92	774984	13.24	629594	18.00	348440	20.87
024	SAMPLE	266354-002	438473	11.91	731535	13.25	608447	18.00	347382	20.86
025	SAMPLE	266354-003	444384	11.91	757133	13.24	614825	18.00	341993	20.87
026	SAMPLE	266354-004	443697	11.91	742141	13.24	615370	18.00	341151	20.86
027	SAMPLE	266354-005	440787	11.91	738866	13.24	620250	18.00	346295	20.87
028	SAMPLE	266354-006	432942	11.91	733826	13.24	607350	18.00	332302	20.86

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 435131479

Instrument : MSVOA04 Begun : 04/01/15 07:19
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	dd101	X	IB			04/01/15 07:19	1.0	1	
002	dd102	TUN	BFB			04/01/15 08:24	1.0	2	
003	dd103	TUN	BFB			04/01/15 10:31	1.0	2	
004	dd104	X	IB			04/01/15 10:58	1.0	1	
005	dd105	IB	CALIB			04/01/15 11:32	1.0	1	
006	dd106	ICAL				04/01/15 12:05	1.0	3 4 5 1	
007	dd107	ICAL				04/01/15 12:39	1.0	3 4 5 1	
008	dd108	ICAL				04/01/15 13:12	1.0	3 4 5 1	
009	dd109	ICAL				04/01/15 13:46	1.0	3 4 5 1	
010	dd110	ICAL				04/01/15 14:20	1.0	3 4 5 1	
011	dd111	ICAL				04/01/15 14:53	1.0	3 4 5 1	
012	dd112	ICAL				04/01/15 15:27	1.0	3 4 5 1	
013	dd113	ICAL				04/01/15 16:01	1.0	3 4 5 1	
014	dd114	ICAL				04/01/15 16:34	1.0	3 4 5 1	
015	dd115	ICV				04/01/15 17:08	1.0	6 1	
016	dd116	ICV				04/01/15 17:41	1.0	7 8 9 1	
017	dd117	X	IB			04/01/15 18:15	1.0	1	
018	dd118	X	IB			04/01/15 18:48	1.0	1	

DJA 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: DJA Date: 04/02/15 Reviewer: LW Date: 04/03/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S26838 5=S25156 6=S26672 7=S26876 8=S26759 9=S26642

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 435184888

Instrument : MSVOA04 Begun : 05/08/15 09:28
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	de801	IB				05/08/15 09:28	1.0	1	?t
002	de802	TUN	BFB			05/08/15 10:12	1.0	2	
003	de803	CCV/BS	QC787170	Soil	222980	05/08/15 10:42	1.0	3 4 5 6 1	
004	de804	BSD	QC787171	Soil	222980	05/08/15 11:39	1.0	3 4 5 6 1	
005	de805	IB				05/08/15 12:13	1.0	1	
006	de806	BLANK	QC787172	Soil	222980	05/08/15 12:47	1.0	1	
007	de807	SAMPLE	266597-001	Soil	222980	05/08/15 13:20	0.8375	1	
008	de808	SAMPLE	266597-002	Soil	222980	05/08/15 13:54	0.8403	1	
009	de809	SAMPLE	266597-003	Soil	222980	05/08/15 14:28	0.9074	1	
010	de810	SAMPLE	266597-004	Soil	222980	05/08/15 15:01	0.8052	1	
011	de811	SAMPLE	266597-005	Soil	222980	05/08/15 15:35	0.7194	1	
012	de812	MSS	266649-006	Soil	222980	05/08/15 16:09	0.998	1	
013	de813	MS	QC787211	Soil	222980	05/08/15 16:42	0.9728	3 4 5 6 1	
014	de814	MSD	QC787212	Soil	222980	05/08/15 17:16	0.9747	3 4 5 6 1	
015	de815	SAMPLE	266525-011	Soil	222980	05/08/15 17:49	0.9901	1	
016	de816	SAMPLE	266645-002	Soil	222980	05/08/15 18:23	0.9804	1	
017	de817	SAMPLE	266647-001	Soil	222980	05/08/15 18:57	0.8547	1	
018	de818	SAMPLE	266647-002	Soil	222980	05/08/15 19:30	0.8636	1	
019	de819	X	IB			05/08/15 20:04	1.0	1	
020	de820	X	IB			05/08/15 20:37	1.0	1	
021	de821	X	IB			05/08/15 21:11	1.0	1	
022	de822	X	IB			05/08/15 21:44	1.0	1	

DJA 05/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: DJA Date: 05/11/15 Reviewer: TKM Date: 05/11/15

Standards used: 1=S26911 2=S27180 3=S27177 4=S27022 5=S27179 6=S26672

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445154813

Instrument : MSVOA05 Begun : 04/17/15 12:13
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	edh01	IB				04/17/15 12:13	1.0	1	?t
002	edh02	IB				04/17/15 12:48	1.0	1	?t
003	edh03	IB				04/17/15 13:22	1.0	1	?t
004	edh04	X	LOW POINT			04/17/15 13:57	1.0	1	
005	edh05	IB				04/17/15 15:06	1.0	1	?t
006	edh06	IB				04/17/15 15:41	1.0	1	?t
007	edh07	IB				04/17/15 16:16	1.0	1	?t
008	edh08	X	LOW POINT			04/17/15 16:51	1.0	1	
009	edh09	TUN	BFB			04/17/15 17:25	1.0	2	t
010	edh10	TUN	BFB			04/17/15 17:42	1.0	2	
011	edh11	TUN	BFB			04/17/15 17:51	1.0	2	
012	edh12	TUN	BFB			04/17/15 18:00	1.0	2	
013	edh13	X	IB			04/17/15 18:27	1.0	1	
014	edh14	X	IB			04/17/15 19:02	1.0	1	
015	edh15	IB	CALIB IB			04/17/15 19:37	1.0	1	
016	edh16	ICAL	2.5PPB			04/17/15 20:12	1.0	3 4 5 1	
017	edh17	ICAL	5PPB			04/17/15 20:47	1.0	3 4 5 1	
018	edh18	ICAL	10PPB			04/17/15 21:22	1.0	3 4 5 1	
019	edh19	ICAL	20PPB			04/17/15 21:56	1.0	3 4 5 1	
020	edh20	ICAL	50PPB			04/17/15 22:31	1.0	3 4 5 1	
021	edh21	ICAL	60PPB			04/17/15 23:06	1.0	3 4 5 1	
022	edh22	ICAL	75PPB			04/17/15 23:41	1.0	3 4 5 1	
023	edh23	ICAL	100PPB			04/18/15 00:15	1.0	3 4 5 1	
024	edh24	ICAL	200PPB			04/18/15 00:50	1.0	3 4 5 1	
025	edh25	ICV	GASES			04/18/15 01:25	1.0	6 1	
026	edh26	ICV				04/18/15 02:00	1.0	7 8 9 1	

NJT 04/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/21/15

Standards used: 1=S26911 2=S26000 3=S26948 4=S26838 5=S26957 6=S26358 7=S26876 8=S27022 9=S26759

Flags used: ?t=missing tune t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445160525

Instrument : MSVOA05 Begun : 04/21/15 11:25
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	edl01	IB				04/21/15 11:25	1.0	1	?t
002	edl02	TUN	BFB			04/21/15 14:18	1.0	2	
003	edl03	ICV	GASES			04/21/15 14:46	1.0	3 1	

NJT 04/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

Analyst: NJT Date: 04/21/15 Reviewer: LW Date: 04/22/15

Standards used: 1=S26911 2=S26000 3=S26358

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445179202

Instrument : MSVOA05 Begun : 05/04/15 10:42
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ee401	IB				05/04/15 10:42	1.0	1	?t
002	ee402	TUN	BFB			05/04/15 11:42	1.0	2	
003	ee403	CCV	35PPB			05/04/15 12:09	1.0	3 4 5 1	
004	ee404	BS	QC786493	Soil	222827	05/04/15 12:44	1.0	6 7 8 9 1	
005	ee405	BSD	QC786494	Soil	222827	05/04/15 13:18	1.0	6 7 8 9 1	
006	ee406	IB				05/04/15 13:53	1.0	1	
007	ee407	BLANK	QC786495	Soil	222827	05/04/15 14:28	1.0	1	
008	ee408	SAMPLE	266548-001	Soil	222827	05/04/15 15:03	0.9804	1	
009	ee409	SAMPLE	266466-002	Soil	222827	05/04/15 15:37	0.8803	1	
010	ee410	SAMPLE	266466-004	Soil	222827	05/04/15 16:12	0.6887	1	
011	ee411	SAMPLE	266511-021	Soil	222827	05/04/15 16:47	0.7452	1	
012	ee412	SAMPLE	266511-022	Soil	222827	05/04/15 17:21	1.029	1	
013	ee413	SAMPLE	266511-023	Soil	222827	05/04/15 17:56	0.744	1	
014	ee414	SAMPLE	266511-024	Soil	222827	05/04/15 18:31	0.9381	1	
015	ee415	SAMPLE	266511-025	Soil	222827	05/04/15 19:06	0.8803	1	
016	ee416	SAMPLE	266511-026	Soil	222827	05/04/15 19:40	0.7496	1	
017	ee417	SAMPLE	266511-027	Soil	222827	05/04/15 20:15	0.7911	1	
018	ee418	SAMPLE	266511-028	Soil	222827	05/04/15 20:50	0.7849	1	
019	ee419	SAMPLE	266525-010	Soil	222827	05/04/15 21:25	0.9416	1	
020	ee420	SAMPLE	266525-012	Soil	222827	05/04/15 21:59	1.279	1	
021	ee421	SAMPLE	266525-014	Soil	222827	05/04/15 22:34	1.033	1	1:TCB124=580
022	ee422	SAMPLE	266525-011	Soil	222827	05/04/15 23:09	1.131	1	4:TCB124=1800
023	ee423	IB				05/04/15 23:44	1.0	1	<<t
024	ee424	IB				05/05/15 00:18	1.0	1	<<t

DAR 05/04/15 : Matrix spikes were not performed for this analysis in batch 222827 because of clock limitations; 5030 rushes were added to a 5035 batch.

DAR 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 24.

Analyst: DAR Date: 05/05/15 Reviewer: LW Date: 05/05/15

Standards used: 1=S26911 2=S27180 3=S27172 4=S27151 5=S26957 6=S25696 7=S27177 8=S27022 9=S27179

Flags used: <<t=out of clock ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445182112

Instrument : MSVOA05 Begun : 05/06/15 11:12
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ee601	IB					05/06/15 11:12	1.0	1	?t
002	ee602	TUN	BFB				05/06/15 11:39	1.0	2	
003	ee603	CCV	35PPB				05/06/15 12:05	1.0	3 4 5 1	cc+
004	ee604	CCV/BS	QC786830		Soil	222910	05/06/15 12:50	1.0	6 7 8 9 1	cc+
005	ee605	TUN	BFB				05/06/15 15:17	1.0	2	
006	ee606	CCV	35PPB				05/06/15 15:43	1.0	3 4 5 1	
007	ee607	X	QC786830		Soil	222910	05/06/15 16:27	1.0	6 7 8 9 1	
008	ee608	LCS	QC786830		Soil	222910	05/06/15 17:02	1.0	6 7 8 9 1	
009	ee609	BLANK	QC786832		Soil	222910	05/06/15 17:37	1.0	1	
010	ee610	PREPBLK	QC786917	M	Soil	222910	05/06/15 18:12	50.0	10 1	
011	ee611	PREPBLK	QC786918	M	Soil	222910	05/06/15 18:47	50.0	10 1	
012	ee612	SAMPLE	266505-002	M	Soil	222910	05/06/15 19:22	100.0	10 1	high HC, 1:ACE=230
013	ee613	SAMPLE	266531-001	M	Soil	222910	05/06/15 19:58	96.50	10 1	
014	ee614	SAMPLE	266525-011	M	Soil	222910	05/06/15 20:33	50.0	10 1	
015	ee615	SAMPLE	266525-013	M	Soil	222910	05/06/15 21:08	46.55	1	
016	ee616	SAMPLE	266525-014	M	Soil	222910	05/06/15 21:43	52.0	1	
017	ee617	SAMPLE	266525-019	M	Soil	222910	05/06/15 22:17	45.70	1	
018	ee618	SAMPLE	266525-020	M	Soil	222910	05/06/15 22:52	54.0	1	
019	ee619	SAMPLE	266525-021	M	Soil	222910	05/06/15 23:27	115.5	1	
020	ee620	SAMPLE	266525-015	M	Soil	222910	05/07/15 00:02	702.0	1	
021	ee621	SAMPLE	266525-017	M	Soil	222910	05/07/15 00:36	898.0	1	2:TCB124=3000
022	ee622	SAMPLE	266525-018	M	Soil	222910	05/07/15 01:11	682.0	1	4:TCB124=1200
023	ee623	MSS	266604-001		Soil	222910	05/07/15 01:46	0.9862	1	
024	ee624	MS	QC786920		Soil	222910	05/07/15 02:21	0.9766	11 7 8 9 1	
025	ee625	MSD	QC786921		Soil	222910	05/07/15 02:56	0.956	11 7 8 9 1	
026	ee626	IB					05/07/15 03:31	1.0	1	<<t
027	ee627	IB					05/07/15 04:05	1.0	1	<<t
028	ee628	SAMPLE	266354-001		Soil	222910	05/07/15 04:40	1.0	1	<<t
029	ee629	SAMPLE	266354-002		Soil	222910	05/07/15 05:15	1.0	1	<<t
030	ee630	SAMPLE	266354-003		Soil	222910	05/07/15 05:50	1.0	1	<<t
031	ee631	SAMPLE	266354-004		Soil	222910	05/07/15 06:25	1.0	1	<<t
032	ee632	SAMPLE	266354-005		Soil	222910	05/07/15 07:00	1.0	1	<<t
033	ee633	SAMPLE	266354-006		Soil	222910	05/07/15 07:35	1.0	1	<<t
034	ee634	IB	BOX 3				05/07/15 08:10	1.0	1	<<t
035	ee635	IB	BOX 4				05/07/15 08:45	1.0	1	<<t
036	ee636	IB	BOX 5				05/07/15 09:20	1.0	1	<<t

NJT 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 36.

Analyst: NJT Date: 05/07/15 Reviewer: LW Date: 05/07/15

Standards used: 1=S26911 2=S27180 3=S27172 4=S27151 5=S26957 6=S25696 7=S27177 8=S27022 9=S27179 10=S23626 11=S26064

Flags used: +=high bias <<t=out of clock ?t=missing tune cc=CCV CCC failure

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445183599

Instrument : MSVOA05 Begun : 05/07/15 11:59
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ee701	IB					05/07/15 11:59	1.0	1	?t
002	ee702	TUN	BFB				05/07/15 12:26	1.0	2	
003	ee703	CCV	15PPB				05/07/15 12:37	1.0	3 4 5 1	cc+
004	ee704	CCV/BS	QC786996		Soil	222948	05/07/15 13:26	1.0	6 7 8 9 1	
005	ee705	BSD	QC786997		Soil	222948	05/07/15 14:00	1.0	6 7 8 9 1	
006	ee706	BLANK	QC786998		Soil	222948	05/07/15 14:35	1.0	1	
007	ee707	SAMPLE	266597-001		Soil	222948	05/07/15 15:10	0.8183	1	
008	ee708	SAMPLE	266597-002		Soil	222948	05/07/15 15:45	0.8013	1	
009	ee709	SAMPLE	266597-003		Soil	222948	05/07/15 16:20	0.9141	1	
010	ee710	SAMPLE	266597-004		Soil	222948	05/07/15 16:55	0.8361	1	
011	ee711	SAMPLE	266597-005		Soil	222948	05/07/15 17:30	0.768	1	
012	ee712	PREPBLK	QC787109	M	Soil	222948	05/07/15 18:05	50.0	10 1	
013	ee713	SAMPLE	266525-021		Soil	222948	05/07/15 18:40	1.073	1	
014	ee714	SAMPLE	266525-011	M	Soil	222948	05/07/15 19:15	50.0	10 1	
015	ee715	SAMPLE	266525-017	M	Soil	222948	05/07/15 19:50	44880	1	
016	ee716	SAMPLE	266525-018	M	Soil	222948	05/07/15 20:24	13640	1	
017	ee717	IB					05/07/15 20:59	1.0	1	
018	ee718	IB					05/07/15 21:34	1.0	1	

NJT 05/08/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

NJT 05/08/15 : Matrix spikes were not performed for this analysis in batch 222948 due to insufficient sample amount.

Analyst: NJT Date: 05/08/15 Reviewer: TEW Date: 05/08/15

Standards used: 1=S26911 2=S27180 3=S27172 4=S27151 5=S26957 6=S25696 7=S27177 8=S27022 9=S27179 10=S23626

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 445186424

Instrument : MSVOA05 Begun : 05/09/15 11:04
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ee901	IB					05/09/15 11:04	1.0	1	?t
002	ee902	TUN	BFB				05/09/15 12:09	1.0	2	
003	ee903	CCV	20PPB				05/09/15 12:35	1.0	3 4 5 1	cc+ cs
004	ee904	CCV/BS	QC787352		Soil	223022	05/09/15 13:19	1.0	6 7 8 9 1	
005	ee905	TUN	BFB				05/09/15 14:33	1.0	2	
006	ee906	CCV	20PPB				05/09/15 14:59	1.0	3 4 5 1	
007	ee907	BS	QC787352		Soil	223022	05/09/15 15:33	1.0	6 7 8 9 1	
008	ee908	BSD	QC787353		Soil	223022	05/09/15 16:08	1.0	6 7 8 9 1	
009	ee909	BLANK	QC787354		Soil	223022	05/09/15 16:43	1.0	1	
010	ee910	PREPBLK	QC787361	M	Soil	223022	05/09/15 17:18	50.0	10 1	
011	ee911	SAMPLE	266525-012		Soil	223022	05/09/15 17:53	0.7052	1	
012	ee912	SAMPLE	266604-002		Soil	223022	05/09/15 18:28	10.0	1	
013	ee913	SAMPLE	266558-001	M	Miscell.	223022	05/09/15 19:02	100.0	10 1	
014	ee914	SAMPLE	266608-021	M	Soil	223022	05/09/15 19:37	100.0	10 1	
015	ee915	SAMPLE	266531-011	M	Soil	223022	05/09/15 20:12	197.8	10 1	high HC
016	ee916	SAMPLE	266531-012	M	Soil	223022	05/09/15 20:47	429.6	10 1	high HC, high NT, 1:ACE=240
017	ee917	IB					05/09/15 21:22	1.0	1	
018	ee918	IB					05/09/15 21:56	1.0	1	
019	ee919	LOD	242601-016	M	Soil	223022	05/09/15 22:31	104200	4 5 1	
020	ee920	LOD	242601-016	M	Soil	223022	05/09/15 23:06	52080	4 5 1	
021	ee921	LOD	242203-018	M	Soil	223022	05/09/15 23:40	55560	4 5 1	

KKM 05/11/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

KKM 05/11/15 : Matrix spikes were not performed for this analysis in batch 223022 due to limited sample volume or interferences from the solvent in sample dilutions.

KKM 05/11/15 : NJT adjusted the TUN after file 4

Analyst: KKM Date: 05/11/15 Reviewer: TEW Date: 05/11/15

Standards used: 1=S26911 2=S27180 3=S27172 4=S27151 5=S26957 6=S26673 7=S27177 8=S27022 9=S27179 10=S23626

Flags used: +=high bias ?t=missing tune cc=CCV CCC failure cs=CCV SPCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 455131716

Instrument : MSVOA06 Begun : 04/01/15 11:16
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fd101	X	IB			04/01/15 11:16	1.0	1	
002	fd102	TUN	BFB			04/01/15 11:45	1.0	2	
003	fd103	ICV				04/01/15 12:17	1.0	3 1	
004	fd104	ICV				04/01/15 13:27	1.0	4 1	
005	fd105	TUN	BFB			04/01/15 14:04	1.0	2	
006	fd106	CCV				04/01/15 14:30	1.0	5 6 7 8 1	
007	fd107	CCV				04/01/15 15:02	1.0	9 3 10 11 1	
008	fd108	TUN	BFB			04/01/15 16:19	1.0	2	
009	fd109	IB				04/01/15 16:50	1.0	1	
010	fd110	IB				04/01/15 17:25	1.0	1	
011	fd111	IB	CALIB			04/01/15 18:01	1.0	1	
012	fd112	ICAL	2.5PPB			04/01/15 18:37	1.0	6 7 12 1	
013	fd113	ICAL	5PPB			04/01/15 19:12	1.0	1 6 7 12	
014	fd114	ICAL	10PPB			04/01/15 19:48	1.0	1 6 7 12	
015	fd115	ICAL	20PPB			04/01/15 20:23	1.0	1 6 7 12	
016	fd116	ICAL	50PPB			04/01/15 20:59	1.0	1 6 7 12	
017	fd117	ICAL	60PPB			04/01/15 21:35	1.0	1 6 7 12	
018	fd118	ICAL	75PPB			04/01/15 22:10	1.0	1 6 7 12	
019	fd119	ICAL	100PPB			04/01/15 22:46	1.0	1 6 7 12	
020	fd120	ICAL	200PPB			04/01/15 23:22	1.0	1 6 7 12	
021	fd121	ICV	GAS			04/01/15 23:57	1.0	3 1	
022	fd122	ICV	MIX			04/02/15 00:33	1.0	9 10 11 1	

DAR 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: DAR Date: 04/02/15 Reviewer: LW Date: 04/03/15

Standards used: 1=S26911 2=S26000 3=S26359 4=S26672 5=S25695 6=S26948 7=S26838 8=S25156 9=S26759 10=S26642 11=S26569 12=S26957

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 455133102

Instrument : MSVOA06 Begun : 04/02/15 10:22
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fd201	X	IB			04/02/15 10:22	1.0	1	
002	fd202	TUN	BFB			04/02/15 11:14	1.0	2	
003	fd203	ICV	MIX			04/02/15 13:18	1.0	3 4 5 1	
004	fd204	TUN	BFB			04/02/15 15:01	1.0	2	
005	fd205	TUN	BFB			04/02/15 15:56	1.0	2	
006	fd206	CCV				04/02/15 16:20	1.0	6 7 8 9 1	
007	fd207	BS	QC782420	Water	221776	04/02/15 16:53	1.0	3 10 4 5 1	
008	fd208	BSD	QC782421	Water	221776	04/02/15 17:26	1.0	3 10 4 5 1	
009	fd209	IB				04/02/15 17:59	1.0	1	
010	fd210	X	MB			04/02/15 18:31	1.0	1	

DAR 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

Analyst: DAR Date: 04/02/15 Reviewer: LW Date: 04/03/15

Standards used: 1=S26911 2=S26000 3=S26759 4=S26642 5=S26569 6=S25695 7=S26948 8=S26838 9=S25156 10=S26359

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 455178923

Instrument : MSVOA06 Begun : 05/04/15 06:03
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fe401	IB					05/04/15 06:03	1.0	1	?t
002	fe402	TUN	BFB				05/04/15 07:31	1.0	2	
003	fe403	CCV					05/04/15 07:59	1.0	3 4 5 1	
004	fe404	X	QC786455		Soil	222815	05/04/15 08:46	1.0	6 7 8 9 1	
005	fe405	X	QC786456		Soil	222815	05/04/15 09:21	1.0	6 7 8 9 1	
006	fe406	TUN	BFB				05/04/15 10:07	1.0	2	
007	fe407	CCV					05/04/15 10:35	1.0	3 4 5 1	
008	fe408	BS	QC786455		Soil	222815	05/04/15 11:24	1.0	6 7 8 9 1	
009	fe409	BSD	QC786456		Soil	222815	05/04/15 12:13	1.0	6 7 8 9 1	
010	fe410	TUN	BFB				05/04/15 13:06	1.0	2	
011	fe411	CCV					05/04/15 13:35	1.0	3 4 5 10	
012	fe412	CCV					05/04/15 14:40	1.0	3 4 5 10	cc-
013	fe413	TUN	BFB				05/04/15 15:34	1.0	2	
014	fe414	CCV					05/04/15 16:31	1.0	3 4 5 10	
015	fe415	BS	QC786455		Soil	222815	05/04/15 18:01	1.0	6 7 8 9 10	
016	fe416	BSD	QC786456		Soil	222815	05/04/15 18:36	1.0	6 7 8 9 10	
017	fe417	IB			Soil	222815	05/04/15 19:11	1.0	10	
018	fe418	BLANK	QC786457		Soil	222815	05/04/15 20:10	1.0	10	
019	fe419	SAMPLE	266525-016		Soil	222815	05/04/15 20:46	0.8104	10	
020	fe420	SAMPLE	266525-020		Soil	222815	05/04/15 21:21	0.882	10	1:DCBZ13=270
021	fe421	SAMPLE	266466-001		Soil	222815	05/04/15 21:56	0.6336	10	
022	fe422	SAMPLE	266462-009	M	Soil	222815	05/04/15 22:32	40.13	11 10	high HC
023	fe423	SAMPLE	266462-012	M	Soil	222815	05/04/15 23:07	79.11	11 10	high HC
024	fe424	SAMPLE	266462-013	M	Soil	222815	05/04/15 23:42	40.99	11 10	high HC
025	fe425	SAMPLE	266525-013	M	Soil	222815	05/05/15 00:17	46.56	10	
026	fe426	SAMPLE	266525-015	M	Soil	222815	05/05/15 00:53	280.7	10	4:TCB124=370
027	fe427	SAMPLE	266525-017	M	Soil	222815	05/05/15 01:28	44.89	10	5:TCB124=2700
028	fe428	SAMPLE	266525-018	M	Soil	222815	05/05/15 02:03	3411	10	1:TCB124=410
029	fe429	SAMPLE	266525-019	M	Soil	222815	05/05/15 02:38	457.1	10	
030	fe430	SAMPLE	266525-021	M	Soil	222815	05/05/15 03:13	115.7	10	
031	fe431	IB					05/05/15 03:48	1.0	10	<<t
032	fe432	IB					05/05/15 04:23	1.0	10	<<t

MCT 05/04/15 : Adjusted tune : file fe406,fe410.

DAR 05/04/15 : adjusted tune after file 12

MCT 05/05/15 : Matrix spikes were not performed for this analysis in batch 222815 due to insufficient sample amount.

MCT 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Analyst: MCT Date: 05/05/15 Reviewer: LW Date: 05/05/15

Standards used: 1=S26911 2=S27180 3=S27172 4=S27151 5=S26957 6=S27179 7=S27022 8=S27177 9=S25696 10=S27137 11=S23626

Flags used: -=low bias <<t=out of clock ?t=missing tune cc=CCV CCC failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 455180385

Instrument : MSVOA06 Begun : 05/05/15 06:25
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fe501	IB				05/05/15 06:25	1.0	1	?t
002	fe502	IB				05/05/15 06:57	1.0	1	?t
003	fe503	TUN	BFB			05/05/15 07:27	1.0	2	
004	fe504	CCV				05/05/15 07:57	1.0	3 4 5 1	cc+
005	fe505	TUN	BFB			05/05/15 08:31	1.0	2	
006	fe506	CCV				05/05/15 09:06	1.0	3 4 5 1	
007	fe507	X	QC786636	Soil	222861	05/05/15 10:02	1.0	6 7 8 9 1	spk
008	fe508	X	QC786637	Soil	222861	05/05/15 10:36	1.0	1	
009	fe509	LCS	QC786636	Soil	222861	05/05/15 11:11	1.0	6 7 8 9 1	
010	fe510	BLANK	QC786637	Soil	222861	05/05/15 11:46	1.0	1	
011	fe511	MSS	266521-001	Soil	222861	05/05/15 12:22	0.9862	1	
012	fe512	SAMPLE	266525-016	Soil	222861	05/05/15 12:57	1.027	1	
013	fe513	SAMPLE	266531-001	Soil	222861	05/05/15 13:32	0.9434	1	5:C6N=640
014	fe514	SAMPLE	266511-028	Soil	222861	05/05/15 14:08	0.8651	1	
015	fe515	SAMPLE	266525-017	Soil	222861	05/05/15 14:43	0.8576	1	7:TCB124=30000
016	fe516	SAMPLE	266511-013	Soil	222861	05/05/15 15:19	0.8104	1	1:TCB124=460
017	fe517	MS	QC786683	Soil	222861	05/05/15 15:54	0.9452	6 7 8 9 1	
018	fe518	MSD	QC786684	Soil	222861	05/05/15 16:30	0.9728	6 7 8 9 1	
019	fe519	X	IB			05/05/15 17:06	1.0	1	
020	fe520	X	IB			05/05/15 17:41	1.0	1	
021	fe521	X	6A			05/05/15 18:17	1.0	1	
022	fe522	X	6B			05/05/15 18:52	1.0	1	
023	fe523	SAMPLE	266354-001	Soil	222861	05/05/15 19:28	1.0	1	
024	fe524	SAMPLE	266354-002	Soil	222861	05/05/15 20:03	1.0	1	
025	fe525	SAMPLE	266354-003	Soil	222861	05/05/15 20:39	1.0	1	<<t
026	fe526	SAMPLE	266354-004	Soil	222861	05/05/15 21:14	1.0	1	<<t
027	fe527	SAMPLE	266354-005	Soil	222861	05/05/15 21:51	1.0	1	<<t
028	fe528	SAMPLE	266354-006	Soil	222861	05/05/15 22:26	1.0	1	<<t
029	fe529	X	BOX 1		222861	05/05/15 23:01	1.0	1	
030	fe530	X	BOX 2		222861	05/05/15 23:36	1.0	1	

MCT 05/05/15 : Adjusted tune before file fe505.

MCT 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: MCT Date: 05/06/15 Reviewer: LW Date: 05/06/15

Standards used: 1=S27137 2=S27180 3=S27172 4=S27151 5=S26957 6=S27179 7=S27022 8=S27177 9=S25696

Flags used: +=high bias <<t=out of clock ?t=missing tune cc=CCV CCC failure spk=5% spike rule

58

PROJECT 5035 MeOH Prep Log

Notebook No. BK 3087

Continued From Page

Date of initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate Std. #	Surrogate std. Vol. (mL)	Comments
KEL 5/9/13	266525-180	7.33	50	DJ239	—	—	Client prep'd
	-19	5.47	↓	↓	↓	↓	↓
	-21 ↓	2.16					

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

PROJECT 5035 MeOH Prep Log — Notebook No. BK 3087 — 57

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate std. #	Surrogate std. Vol. (mL)	Comments
266505-5	266505-5A	6.13	5.0	DL535	S23626	.005	
=6	-6A	6.01					
~~=7~~	~~-7A~~	~~5.99~~					2nd 5/4/15
=8	-8A	6.25					
=9	-9B	6.23					
=10	-10A	6.61					
	266531-1A	5.18					
	-2	6.06					
	-3	6.46					
	-4	6.42					
	-5	6.38					
	-6	5.25					LOW VOA NOT NEED
	-7	6.40					
	-8	6.13					
	-9	5.15					
	-10	6.43					
	-11	6.32					
	-12	5.82					
5/2/15 MJ	266404-1	6.80	5.0	DJ239			Client Prepped
	-2	4.39					
	266466-2	6.52					
	-4	5.21					
	Blank	—	10.0	DL535	S23626	0.01	
	266462-3	6.20	6.20			0.0062	
	-4	5.80	5.80			0.0058	
	-5	5.60	5.60			0.0056	
	-8	6.10	6.10			0.0061	
5/4/15 MJ	266525-13	5.37	5.0	DJ239			Client prepped
5/5/15 KER	Blank	—	5.0	DL535	S23626	0.005	
	266462-9D	6.23					idf = 0.8026
	-12D	6.32					0.7911
	-13C	6.10					
	266525-15C	7.12		DJ239			Client prepped
	-17C	5.57					

Continued on Page

Read and Understood By

Signed — Date — Signed — Date

PROJECT 5035 MeOH Prep Log

Notebook No. ~~BK 3088~~ 3087 pg 919

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
3/18/15 Zia	265250-11 D	6.91	5.0	DJ239	—	—	Client Prepped
3/20/15 Zia	265404-13 A	8.34	10.0				
	-14	7.20					
	-15	8.54					
	-16	5.87					
	-17	6.28					
	-18	6.57					
~~3/26/15 Zia~~	~~Blank~~	—	~~10.0~~	~~DC~~			
	~~265577-1 A~~	~~10.00~~	~~10.0~~		~~Zia 3/26~~		
4/6/15 Zia	265775-6 C	7.09	5.0	DJ239			Client Prepped
	-9	6.95					
	-14	6.38					
	-18	6.81		DH247			
4/7/15 Zia	265775-10 C	7.13	5.0	DJ239			
	-15	7.22		DE695			
	-19	6.42		DJ239			
4/29/15 Zia	266374-11 F	6.47	5.0				
	-15 C	7.51					
	266364-5 C	5.70	5.7	DL535	523626	0.00057	
	Blank	—	5.0			0.005	
	266396-1 A	5.60	5.6			0.0056	H.C.
4/30/15 Zia	Blank	—	5.0			0.005	
	266396-2 B	6.30	6.3			0.0063	H.C.
	-3	6.30	6.3			0.0063	
	-4	6.10	6.10			0.0061	
	-5	6.30	6.3			0.0063	
	-6	6.30	6.3			0.0063	
	-7	6.10	6.1			0.0061	
	-11	6.50	6.5			0.0065	
5/1/15 Zia	Blank	—	5.0			0.005	
	266396-5 C	6.20	6.2			0.0062	Re-extracted
5/1/15 ~~Zia~~	266505-3 A	6.40	5.0			0.005	
	-4 A	6.23	5.0				

Continued on Page

Read and Understood By

Signed Date Signed Date

MSVOA SOIL PREPSHEET

Batch #: _____ Batch #: 222815

Instrument: _____ Instrument: MS6

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
C1 1	266462-9	0.1	D	X			1	50X	Ethylbenz 7LR df=0.8026				5/5		
2	-12	0.05	D	X			1	100X	0.7911						
3	-13	0.1	C	X			1	50X	0.8197						
1-2 4	266466-1	7.898g	B	X			1	1X	Acetone curve						
1-2 5	266525-13	6.1	C					50X	MeOH prepped 0.9311						
6	-15	0.0125	C					40X	0.7022				5/7		
7	-16	6.17	B					1X							
8	-17	0.1	C					50X	0.8977						
9	-18	0.001						5000X	0.6821						
10	-19	0.010						500X	0.9141						
11	-20	5.669g	B					1X							
12	-21	0.1	C					50X	2.3148						
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

MSVOA SOIL PREPSHEET

Batch #: ~~266417~~ 266827 mg/k Batch #: _____

Instrument: 5 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266466 2		A	X			1	1X	O.D.						
2	4		A	X			1	1X	"						
3	266511-21		B												
4	22		B												
5	23														
6	24														
7	25														
8	26														
9	27														
10	28														
11	266525-10		A					1X							
12	11							1X	load. last no MeOH						
13	12							1X							
14	~~13~~	~~0.1~~	C					~~50X~~	~~5.34~~ Pull 1' OFF						
15	14		A					1X							Z
16	266548-1	5.10	A						released 266297-1						5/14
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

MSG Batch 222827

~~266511~~ MS14

Sample Number	Core	Scale Mass	Vial Mass	Mass (g)	NaSo4?	Extra Sticker	C&T Sticker
266466-002	a	36.67	30.737	**5.68**	no		0.25
266466-004	a	37.05	29.544	**7.26**	no		0.25
266511-021	b	37.25	30.125	**6.71**	no	0.17	0.25
266511-022	b	35.43	30.155	**4.86**	no	0.17	0.25
266511-023	b	37.16	30.025	**6.72**	no	0.17	0.25
266511-024	b	36.07	30.323	**5.33**	no	0.17	0.25
266511-025	b	37.02	30.920	**5.68**	no	0.17	0.25
266511-026	b	38.07	30.980	**6.67**	no	0.17	0.25
266511-027	b	38.40	31.658	**6.32**	no	0.17	0.25
266511-028	b	38.48	31.691	**6.37**	no	0.17	0.25
266525-010	a	37.44	31.707	**5.31**	no	0.17	0.25
266525-011	a	35.62	30.780	**4.42**	no	0.17	0.25
266525-012	a	33.95	29.622	**3.91**	no	0.17	0.25
266525-014	a	36.99	31.735	**4.84**	no	0.17	0.25

MS14

MSVOA SOIL PREPSHEET

Batch #: 222861 Batch #: _____

Instrument: MS6 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266521-1	5.07	A		x				MSS						2e5/5
2	-1	5.09							MS						
3	-1	5.14							MSD						
4	266525-16	4.87		x			1	1x	IS ↓						
5	-20	5.26					1		TAKE OFF						
6	466-1						2		No more Vial 2e5/5						
7	266511-28	5.78	C				1	1x	IS						2e5/5
8	525-17	5.83	A				1	1x							
9	266511-13	6.17	C	x			1	1x	ISTD ↓						
10	531-1	5.30	B				1	1x							
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24	266354-1	5.0	A	x					Storage Blank						2e5/5
25	-2				x										
26	-3			x											
27	-4			x											
28	-5			x											
29	-6				x										

MSVOA SOIL PREPSHEET

~~1 of 3~~ NOT 5/7/15

Batch #: 222910 Instrument: MS05

Batch #: _____ Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266505-2	0.050	B	X		X		100X	Prepped 5/5			5/7	5/6		NOT 5/5
2	~~266576-1~~	~~5.37~~	~~A~~		~~X~~				~~005~~ Put off NOT 5/6/15				5/8	X	2ES 5/6
3	~~"-1~~	~~5.31~~	~~"~~		~~"~~				~~005~~				~~"~~	~~"~~	~~"~~
4	~~"-1~~	~~5.32~~	~~"~~		~~"~~				~~005D~~				~~"~~	~~"~~	~~"~~
5	~~266511-13~~	~~0.100~~	~~F~~	~~X~~		~~X~~	~~2~~	~~50X~~	Put off						
6	266531-1	0.050	A	X		X	1	100X							ZA 5/6
7	Prep blk	0.100				X		50X	Prepped 5/5						ZM 5/5
8	Prep blk	0.100				X		50X	Prepped 5/6						ZM 5/6
9	266525-14	0.100	C	X		X	1	50X							
10	-13	"	"	"		"	1	"							
11	-15	0.005	C	"		"	1	1000X							
12	-17	"	"	"		"	1	"							
13	-18	"	"	"		"	1	"							
14	266558-1	0.005	A		X			1000X	Put off (rerun w/ associated pBlk)				5/8		ZAS 5/5
15	266525-20	0.100	C			X	1	50X					5/7		"
16	19	"	"			"	1	50X	CD NOT 5/6/15				"		"
17	21	"	"			"	1	50X	"				"		"
18	~~266576-1~~						1	1X	RR for 2-but + trans 120CE Not needed NOT 5/6/15	X			5/8	$	
19	~~266525-11~~	0.100	E		X			50X							ZM 5/6
20	266354-1	5.0	B	X			1	1X							
21	-2		A		X		1								
22	-3		B	X			1								
23	-4		"	X			1								
24	-5		"	X			1								
25	-6		A		X		1								
26	266604-1	5.07	A		X										
27	-1 MS	5.17	"		X										
28	-1 MSD	5.23	"		X										
29	-2	5.22	"		X				Put off						

PROJECT 5035 MeOH Prep Log

Continued From Page

Date & initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate std. #	Surrogate std. Vol. (mL)	Comments
~~266505-5~~	266505-5 A	6.13	5.0	DL535	S23626	.005	
=6	-6 A	6.01					
PER =7	-7 A	5.99					2nd 5/4/15
5/5/15 =8	-8 A	6.25					
-9	-9 B	6.23					
-10	-10 A	6.61					
	266581-1 A	5.18					
	-2	6.06					
	-3	6.46					
	-4	6.42					
	-5	6.38					LEVEL NOT NEED
	-6	5.25					
	-7	6.40					
	-8	6.13					
	-9	5.15					
	-10	6.43					
	-11	6.32					
	-12	5.82					
5/2/15 MT	266404-1	6.80	5.0	DJ239			Client Prepped
	" -2	4.39					
	266466-2	6.52					
	-4	5.21					
	Blank	—	10.0	DL535	S23626	0.01	
	266462-3	6.20	6.20			0.0062	
	-4	5.80	5.80			0.0058	
	~~-5~~	5.60	5.60			0.0056	
	~~-8~~	6.10	6.10			0.0061	
5/4/15 MT	266525-13	5.37	5.0	DJ239			Client prepped
5/5/15 PER	Blank	—	5.0	DL535	S23626	0.005	
	266462-9 D	6.23					IDA = 0.8026
	-12 D	6.32					0.7911
	-13 C	6.10					
	266525-15 C	7.12		DJ239			Client prepped
	-17 C	5.57					

Continued on Page

Read and Understood By

Signed Date Signed Date

58
PROJECT 5035 MeOH Prep Log

Notebook No. BK3087
Continued From Page

Date & initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
KER 5/4/15	266525-18	7.33	5.0	DJ239	—	—	Client prep'd
	-19	5.47					
	-21	2.16					
5/5/15 KER	266525-14 C	4.80			I	I	
	-20	4.62					
5/5/15 KER	See blank on page 96 of MS VOA MeOH Prep Log Book #BK2357						
	266505-2B	6.40	6.4	DJ235	SZ7626	0.0064	H.C.
5/6/15 KER	266511-13 F	5.12	5.0	DJ239	—	—	Client Prepped

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

96

PROJECT MS VOA MeOH Extraction Log

Notebook No. BR2351

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Analysis	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
KM 4/15/14	IN HOUSE	0.95	5.00	DL535	TCLP	—	—	Silicone sealant
4/21/15	Blank	—	10.0	DL535	8260	523626	0.010	
↓ jia	266190-1 A	10.00	↓	↓	↓	↓	↓	Carbon
4/23/15 jia	Blank	—	10.0	DL535	8260	523626	0.010	
	266226-1 B	1.80	9.0				0.009	Powder absorbed MeOH
	266249-1 A	10.00	10.0				0.010	
	↓ 250-1	↓	↓	↓	↓	↓	↓	
	↓ 251-1 ↓	↓	↓	↓	↓	↓	↓	Carbon
4/29/15 NDT	Blank	—	10.0	DL535	8260	523624	0.010	
	266251-1A	10.00	↓	↓	↓	↓	↓	Re-extracted
5/4/15 jia	Blank	—	10.0	DL535	8260	523626	0.010	
	266495-1A	1.00	5.0				0.005	Product
	5/4 496-1A							
	497-1A							
	↓ 498-1 ↓	↓	↓	↓	↓	↓	↓	
5/5/15 jia	Blank	—	10.0				0.010	
↓	266558-1	10.00	↓	↓	↓	↓	↓	Filter cake
5/6/15 jia	Blank	—	10.0					
↓	266525-11E	10.00	↓	↓	↓	↓	↓	
5/7/15 jia	Blank	—	10.0					
↓	266525-11E	10.00	↓	↓	↓	↓	↓	Re-extracted

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

MSVOA SOIL PREPSHEET

Batch #: 222948 Batch #: _____

Instrument: MS05 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266597-1	6.11	A	X											2m 5/7
2	-2	6.24													
3	-3	5.47													
4	-4	5.98													
5	-5	6.51	L	↓											
6	266525-17	0.001/50mL	C			X		50,000X							
7	-18	0.0025/50mL	↓			X		20,000X							
8	-21	4.66	A					1X							
9	-11	0.100	E					50X	re-extraction						
10	P.Blank MeOH	0.100	=					50X							↓
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

96

PROJECT MS VOA MeOH Extraction Log

Notebook No. BR2351

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Analysis	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
JM 4/15/15	In House	0.95	5.00	DL535	Test	—	—	Silicone sealant
4/21/15	Blank	—	10.0	DL535	8260	523626	0.010	
↓ zia	266190-1 A	10.00	↓	↓	↓	↓	↓	Carbon
4/23/15 zia	Blank	—	10.0	DL535	8260	523626	0.010	
	266226-1 B	1.80	9.0				0.009	Powder absorbed MeOH
	266249-1 A	10.00	10.0				0.010	
	↓ 250-1	↓	↓				↓	
↓	↓ 251-1 ↓	↓	↓	↓	↓	↓	↓	Carbon
4/29/15 NDT	Blank	—	10.0	DL535	8260	523624	0.010	
	266251-1A	10.00	↓	↓	↓	↓	↓	Re-extracted
5/4/15 zia	Blank	—	10.0	DL535	8260	523626	0.010	
	266495-1A	1.00	5.0				0.005	Product
↓	496-1A (2a 5/4)							
	497-1A							
↓	↓ 498-1 ↓	↓	↓	↓	↓	↓	↓	↓
5/5/15 zia	Blank	—	10.0				0.010	
↓	266558-1	10.00	↓	↓	↓	↓	↓	Filter cake
5/6/15 zia	Blank	—	10.0					
↓	266525-11E	10.00	↓	↓	↓	↓	↓	
5/7/15 zia	Blank	—	10.0					
↓	266525-11E	10.00	↓	↓	↓	↓	↓	Re-extracted
5/8/15 zia	Blank	—	10.0					
	266604-2A	10.00						
↓	↓ 608-21 ↓	↓	↓	↓	↓	↓	↓	

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

PROJECT 5035 MeOH Prep Log

Notebook No. BK 3087

Continued From Page

57

Date & initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
~~266505-5~~	266505 - 5 A	6.13	5.0	DL535	S23626	.005	
=6	- 6 A	6.01					
~~=7~~	~~- 7 A~~	~~5.99~~					Use 5/4/15
=8	- 8 A	6.25					
~~=9~~	- 9 B	6.23					
~~=10~~	- 10 A	6.61					
	266581 - 1 A	5.18					
	- 2	6.06					
	- 3	6.46					
	- 4	6.42					
	- 5	6.38					LCVOA NOT NEED
	- 6	5.25					
	- 7	6.40					
	- 8	6.13					
	- 9	5.15					
	- 10	6.43					
	- 11	6.32					
	- 12	5.82					
5/2/15 MT	266404 - 1	6.80	5.0	DJ239			Client Prepped
	- 2	4.39					
	266466 - 2	6.56					
	- 4	5.21					
	Blank	—	10.0	DL535	S23626	0.01	
	266462 - 3	6.20	6.20			0.0062	
	- 4	5.80	5.80			0.0058	
	~~5~~	5.60	5.60			0.0056	
	~~8~~	6.10	6.10			0.0061	
5/4/15 MK	266525 - 13	5.37	5.0	DJ239			Client prepped
5/5/15 PER	Blank	—	5.0	DL535	S23626	0.005	
	266462 - 9 D	6.23					Idf = 0.8026
	- 12 D	6.32					0.7911
	- 13 C	6.10					
	266525 - 15 C	7.12		DJ239			Client prepped
	- 17 C	5.57					

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

58

PROJECT 5035 MeOH Prep Log

Notebook No. BK3087

Continued From Page

Date & initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate std. #	Surrogate std Vol. (mL)	Comments
KER 5/4/15	266525-18	7.33	5.0	DJ239	—	—	Client prep'd
	-19	5.47					
	-21	2.16					
5/5/15 JA	266525-14 C	4.80			I	I	
	-20	4.62					
5/5/15 KJT	See blank on page 96 of MSVOA MeOH Prep Log Book #BK2357						
	266505-28	6.40	6.4	DJ235	S23626	0.0064	H.C.
5/6/15 JA	266511-13 F	5.12	5.0	DJ239	—	—	Client Prepped

Continued on Page

Read and Understood By

Signed	Date	Signed	Date

MSVOA SOIL PREPSHEET

Batch #: 222980 Batch #: _____

Instrument: MS4 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266597-1	5.97	B	X			1	1X	25mV4. Multiple analytes outside limits.						7/8
2	-2	5.95	↓	↓			1	↓							↓
3	-3	5.51					1								
4	-4	6.21					1								
5	-5	6.95	↓	↓			1	↓							↓
6	266525-11	5.05	E		X		4	1X	In VOA fridge						7/5/17
7	266649-6	5.01	A		X			1X							7/8
8	-6MS	5.19	↓		↓			↓							↓
9	-6MSD	5.13			X										
10	266645-2	5.10			X										
11	266647-1	5.85		X					load last						
12	-2	5.79	↓	X				↓	↓						↓
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

MSVOA SOIL PREPSHEET

Batch#: ~~222987~~ 223022 5/9/15 Batch #: _____

Instrument: MS05 Instrument: _____

	Sample ID	grams or mL	Core ID	Encore	Jar	MeOH	RR	DF	Comments	MSVOA #	20% ccv?	hold	due	$Rush	Prep'd by (initials/date)
1	266604-2	0.50	A		X		1	10X							
2	266538-1	0.05	"		X	X	1	100X							
3	266608-21	0.05	"		X	X	1	100X							
4	P.Blank MeOH	0.100						50X	5/8/15						
5	266525-12	7.09		X			1	1X							
6	266531-11	0.010				X	1	250X							
7	-12	0.010				X	1	500X							
8	242601-16	0.10				X			LOD 240 ppb						
9	-16	0.10				X			LOD 480 ppb						
10	242203-18								LOD 7.8 ppb						
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															

96

PROJECT MS VOA MeOH Extraction Log

Notebook No. BR2351

Continued From Page

Date & Initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Analysis	Surrogate Std. #	Surrogate Std. Vol. (mL)	Comments
KM 4/15/15	IN HOUSE	0.95	5.00	DL535	test	—	—	Silicone sealant
4/21/15	Blank	—	10.0	DL535	8260	523626	0.010	
↓ Jia	266190-1 A	10.00	↓	↓	↓	↓	↓	Carbon
4/23/15 Jia	Blank	—	10.0	DL535	8260	523626	0.010	
	266226-1 B	1.80	9.0				0.009	Powder absorbed MeOH
	266249-1 A	10.00	10.0				0.010	
	↓ 250-1 ↓	↓	↓	↓	↓	↓	↓	
	↓ 251-1 ↓	↓	↓	↓	↓	↓	↓	Carbon
4/29/15 NDT	Blank	—	10.0	DL535	8260	523624	0.010	
	266251-1A	10.00	↓	↓	↓	↓	↓	Re-extracted
5/4/15 Jia	Blank	—	10.0	DL535	8260	523626	0.010	
	266495-1A	1.00	5.0				0.005	Product
	5/4 496-2 1A							
	497-1A							
	↓ 498-1 ↓	↓	↓	↓	↓	↓	↓	↓
5/5/15 Jia	Blank	—	10.0				0.010	
↓	266558-1	10.00	↓	↓	↓	↓	↓	Filter cake
5/6/15 Jia	Blank	—	10.0					
↓	266525-11 E	10.00	↓	↓	↓	↓	↓	
5/7/15 Jia	Blank	—	10.0					
↓	266525-11 E	10.00	↓	↓	↓	↓	↓	Re-extracted
5/8/15 Jia	Blank	—	10.0					
	266604-2A	10.00						
↓	↓ 608-21 ↓	↓	↓	↓	↓	↓	↓	

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

PROJECT 5035 MeOH Prep Log

Notebook No. BK3087

Continued From Page

Date & initial	Sample ID	Soil wt. (g)	MeOH Vol. (mL)	MeOH Lot #	Surrogate std. #	Surrogate std. Vol. (mL)	Comments
~~266505-5~~	266505-5 A	6.13	5.0	DL535	S23626	.005	
=6	-6 A	6.01					
~~=7~~	~~-7 A~~	~~5.99~~					2nd 5/4/15
=8	-8 A	6.25					
=9	-9 B	6.23					
=10	-10 A	6.61					
	266581-1 A	5.18					
	-2	6.06					
	-3	6.46					
	-4	6.42					
	-5	6.38					LCVOA NOT NEED
	-6	5.25					
	-7	6.40					
	-8	6.13					
	-9	5.15					
	-10	6.43					
	-11	6.32					
	-12	5.82					
5/2/15 MT	266404-1	6.80	5.0	DJ239			Client Prepped
	-2	4.39					
	266466-2	6.56					
	-4	5.21					
	Blank	—	10.0	DL535	S23626	0.01	
	266462-3	6.20	6.20			0.0062	
	-4	5.80	5.80			0.0058	
	-5	5.60	5.60			0.0056	
	-8	6.10	6.10			0.0061	
5/4/15 MK	266525-13 C	5.37	5.0	DJ239 DL535	—	—	Client prepped
5/5/15 KER	Blank	—	5.0		S23626	0.005	
	266462-9 D	6.23					DF = 0.8026
	-12 D	6.32					0.7911
	-13 C	6.10					
	266525-15 C	7.12		DJ234	—	—	Client prepped
	-17 C	5.57			—		

Continued on Page

Read and Understood By

Signed	Date	Signed	Date

Laboratory Job Number 266525

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RB5-1-15	Batch#:	222841
Lab ID:	266525-026	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	13
Phenol	ND	13
bis(2-Chloroethyl)ether	ND	13
2-Chlorophenol	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
Benzyl alcohol	ND	13
1,2-Dichlorobenzene	ND	13
2-Methylphenol	ND	13
bis(2-Chloroisopropyl) ether	ND	13
4-Methylphenol	ND	13
N-Nitroso-di-n-propylamine	ND	13
Hexachloroethane	ND	13
Nitrobenzene	ND	13
Isophorone	ND	13
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	13
Benzoic acid	ND	63
bis(2-Chloroethoxy)methane	ND	13
2,4-Dichlorophenol	ND	13
1,2,4-Trichlorobenzene	ND	13
Naphthalene	ND	13
4-Chloroaniline	ND	13
Hexachlorobutadiene	ND	13
4-Chloro-3-methylphenol	ND	13
2-Methylnaphthalene	ND	13
Hexachlorocyclopentadiene	ND	25
2,4,6-Trichlorophenol	ND	13
2,4,5-Trichlorophenol	ND	13
2-Chloronaphthalene	ND	13
2-Nitroaniline	ND	25
Dimethylphthalate	ND	13
Acenaphthylene	ND	13
2,6-Dinitrotoluene	ND	13
3-Nitroaniline	ND	25
Acenaphthene	ND	13
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
Dibenzofuran	ND	13
2,4-Dinitrotoluene	ND	13
Diethylphthalate	ND	13
Fluorene	ND	13
4-Chlorophenyl-phenylether	ND	13
4-Nitroaniline	ND	25
4,6-Dinitro-2-methylphenol	ND	25
N-Nitrosodiphenylamine	ND	13
Azobenzene	ND	13
4-Bromophenyl-phenylether	ND	13
Hexachlorobenzene	ND	13
Pentachlorophenol	ND	25
Phenanthrene	ND	13
Anthracene	ND	13
Di-n-butylphthalate	ND	13
Fluoranthene	ND	13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RB5-1-15	Batch#:	222841
Lab ID:	266525-026	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	13
Butylbenzylphthalate	ND	13
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	13
Chrysene	ND	13
bis(2-Ethylhexyl)phthalate	ND	13
Di-n-octylphthalate	ND	13
Benzo(b)fluoranthene	ND	13
Benzo(k)fluoranthene	ND	13
Benzo(a)pyrene	ND	13
Indeno(1,2,3-cd)pyrene	ND	13
Dibenz(a,h)anthracene	ND	13
Benzo(g,h,i)perylene	ND	13

Surrogate	%REC	Limits
2-Fluorophenol	71	38-120
Phenol-d5	77	38-120
2,4,6-Tribromophenol	77	46-120
Nitrobenzene-d5	79	51-120
2-Fluorobiphenyl	70	54-120
Terphenyl-d14	75	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(GW)	Batch#:	222841
Lab ID:	266525-027	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	13
Phenol	ND	13
bis(2-Chloroethyl)ether	ND	13
2-Chlorophenol	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
Benzyl alcohol	ND	13
1,2-Dichlorobenzene	ND	13
2-Methylphenol	ND	13
bis(2-Chloroisopropyl) ether	ND	13
4-Methylphenol	ND	13
N-Nitroso-di-n-propylamine	ND	13
Hexachloroethane	ND	13
Nitrobenzene	ND	13
Isophorone	ND	13
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	13
Benzoic acid	ND	63
bis(2-Chloroethoxy)methane	ND	13
2,4-Dichlorophenol	ND	13
1,2,4-Trichlorobenzene	ND	13
Naphthalene	ND	13
4-Chloroaniline	ND	13
Hexachlorobutadiene	ND	13
4-Chloro-3-methylphenol	ND	13
2-Methylnaphthalene	ND	13
Hexachlorocyclopentadiene	ND	25
2,4,6-Trichlorophenol	ND	13
2,4,5-Trichlorophenol	ND	13
2-Chloronaphthalene	ND	13
2-Nitroaniline	ND	25
Dimethylphthalate	ND	13
Acenaphthylene	ND	13
2,6-Dinitrotoluene	ND	13
3-Nitroaniline	ND	25
Acenaphthene	ND	13
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
Dibenzofuran	ND	13
2,4-Dinitrotoluene	ND	13
Diethylphthalate	ND	13
Fluorene	ND	13
4-Chlorophenyl-phenylether	ND	13
4-Nitroaniline	ND	25
4,6-Dinitro-2-methylphenol	ND	25
N-Nitrosodiphenylamine	ND	13
Azobenzene	ND	13
4-Bromophenyl-phenylether	ND	13
Hexachlorobenzene	ND	13
Pentachlorophenol	ND	25
Phenanthrene	ND	13
Anthracene	ND	13
Di-n-butylphthalate	ND	13
Fluoranthene	ND	13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(GW)	Batch#:	222841
Lab ID:	266525-027	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
Pyrene	ND	13
Butylbenzylphthalate	ND	13
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	13
Chrysene	ND	13
bis(2-Ethylhexyl)phthalate	ND	13
Di-n-octylphthalate	ND	13
Benzo(b)fluoranthene	ND	13
Benzo(k)fluoranthene	ND	13
Benzo(a)pyrene	ND	13
Indeno(1,2,3-cd)pyrene	ND	13
Dibenz(a,h)anthracene	ND	13
Benzo(g,h,i)perylene	ND	13

Surrogate	%REC	Limits
2-Fluorophenol	68	38-120
Phenol-d5	81	38-120
2,4,6-Tribromophenol	101	46-120
Nitrobenzene-d5	76	51-120
2-Fluorobiphenyl	71	54-120
Terphenyl-d14	52	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(GW)	Batch#:	222841
Lab ID:	266525-028	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	11
Phenol	ND	11
bis(2-Chloroethyl)ether	ND	11
2-Chlorophenol	ND	11
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
Benzyl alcohol	ND	11
1,2-Dichlorobenzene	ND	11
2-Methylphenol	ND	11
bis(2-Chloroisopropyl) ether	ND	11
4-Methylphenol	ND	11
N-Nitroso-di-n-propylamine	ND	11
Hexachloroethane	ND	11
Nitrobenzene	ND	11
Isophorone	ND	11
2-Nitrophenol	ND	22
2,4-Dimethylphenol	ND	11
Benzoic acid	ND	56
bis(2-Chloroethoxy)methane	ND	11
2,4-Dichlorophenol	ND	11
1,2,4-Trichlorobenzene	ND	11
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	11
4-Chloro-3-methylphenol	ND	11
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	22
2,4,6-Trichlorophenol	ND	11
2,4,5-Trichlorophenol	ND	11
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	22
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	11
3-Nitroaniline	ND	22
Acenaphthene	ND	11
2,4-Dinitrophenol	ND	22
4-Nitrophenol	ND	22
Dibenzofuran	ND	11
2,4-Dinitrotoluene	ND	11
Diethylphthalate	ND	11
Fluorene	ND	11
4-Chlorophenyl-phenylether	ND	11
4-Nitroaniline	ND	22
4,6-Dinitro-2-methylphenol	ND	22
N-Nitrosodiphenylamine	ND	11
Azobenzene	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	11
Pentachlorophenol	ND	22
Phenanthrene	ND	11
Anthracene	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(GW)	Batch#:	222841
Lab ID:	266525-028	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	22
Benzo(a)anthracene	ND	11
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b)fluoranthene	ND	11
Benzo(k)fluoranthene	ND	11
Benzo(a)pyrene	ND	11
Indeno(1,2,3-cd)pyrene	ND	11
Dibenz(a,h)anthracene	ND	11
Benzo(g,h,i)perylene	ND	11

Surrogate	%REC	Limits
2-Fluorophenol	74	38-120
Phenol-d5	83	38-120
2,4,6-Tribromophenol	100	46-120
Nitrobenzene-d5	82	51-120
2-Fluorobiphenyl	73	54-120
Terphenyl-d14	65	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(GW)	Sampled:	05/01/15
Lab ID:	266525-029	Received:	05/01/15
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/06/15
Batch#:	222841		

Analyte	Result	RL	Diln Fac
N-Nitrosodimethylamine	ND	13	1.000
Phenol	ND	13	1.000
bis(2-Chloroethyl)ether	ND	13	1.000
2-Chlorophenol	35	13	1.000
1,3-Dichlorobenzene	300	130	10.00
1,4-Dichlorobenzene	970	130	10.00
Benzyl alcohol	ND	13	1.000
1,2-Dichlorobenzene	34	13	1.000
2-Methylphenol	ND	13	1.000
bis(2-Chloroisopropyl) ether	ND	13	1.000
4-Methylphenol	ND	13	1.000
N-Nitroso-di-n-propylamine	ND	13	1.000
Hexachloroethane	ND	13	1.000
Nitrobenzene	ND	13	1.000
Isophorone	ND	13	1.000
2-Nitrophenol	ND	25	1.000
2,4-Dimethylphenol	ND	13	1.000
Benzoic acid	ND	63	1.000
bis(2-Chloroethoxy)methane	ND	13	1.000
2,4-Dichlorophenol	ND	13	1.000
1,2,4-Trichlorobenzene	450	130	10.00
Naphthalene	19	13	1.000
4-Chloroaniline	ND	13	1.000
Hexachlorobutadiene	ND	13	1.000
4-Chloro-3-methylphenol	ND	13	1.000
2-Methylnaphthalene	ND	13	1.000
Hexachlorocyclopentadiene	ND	25	1.000
2,4,6-Trichlorophenol	ND	13	1.000
2,4,5-Trichlorophenol	ND	13	1.000
2-Chloronaphthalene	ND	13	1.000
2-Nitroaniline	ND	25	1.000
Dimethylphthalate	ND	13	1.000
Acenaphthylene	ND	13	1.000
2,6-Dinitrotoluene	ND	13	1.000
3-Nitroaniline	ND	25	1.000
Acenaphthene	ND	13	1.000
2,4-Dinitrophenol	ND	25	1.000
4-Nitrophenol	ND	25	1.000
Dibenzofuran	ND	13	1.000
2,4-Dinitrotoluene	ND	13	1.000
Diethylphthalate	ND	13	1.000
Fluorene	ND	13	1.000
4-Chlorophenyl-phenylether	ND	13	1.000
4-Nitroaniline	ND	25	1.000
4,6-Dinitro-2-methylphenol	ND	25	1.000
N-Nitrosodiphenylamine	ND	13	1.000
Azobenzene	ND	13	1.000
4-Bromophenyl-phenylether	ND	13	1.000
Hexachlorobenzene	ND	13	1.000
Pentachlorophenol	ND	25	1.000
Phenanthrene	ND	13	1.000
Anthracene	ND	13	1.000
Di-n-butylphthalate	ND	13	1.000
Fluoranthene	ND	13	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(GW)	Sampled:	05/01/15
Lab ID:	266525-029	Received:	05/01/15
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/06/15
Batch#:	222841		

Analyte	Result	RL	Diln Fac
Pyrene	ND	13	1.000
Butylbenzylphthalate	ND	13	1.000
3,3'-Dichlorobenzidine	ND	25	1.000
Benzo(a)anthracene	ND	13	1.000
Chrysene	ND	13	1.000
bis(2-Ethylhexyl)phthalate	ND	13	1.000
Di-n-octylphthalate	ND	13	1.000
Benzo(b)fluoranthene	ND	13	1.000
Benzo(k)fluoranthene	ND	13	1.000
Benzo(a)pyrene	ND	13	1.000
Indeno(1,2,3-cd)pyrene	ND	13	1.000
Dibenz(a,h)anthracene	ND	13	1.000
Benzo(g,h,i)perylene	ND	13	1.000

Surrogate	%REC	Limits	Diln Fac
2-Fluorophenol	60	38-120	1.000
Phenol-d5	71	38-120	1.000
2,4,6-Tribromophenol	100	46-120	1.000
Nitrobenzene-d5	83	51-120	1.000
2-Fluorobiphenyl	75	54-120	1.000
Terphenyl-d14	64	21-120	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(GW)	Batch#:	222841
Lab ID:	266525-030	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	13
Phenol	ND	13
bis(2-Chloroethyl)ether	ND	13
2-Chlorophenol	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
Benzyl alcohol	ND	13
1,2-Dichlorobenzene	ND	13
2-Methylphenol	ND	13
bis(2-Chloroisopropyl) ether	ND	13
4-Methylphenol	ND	13
N-Nitroso-di-n-propylamine	ND	13
Hexachloroethane	ND	13
Nitrobenzene	ND	13
Isophorone	ND	13
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	13
Benzoic acid	ND	63
bis(2-Chloroethoxy)methane	ND	13
2,4-Dichlorophenol	ND	13
1,2,4-Trichlorobenzene	ND	13
Naphthalene	ND	13
4-Chloroaniline	ND	13
Hexachlorobutadiene	ND	13
4-Chloro-3-methylphenol	ND	13
2-Methylnaphthalene	ND	13
Hexachlorocyclopentadiene	ND	25
2,4,6-Trichlorophenol	ND	13
2,4,5-Trichlorophenol	ND	13
2-Chloronaphthalene	ND	13
2-Nitroaniline	ND	25
Dimethylphthalate	ND	13
Acenaphthylene	ND	13
2,6-Dinitrotoluene	ND	13
3-Nitroaniline	ND	25
Acenaphthene	ND	13
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
Dibenzofuran	ND	13
2,4-Dinitrotoluene	ND	13
Diethylphthalate	ND	13
Fluorene	ND	13
4-Chlorophenyl-phenylether	ND	13
4-Nitroaniline	ND	25
4,6-Dinitro-2-methylphenol	ND	25
N-Nitrosodiphenylamine	ND	13
Azobenzene	ND	13
4-Bromophenyl-phenylether	ND	13
Hexachlorobenzene	ND	13
Pentachlorophenol	ND	25
Phenanthrene	ND	13
Anthracene	ND	13
Di-n-butylphthalate	ND	13
Fluoranthene	ND	13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(GW)	Batch#:	222841
Lab ID:	266525-030	Sampled:	05/01/15
Matrix:	Water	Received:	05/01/15
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/06/15

Analyte	Result	RL
Pyrene	ND	13
Butylbenzylphthalate	ND	13
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	13
Chrysene	ND	13
bis(2-Ethylhexyl)phthalate	ND	13
Di-n-octylphthalate	ND	13
Benzo(b)fluoranthene	ND	13
Benzo(k)fluoranthene	ND	13
Benzo(a)pyrene	ND	13
Indeno(1,2,3-cd)pyrene	ND	13
Dibenz(a,h)anthracene	ND	13
Benzo(g,h,i)perylene	ND	13

Surrogate	%REC	Limits
2-Fluorophenol	75	38-120
Phenol-d5	81	38-120
2,4,6-Tribromophenol	93	46-120
Nitrobenzene-d5	78	51-120
2-Fluorobiphenyl	67	54-120
Terphenyl-d14	41	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786555	Batch#:	222841
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786555	Batch#:	222841
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	74	38-120
Phenol-d5	80	38-120
2,4,6-Tribromophenol	66	46-120
Nitrobenzene-d5	76	51-120
2-Fluorobiphenyl	66	54-120
Terphenyl-d14	70	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	222841
Units:	ug/L	Prepared:	05/04/15
Diln Fac:	1.000	Analyzed:	05/05/15

Type: BS Lab ID: QC786556

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	73.26	92	46-120
2-Chlorophenol	80.00	69.50	87	48-120
1,4-Dichlorobenzene	80.00	58.85	74	52-120
N-Nitroso-di-n-propylamine	80.00	75.11	94	46-120
1,2,4-Trichlorobenzene	80.00	59.09	74	53-120
4-Chloro-3-methylphenol	80.00	62.09	78	40-120
Acenaphthene	30.00	23.80	79	61-120
4-Nitrophenol	80.00	91.24	114	40-120
2,4-Dinitrotoluene	80.00	78.20	98	64-120
Pentachlorophenol	80.00	67.88	85	47-120
Pyrene	30.00	23.86	80	62-120

Surrogate	%REC	Limits
2-Fluorophenol	78	38-120
Phenol-d5	88	38-120
2,4,6-Tribromophenol	97	46-120
Nitrobenzene-d5	81	51-120
2-Fluorobiphenyl	74	54-120
Terphenyl-d14	77	21-120

Type: BSD Lab ID: QC786557

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	75.86	95	46-120	3	55
2-Chlorophenol	80.00	70.28	88	48-120	1	54
1,4-Dichlorobenzene	80.00	66.34	83	52-120	12	30
N-Nitroso-di-n-propylamine	80.00	75.24	94	46-120	0	25
1,2,4-Trichlorobenzene	80.00	65.98	82	53-120	11	26
4-Chloro-3-methylphenol	80.00	62.79	78	40-120	1	54
Acenaphthene	30.00	24.00	80	61-120	1	25
4-Nitrophenol	80.00	90.31	113	40-120	1	45
2,4-Dinitrotoluene	80.00	77.40	97	64-120	1	32
Pentachlorophenol	80.00	67.60	85	47-120	0	48
Pyrene	30.00	23.01	77	62-120	4	26

Surrogate	%REC	Limits
2-Fluorophenol	79	38-120
Phenol-d5	89	38-120
2,4,6-Tribromophenol	97	46-120
Nitrobenzene-d5	83	51-120
2-Fluorobiphenyl	75	54-120
Terphenyl-d14	76	21-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555120229009 File : yco09 Time : 24-MAR-2015 15:50

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	173190	44.21	
68	< 2% of mass 69	0	0.00	
69		171552	100.00	
70	< 2% of mass 69	137	0.08	
127	40% - 60% of mass 198	173290	44.24	
197	< 1% of mass 198	0	0.00	
198		391701	100.00	
199	5% - 9% of mass 198	27384	6.99	
275	10% - 30% of mass 198	97650	24.93	
365	> 1% of mass 198	11479	2.93	
441	Present, < mass 443	43290	74.41	
442	> 40% and < 100% of mass 198	295808	75.52	
443	17% - 23% of mass 442	58178	19.67	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

PEM Report

File Name : G:\msbna06\032415\YCO09.D
Date Acquired : 24 Mar 2015 3:50 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.881	5.49	736084
Benzidine	0.569	7.35	2546584
4,4'-DDT		8.37	1789243
4,4'-DDE		7.58	19791
4,4'-DDD		8.00	86883

% Breakdown: 4,4'-DDT	LIMIT <=20%	6%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Tue Mar 24 16:07:08 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555182096002 File : ye602 Time : 06-MAY-2015 11:25

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	130709	41.26	
68	< 2% of mass 69	0	0.00	
69		133434	100.00	
70	< 2% of mass 69	647	0.48	
127	40% - 60% of mass 198	139392	44.00	
197	< 1% of mass 198	0	0.00	
198		316800	100.00	
199	5% - 9% of mass 198	21808	6.88	
275	10% - 30% of mass 198	83162	26.25	
365	> 1% of mass 198	10385	3.28	
441	Present, < mass 443	38541	76.75	
442	> 40% and < 100% of mass 198	260053	82.09	
443	17% - 23% of mass 442	50218	19.31	

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

PEM Report

File Name : G:\msbna06\050615\YE602.D
Date Acquired : 6 May 2015 11:25 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.349	5.47	244614
Benzidine	0.576	7.33	2218029
4,4'-DDT		8.35	1257229
4,4'-DDE		7.55	7518
4,4'-DDD		7.97	65030

% Breakdown: 4,4'-DDT	LIMIT <=20%	5%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.3	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA09 Run Name : DFTPP IDF : 1.0
Seqnum : 585053925006 File : rb606 Time : 06-FEB-2015 13:30

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	185035	37.05	
68	< 2% of mass 69	0	0.00	
69		189077	100.00	
70	< 2% of mass 69	969	0.51	
127	40% - 60% of mass 198	222400	44.53	
197	< 1% of mass 198	0	0.00	
198		499477	100.00	
199	5% - 9% of mass 198	32802	6.57	
275	10% - 30% of mass 198	144805	28.99	
365	> 1% of mass 198	14227	2.85	
441	Present, < mass 443	70312	79.48	
442	> 40% and < 100% of mass 198	468480	93.79	
443	17% - 23% of mass 442	88464	18.88	

Analyst: KMH Date: 02/06/15 Reviewer: LW Date: 02/11/15

PEM Report

File Name : G:\msbna09\020615\RB606.D
Date Acquired : 6 Feb 2015 1:30 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA09 BNA DFTPP/PEM
Inst. Name : MSBNA09
AcquisitionMeth: DFTPP09.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.820	5.07	858800
Benzidine	0.705	6.94	4670113
4,4'-DDT		7.96	2623321
4,4'-DDE		7.17	3146
4,4'-DDD		7.59	36229

% Breakdown: 4,4'-DDT	LIMIT <=20%	1%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.8	PASS
	8270D <=2	2	PASS
Tailing: Benzidine	8270C <3.0	0.7	PASS
	8270D <=2	1	PASS

Fri Feb 06 13:39:38 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA09 Run Name : DFTPP IDF : 1.0
Seqnum : 585180755008 File : re508 Time : 05-MAY-2015 17:01

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	188369	43.03	
68	< 2% of mass 69	0	0.00	
69		199402	100.00	
70	< 2% of mass 69	1247	0.63	
127	40% - 60% of mass 198	215914	49.32	
197	< 1% of mass 198	0	0.00	
198		437760	100.00	
199	5% - 9% of mass 198	28544	6.52	
275	10% - 30% of mass 198	128120	29.27	
365	> 1% of mass 198	15907	3.63	
441	Present, < mass 443	64253	82.81	
442	> 40% and < 100% of mass 198	401280	91.67	
443	17% - 23% of mass 442	77594	19.34	

Analyst: NPM Date: 05/05/15 Reviewer: LW Date: 05/06/15

PEM Report

File Name : G:\msbna09\050515\RE508.D
Date Acquired : 5 May 2015 5:01 pm
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA09 BNA
Inst. Name : MSBNA09
AcquisitionMeth: DFTPP09.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.410	4.90	481609
Benzidine	0.905	6.75	3407473
4,4'-DDT		7.76	2659149
4,4'-DDE		6.98	6266
4,4'-DDD		7.39	49415

% Breakdown: 4,4'-DDT	LIMIT <=20%	2%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.4	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.9	PASS
	8270D <=2	1	PASS

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSBNA Water: EPA 8270C

Inst : MSBNA06
Calnum : 555120229001
Units : ug/mL

Name : 6PTBNA6
Date : 24-MAR-2015 16:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	yco11	555120229011	ICAL	24-MAR-2015 16:49	S26474
L2	yco12	555120229012	ICAL	24-MAR-2015 17:25	S26475
L3	yco13	555120229013	ICAL	24-MAR-2015 18:01	S26476
L4	yco14	555120229014	ICAL	24-MAR-2015 18:37	S26477
L5	yco15	555120229015	ICAL	24-MAR-2015 19:14	S26478
L6	yco16	555120229016	ICAL	24-MAR-2015 19:50	S26479
L7	yco17	555120229017	ICAL	24-MAR-2015 20:28	S26480
L8	yco18	555120229018	ICAL	24-MAR-2015 21:07	S26481
L9	yco19	555120229019	ICAL	24-MAR-2015 21:45	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		1.3307	1.5049	1.5667	1.5813	1.5648	1.5018	1.4510	1.4252	AVRG		0.67079		1.4908	6	15	0.05	0.99	
Phenol		1.9695	2.0270	2.0160	2.0056	1.9671	1.8901m	1.8366	1.8444	AVRG		0.51426		1.9445	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4461m	1.4290	1.3624	1.3572	1.3154	1.2739m	1.2380m	1.1616m	AVRG		0.75588		1.3230	7	15	0.05	0.99	
2-Chlorophenol		1.4296	1.4027	1.3955	1.3856	1.3703	1.3500	1.3245	1.3346	AVRG		0.72775		1.3741	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.6099	1.5785	1.6009	1.5877	1.5642	1.5471	1.5097	1.5014	AVRG		0.64003		1.5624	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.3648	1.4121	1.4292	1.4382	1.4403	1.4327	1.3968	1.3932	AVRG		0.70751		1.4134	2	15	0.05	0.99	
Benzyl alcohol		0.8185	0.8487	0.8633	0.8820	0.8744	0.8778	0.8696	0.9000	AVRG		1.15369		0.8668	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.3102	1.3492	1.3631	1.3718	1.3595	1.3462	1.3013	1.2875	AVRG		0.74844		1.3361	2	15	0.05	0.99	
2-Methylphenol		0.9195	0.9763	1.0087	1.0056	1.0074	0.9979	0.9952	0.9896	AVRG		1.01263		0.9875	3	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.2241	2.2134	2.1602	2.1669	2.0843	1.9565	1.8476	1.7731	AVRG		0.48703		2.0533	8	15	0.05	0.99	
4-Methylphenol		1.3922	1.4729	1.5322	1.5346	1.5309	1.5442			AVRG		0.66614		1.5012	4	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7996	0.8268	0.8338	0.8228	0.8144	0.8159	0.8207	0.8394	AVRG		1.21704		0.8217	1	15	0.050	0.99	
Hexachloroethane		0.6099	0.6399	0.6636	0.6651	0.6567	0.6506	0.6292	0.6224	AVRG		1.55722		0.6422	3	15	0.05	0.99	
Nitrobenzene		0.4583	0.4571	0.4507	0.4481	0.4352	0.4306	0.4150	0.4084	AVRG		2.28354		0.4379	4	15	0.05	0.99	
Isophorone		0.8707	0.8475	0.8545	0.8571	0.8579	0.8761	0.8670	0.8633	AVRG		1.16040		0.8618	1	15	0.05	0.99	
2-Nitrophenol			0.2131	0.2163	0.2150	0.2127	0.2127	0.1999	0.1979m	AVRG		4.76986		0.2096	4	15	0.05	0.99	
2,4-Dimethylphenol		0.4380	0.4121	0.4151	0.4090	0.3974	0.3924	0.3815	0.3748	AVRG		2.48433		0.4025	5	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4570	0.4568	0.4590	0.4562	0.4473	0.4452	0.4523	AVRG		2.20555		0.4534	1	15	0.05	0.99	
Benzoic acid		0.2757	0.2779	0.2941	0.2980	0.3000	0.3133	0.3098	0.3153	AVRG		3.35561		0.2980	5	15	0.05	0.99	
2,4-Dichlorophenol		0.3561	0.3561	0.3505	0.3486	0.3438	0.3395	0.3273	0.3274	AVRG		2.90992		0.3437	3	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4247	0.4272	0.4262	0.4240	0.4170	0.4107	0.3941	0.3797	AVRG		2.42160		0.4130	4	15	0.05	0.99	
Naphthalene	0.9607	0.9619	0.9757	1.0059	1.0108	1.0216	1.0334	1.0014	0.9916	AVRG		1.00413		0.9959	3	15	0.05	0.99	
4-Chloroaniline		0.2778m	0.4133	0.4290	0.4372	0.4397	0.4464	0.4483	0.4484	LINR	2.53671	2.17378		0.4175	1.000	15	0.05	0.99	
Hexachlorobutadiene		0.2729	0.2791	0.2765	0.2751	0.2735	0.2641	0.2475	0.2390	AVRG		3.75983		0.2660	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3650	0.3791	0.3879	0.3929	0.3867	0.3839	0.3692	0.3635	AVRG		2.64186		0.3785	3	15	0.05	0.99	
2-Methylnaphthalene	0.7688	0.7984	0.7990	0.8056	0.8029	0.7920	0.7868	0.7868	0.7849	AVRG		1.26311		0.7917	1	15	0.05	0.99	
Hexachlorocyclopentadiene			0.4175	0.4629	0.4606	0.4598	0.4657	0.4554	0.4526	AVRG		2.20520		0.4535	4	15	0.050	0.99	
2,4,6-Trichlorophenol		0.5108	0.5151	0.5253	0.5305	0.5212	0.5223	0.5169	0.5141	AVRG		1.92486		0.5195	1	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5272	0.5254	0.5407	0.5269	0.5333	0.5193m	0.5067m	0.5018m	AVRG		1.91329		0.5227	2	15	0.05	0.99	
2-Chloronaphthalene			1.2826	1.2727	1.2799	1.2731	1.3165	1.3135	1.3197	AVRG		0.77280		1.2940	2	15	0.05	0.99	
2-Nitroaniline			0.4727	0.4755	0.4756	0.4714	0.4714	0.4687	0.4649	AVRG		2.12101		0.4715	1	15	0.05	0.99	
Dimethylphthalate		1.6348	1.5826	1.6120	1.5945	1.5671	1.5458	1.5182	1.4903	AVRG		0.63769		1.5682	3	15	0.05	0.99	
2,6-Dinitrotoluene		0.3531	0.3472	0.3519	0.3515	0.3490	0.3529	0.3508	0.3508	AVRG		2.84971		0.3509	1	15	0.05	0.99	
Acenaphthylene	2.1002	2.0135	2.0049	2.0617	2.0463	2.0337	2.0195	1.9932	1.9637	AVRG		0.49351		2.0263	2	15	0.05	0.99	
3-Nitroaniline			0.3257	0.3567	0.3422	0.3477	0.3703	0.3726	0.3817	AVRG		2.80345		0.3567	6	15	0.05	0.99	
Acenaphthene	0.9997	1.0447	1.0995	1.1208	1.1639	1.1368	1.1555	1.1330	1.1485	AVRG		0.89977		1.1114	5	15	0.05	0.99	
2,4-Dinitrophenol			0.1275	0.1699	0.1861	0.2018	0.2276	0.2439	0.2520	LINR	12.6402	3.59390		0.2013	0.999	15	0.050	0.99	
4-Nitrophenol			0.2513	0.2633	0.2634	0.2588	0.2656	0.2618	0.2665	AVRG		3.82385		0.2615	2	15	0.050	0.99	
Dibenzofuran			1.7589	1.8052	1.7751	1.7665	1.7223	1.6703	1.6326	AVRG		0.57705		1.7330	4	15	0.05	0.99	
2,4-Dinitrotoluene		0.4359	0.4485	0.4708	0.4706	0.4627	0.4710	0.4598	0.4515	AVRG		2.17929		0.4589	3	15	0.05	0.99	
Diethylphthalate			1.6170	1.6367	1.6220	1.6175	1.6078	1.5897	1.5792	AVRG		0.62112		1.6100	1	15	0.05	0.99	
Fluorene	1.6226	1.5719	1.5459	1.5586	1.5500	1.5174	1.5094	1.4840	1.4762	AVRG		0.65048		1.5373	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.8797	0.9042	0.9056	0.9012	0.9076	0.9000	0.8836	AVRG		1.11432		0.8974	1	15	0.05	0.99	
4-Nitroaniline			0.2764	0.3172	0.3121	0.3216	0.3229	0.3471m	0.3557m	AVRG		3.10689		0.3219	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1206	0.1336	0.1366	0.1373	0.1398	0.1387		AVRG		7.43742		0.1345	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5197	0.5248	0.5079	0.5025	0.4914	0.4764	0.4736	AVRG		2.00213		0.4995	4	15	0.05	0.99	
Azobenzene			0.7569	0.7592	0.7378	0.7211	0.6852	0.6636	0.6477	AVRG		1.40800		0.7102	6	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2626	0.2680	0.2714	0.2623	0.2604	0.2594	0.2577	AVRG		3.80070		0.2631	2	15	0.05	0.99	
Hexachlorobenzene		0.2648	0.2682	0.2661	0.2635	0.2590	0.2491	0.2397	0.2356	AVRG		3.91004		0.2558	5	15	0.05	0.99	
Pentachlorophenol			0.1812	0.1931	0.1936	0.1948	0.1900	0.1854	0.1865	AVRG		5.28472		0.1892	3	15	0.05	0.99	
Phenanthrene	0.9926	0.9600	0.9733	0.9920	0.9947	0.9906	0.9772	0.9450	0.9264	AVRG		1.02837		0.9724	2	15	0.05	0.99	
Anthracene	1.0259	1.0143	1.0354	1.0485	1.0387	1.0179	0.9925	0.9568	0.9377	AVRG		0.99252		1.0075	4	15	0.05	0.99	
Di-n-butylphthalate			1.4071	1.4334	1.3907	1.3864	1.3197	1.2570	1.2310	AVRG		0.74268		1.3465	6	15	0.05	0.99	
Fluoranthene	1.4760	1.5076	1.5402	1.5657	1.5490	1.5121	1.4585	1.3900	1.3492	AVRG		0.67424		1.4832	5	15	0.05	0.99	
Pyrene	1.4880	1.5248	1.5498	1.5415	1.5294	1.5163	1.4611	1.4263	1.4204	AVRG		0.66877		1.4953	3	15	0.05	0.99	
Butylbenzylphthalate			0.6557	0.6894	0.6917	0.6817	0.6832	0.6651	0.6668	AVRG		1.47877		0.6762	2	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4727	0.5582	0.5682	0.5739	0.5553	0.5292	0.5140	AVRG		1.85603		0.5388	7	15	0.05	0.99	
Benzo(a)anthracene	1.3345	1.2972	1.2579	1.2635	1.2511	1.2234	1.2144	1.1929	1.1952	AVRG		0.80142		1.2478	4	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.8762	0.8850	0.8678	0.8522	0.7779	0.7434	0.7394	AVRG		1.21911		0.8203	8	15	0.05	0.99	
Chrysene	0.9999	1.0134	1.0620	1.1125	1.1374	1.1450	1.1486	1.1555	1.1685	AVRG		0.90519		1.1047	6	15	0.05	0.99	
Di-n-octylphthalate			1.4977	1.5796	1.5701	1.5542	1.5191	1.4824	1.4551	AVRG		0.65678		1.5226	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.2561	1.3048	1.3017	1.3778	1.3660	1.3628	1.3695	1.3850	1.4287	AVRG		0.74058		1.3503	4	15	0.05	0.99	
Benzo(k)fluoranthene	1.2230m	1.2015m	1.1886m	1.1833	1.1623	1.1420	1.0799	1.0125m	0.9631m	AVRG		0.88617		1.1285	8	15	0.05	0.99	
Benzo(a)pyrene	1.2255	1.2461	1.2709	1.3029	1.3162	1.2847	1.2896	1.2611	1.2502	AVRG		0.78622		1.2719	2	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.2470	1.3168	1.3470	1.4514	1.4416	1.4487	1.4266	1.3925	1.3754	AVRG		0.72306		1.3830	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.9899	1.0624	1.0695	1.1269	1.1019	1.0882	1.0711	1.0528	1.0426	AVRG		0.93698		1.0673	4	15	0.05	0.99	
Benzo(g,h,i)perylene	1.0827	1.0273	1.0271	1.1077	1.1328	1.1182	1.1101	1.0822	1.0808	AVRG		0.92128		1.0854	3	15	0.05	0.99	
2-Fluorophenol	1.4394	1.5826	1.6954	1.7335	1.7446	1.6983	1.6762	1.6688	1.6873	AVRG		0.60297		1.6585	6	15	0.05	0.99	
Phenol-d5	1.8330	1.9930	2.1586	2.1984	2.1661	2.1589	2.1145	2.0687	2.0608	AVRG		0.47995		2.0836	5	15	0.05	0.99	
Nitrobenzene-d5	0.5404	0.5262	0.5215	0.5153	0.5180	0.5049	0.5102	0.5004	0.4983	AVRG		1.94163		0.5150	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7758	1.7475	1.6289	1.6053	1.5848	1.5576	1.5885	1.5622	1.5587	AVRG		0.61604		1.6233	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.2560	0.2710	0.2730	0.2806	0.2830	0.2810	0.2965	0.2989	0.3019	AVRG		3.54068		0.2824	5	15	0.05	0.99	
Terphenyl-d14	1.0974	1.1340	1.1399	1.1837	1.1796	1.1680	1.1436	1.1164	1.1239	AVRG		0.87494		1.1429	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-11	20.000	1	32.000	5	40.000	6	50.000	5	80.000	1	100.00	-3	120.00	-4
Phenol			10.000	1	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-5
bis(2-Chloroethyl)ether			10.000	9	20.000	8	32.000	3	40.000	3	50.000	-1	80.000	-4	100.00	-6	120.00	-12
2-Chlorophenol			10.000	4	20.000	2	32.000	2	40.000	1	50.000	0	80.000	-2	100.00	-4	120.00	-3
1,3-Dichlorobenzene			10.000	3	20.000	1	32.000	2	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-4
1,4-Dichlorobenzene			10.000	-3	20.000	0	32.000	1	40.000	2	50.000	2	80.000	1	100.00	-1	120.00	-1
Benzyl alcohol			10.000	-6	20.000	-2	32.000	0	40.000	2	50.000	1	80.000	1	100.00	0	120.00	4
1,2-Dichlorobenzene			10.000	-2	20.000	1	32.000	2	40.000	3	50.000	2	80.000	1	100.00	-3	120.00	-4
2-Methylphenol			10.000	-7	20.000	-1	32.000	2	40.000	2	50.000	2	80.000	1	100.00	1	120.00	0
bis(2-Chloroisopropyl) ether			10.000	8	20.000	8	32.000	5	40.000	6	50.000	2	80.000	-5	100.00	-10	120.00	-14
4-Methylphenol			10.000	-7	20.000	-2	32.000	2	40.000	2	50.000	2	80.000	3				
N-Nitroso-di-n-propylamine			10.000	-3	20.000	1	32.000	1	40.000	0	50.000	-1	80.000	-1	100.00	0	120.00	2
Hexachloroethane			10.000	-5	20.000	0	32.000	3	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	5	20.000	4	32.000	3	40.000	2	50.000	-1	80.000	-2	100.00	-5	120.00	-7
Isophorone			10.000	1	20.000	-2	32.000	-1	40.000	-1	50.000	0	80.000	2	100.00	1	120.00	0
2-Nitrophenol					20.000	2	32.000	3	40.000	3	50.000	1	80.000	1	100.00	-5	120.00	-6
2,4-Dimethylphenol			10.000	9	20.000	2	32.000	3	40.000	2	50.000	-1	80.000	-3	100.00	-5	120.00	-7
bis(2-Chloroethoxy)methane					10.000	1	16.000	1	20.000	1	25.000	1	40.000	-1	50.000	-2	60.000	0
Benzoic acid			50.000	-7	60.000	-7	80.000	-1	90.000	0	100.00	1	120.00	5	130.00	4	140.00	6
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	2	40.000	1	50.000	0	80.000	-1	100.00	-5	120.00	-5
1,2,4-Trichlorobenzene			10.000	3	20.000	3	32.000	3	40.000	3	50.000	1	80.000	-1	100.00	-5	120.00	-8
Naphthalene	2.0000	-4	5.0000	-3	10.000	-2	16.000	1	20.000	1	25.000	3	40.000	4	50.000	1	60.000	0
4-Chloroaniline			10.000	-13	20.000	3	32.000	1	40.000	1	50.000	1	80.000	0	100.00	0	120.00	0
Hexachlorobutadiene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	3	80.000	-1	100.00	-7	120.00	-10
4-Chloro-3-methylphenol			10.000	-4	20.000	0	32.000	2	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-4
2-Methylnaphthalene	2.0000	-3	5.0000	1	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-1	50.000	-1	60.000	-1
Hexachlorocyclopentadiene					20.000	-8	32.000	2	40.000	2	50.000	1	80.000	3	100.00	0	120.00	0
2,4,6-Trichlorophenol			10.000	-2	20.000	-1	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-1	120.00	-1
2,4,5-Trichlorophenol			10.000	1	20.000	1	32.000	3	40.000	1	50.000	2	80.000	-1	100.00	-3	120.00	-4
2-Chloronaphthalene					10.000	-1	16.000	-2	20.000	-1	25.000	-2	40.000	2	50.000	2	60.000	2
2-Nitroaniline					20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-1
Dimethylphthalate			10.000	4	20.000	1	32.000	3	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-5
2,6-Dinitrotoluene			10.000	1	20.000	-1	32.000	0	40.000	0	50.000	-1	80.000	1	100.00	0	120.00	0
Acenaphthylene	2.0000	4	5.0000	-1	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-3
3-Nitroaniline					20.000	-9	32.000	0	40.000	-4	50.000	-3	80.000	4	100.00	4	120.00	7
Acenaphthene	2.0000	-10	5.0000	-6	10.000	-1	16.000	1	20.000	5	25.000	2	40.000	4	50.000	2	60.000	3
2,4-Dinitrophenol					20.000	9	32.000	1	40.000	-2	50.000	-2	80.000	-2	100.00	0	120.00	1
4-Nitrophenol					20.000	-4	32.000	1	40.000	1	50.000	-1	80.000	2	100.00	0	120.00	2
Dibenzofuran					10.000	1	16.000	4	20.000	2	25.000	2	40.000	-1	50.000	-4	60.000	-6
2,4-Dinitrotoluene			10.000	-5	20.000	-2	32.000	3	40.000	3	50.000	1	80.000	3	100.00	0	120.00	-2
Diethylphthalate					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-2
Fluorene	2.0000	6	5.0000	2	10.000	1	16.000	1	20.000	1	25.000	-1	40.000	-2	50.000	-3	60.000	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-2	16.000	1	20.000	1	25.000	0	40.000	1	50.000	0	60.000	-2
4-Nitroaniline					20.000	-14	32.000	-1	40.000	-3	50.000	0	80.000	0	100.00	8	120.00	11
4,6-Dinitro-2-methylphenol					20.000	-10	32.000	-1	40.000	2	50.000	2	80.000	4	100.00	3		
N-Nitrosodiphenylamine					10.000	4	16.000	5	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Azobenzene					10.000	7	16.000	7	20.000	4	25.000	2	40.000	-4	50.000	-7	60.000	-9
4-Bromophenyl-phenylether					10.000	0	16.000	2	20.000	3	25.000	0	40.000	-1	50.000	-1	60.000	-2
Hexachlorobenzene			10.000	4	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-8
Pentachlorophenol					20.000	-4	32.000	2	40.000	2	50.000	3	80.000	0	100.00	-2	120.00	-1
Phenanthrene	2.0000	2	5.0000	-1	10.000	0	16.000	2	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-5
Anthracene	2.0000	2	5.0000	1	10.000	3	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-5	60.000	-7
Di-n-butylphthalate					10.000	5	16.000	6	20.000	3	25.000	3	40.000	-2	50.000	-7	60.000	-9
Fluoranthene	2.0000	0	5.0000	2	10.000	4	16.000	6	20.000	4	25.000	2	40.000	-2	50.000	-6	60.000	-9
Pyrene	2.0000	0	5.0000	2	10.000	4	16.000	3	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Butylbenzylphthalate					10.000	-3	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-2	60.000	-1
3,3'-Dichlorobenzidine					20.000	-12	32.000	4	40.000	5	50.000	7	80.000	3	100.00	-2	120.00	-5
Benzo(a)anthracene	2.0000	7	5.0000	4	10.000	1	16.000	1	20.000	0	25.000	-2	40.000	-3	50.000	-4	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	7	16.000	8	20.000	6	25.000	4	40.000	-5	50.000	-9	60.000	-10
Chrysene	2.0000	-9	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	4	40.000	4	50.000	5	60.000	6
Di-n-octylphthalate					10.000	-2	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-3	60.000	-4
Benzo(b)fluoranthene	2.0000	-7	5.0000	-3	10.000	-4	16.000	2	20.000	1	25.000	1	40.000	1	50.000	3	60.000	6
Benzo(k)fluoranthene	2.0000	8	5.0000	6	10.000	5	16.000	5	20.000	3	25.000	1	40.000	-4	50.000	-10	60.000	-15
Benzo(a)pyrene	2.0000	-4	5.0000	-2	10.000	0	16.000	2	20.000	3	25.000	1	40.000	1	50.000	-1	60.000	-2
Indeno(1,2,3-cd)pyrene	2.0000	-10	5.0000	-5	10.000	-3	16.000	5	20.000	4	25.000	5	40.000	3	50.000	1	60.000	-1
Dibenz(a,h)anthracene	2.0000	-7	5.0000	0	10.000	0	16.000	6	20.000	3	25.000	2	40.000	0	50.000	-1	60.000	-2
Benzo(g,h,i)perylene	2.0000	0	5.0000	-5	10.000	-5	16.000	2	20.000	4	25.000	3	40.000	2	50.000	0	60.000	0
2-Fluorophenol	2.0000	-13	5.0000	-5	10.000	2	16.000	5	20.000	5	25.000	2	40.000	1	50.000	1	60.000	2
Phenol-d5	2.0000	-12	5.0000	-4	10.000	4	16.000	6	20.000	4	25.000	4	40.000	1	50.000	-1	60.000	-1
Nitrobenzene-d5	2.0000	5	5.0000	2	10.000	1	16.000	0	20.000	1	25.000	-2	40.000	-1	50.000	-3	60.000	-3
2-Fluorobiphenyl	2.0000	9	5.0000	8	10.000	0	16.000	-1	20.000	-2	25.000	-4	40.000	-2	50.000	-4	60.000	-4
2,4,6-Tribromophenol	2.0000	-9	5.0000	-4	10.000	-3	16.000	-1	20.000	0	25.000	-1	40.000	5	50.000	6	60.000	7
Terphenyl-d14	2.0000	-4	5.0000	-1	10.000	0	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-2	60.000	-2

NPM 03/25/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Phenol]: Picked or reassigned peak in ICAL (yco17).

NPM 03/25/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Aniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [Pyridine]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [4,6-Dinitro-2-methylphenol]: Corrected automatically drawn baseline in ICAL (yco19).

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA06 Name : 6PTBNA6
Calnum : 555120229001 Cal Date : 24-MAR-2015

ICV 555120229020 (yco20 24-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	40.57	ug/mL	1	30	
Phenol	40.00	37.01	ug/mL	-7	20	
bis(2-Chloroethyl)ether	40.00	37.87	ug/mL	-5	30	
2-Chlorophenol	40.00	37.60	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	38.61	ug/mL	-3	30	
1,4-Dichlorobenzene	40.00	38.94	ug/mL	-3	20	
Benzyl alcohol	40.00	38.78	ug/mL	-3	30	
1,2-Dichlorobenzene	40.00	39.81	ug/mL	0	30	
2-Methylphenol	40.00	39.37	ug/mL	-2	30	
bis(2-Chloroisopropyl) ether	40.00	38.86	ug/mL	-3	30	
4-Methylphenol	40.00	35.55	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.03	ug/mL	-5	30	
Hexachloroethane	40.00	39.27	ug/mL	-2	30	
Nitrobenzene	40.00	37.56	ug/mL	-6	30	
Isophorone	40.00	37.96	ug/mL	-5	30	
2-Nitrophenol	40.00	39.52	ug/mL	-1	20	
2,4-Dimethylphenol	40.00	38.75	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.43	ug/mL	-6	30	
Benzoic acid	100.0	98.65	ug/mL	-1	40	
2,4-Dichlorophenol	40.00	38.04	ug/mL	-5	20	
1,2,4-Trichlorobenzene	40.00	39.93	ug/mL	0	30	
Naphthalene	40.00	37.88	ug/mL	-5	30	
4-Chloroaniline	40.00	38.21	ug/mL	-4	30	
Hexachlorobutadiene	40.00	40.43	ug/mL	1	20	
4-Chloro-3-methylphenol	40.00	38.65	ug/mL	-3	20	
2-Methylnaphthalene	40.00	38.28	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	37.15	ug/mL	-7	40	
2,4,6-Trichlorophenol	40.00	38.55	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.89	ug/mL	-3	30	
2-Chloronaphthalene	40.00	37.40	ug/mL	-7	30	
2-Nitroaniline	40.00	37.59	ug/mL	-6	30	
Dimethylphthalate	40.00	37.77	ug/mL	-6	30	
2,6-Dinitrotoluene	40.00	37.29	ug/mL	-7	30	
Acenaphthylene	40.00	36.06	ug/mL	-10	30	
3-Nitroaniline	40.00	36.42	ug/mL	-9	30	
Acenaphthene	40.00	39.17	ug/mL	-2	20	
2,4-Dinitrophenol	40.00	39.87	ug/mL	0	40	
4-Nitrophenol	40.00	37.10	ug/mL	-7	40	
Dibenzofuran	40.00	39.34	ug/mL	-2	30	
2,4-Dinitrotoluene	40.00	40.78	ug/mL	2	30	
Diethylphthalate	40.00	36.54	ug/mL	-9	30	
Fluorene	40.00	36.00	ug/mL	-10	30	
4-Chlorophenyl-phenylether	40.00	37.82	ug/mL	-5	40	
4-Nitroaniline	40.00	37.61	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.56	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	43.60	ug/mL	9	20	
Azobenzene	40.00	35.74	ug/mL	-11	30	
4-Bromophenyl-phenylether	40.00	36.77	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.86	ug/mL	-5	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.02	ug/mL	-5	20	
Phenanthrene	40.00	37.31	ug/mL	-7	30	
Anthracene	40.00	37.43	ug/mL	-6	30	
Di-n-butylphthalate	40.00	36.66	ug/mL	-8	30	
Fluoranthene	40.00	36.56	ug/mL	-9	20	
Pyrene	40.00	35.15	ug/mL	-12	30	
Butylbenzylphthalate	40.00	37.87	ug/mL	-5	30	
3,3'-Dichlorobenzidine	60.00	58.22	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.04	ug/mL	-5	30	
bis(2-Ethylhexyl)phthalate	40.00	37.26	ug/mL	-7	30	
Chrysene	40.00	39.42	ug/mL	-1	30	
Di-n-octylphthalate	40.00	36.91	ug/mL	-8	20	
Benzo(b)fluoranthene	40.00	39.31	ug/mL	-2	30	
Benzo(k)fluoranthene	40.00	37.69	ug/mL	-6	30	
Benzo(a)pyrene	40.00	38.34	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	40.00	38.60	ug/mL	-3	30	
Dibenz(a,h)anthracene	40.00	37.25	ug/mL	-7	30	
Benzo(g,h,i)perylene	40.00	37.66	ug/mL	-6	30	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSBNA Water: EPA 8270C

Inst : MSBNA09
Calnum : 585053925002
Units : ug/mL

Name : 6PTBNA9
Date : 06-FEB-2015 13:54

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	rb607	585053925007	ICAL	06-FEB-2015 13:54	S26474
L2	rb608	585053925008	ICAL	06-FEB-2015 14:23	S26475
L3	rb609	585053925009	ICAL	06-FEB-2015 14:54	S26476
L4	rb610	585053925010	ICAL	06-FEB-2015 15:24	S26477
L5	rb611	585053925011	ICAL	06-FEB-2015 15:54	S26478
L6	rb612	585053925012	ICAL	06-FEB-2015 16:25	S26479
L7	rb613	585053925013	ICAL	06-FEB-2015 16:55	S26480
L8	rb614	585053925014	ICAL	06-FEB-2015 17:25	S26481
L9	rb615	585053925015	ICAL	06-FEB-2015 17:55	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.5659	0.6116	0.6205	0.6286	0.6165	0.6221	0.6278	0.6212	AVRG	R		1.62796		0.6143	3	15	0.05	0.99	
Phenol		1.4111	1.4798	1.5477	1.5174	1.4851	1.4738	1.4783	1.5165	AVRG	R		0.67172		1.4887	3	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.2224m	1.2259	1.2231	1.2056	1.1703	1.0945	1.0593	1.0449	AVRG	R		0.86524		1.1557	7	15	0.05	0.99	
2-Chlorophenol		1.3556	1.3872	1.4133	1.4070	1.3865	1.3515	1.3110	1.2874	AVRG	R		0.73398		1.3624	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.5566m	1.5980m	1.5935m	1.6103m	1.5676m	1.5883m	1.5384m	1.5180m	AVRG	R		0.63640		1.5713	2	15	0.05	0.99	
1,4-Dichlorobenzene		1.6026m	1.6319m	1.6366m	1.6292m	1.6035m	1.5714m	1.5573m	1.5129m	AVRG	R		0.62768		1.5932	3	15	0.05	0.99	
Benzyl alcohol		0.7279	0.7142	0.6467	0.6583	0.7199	0.8953	0.9243		AVRG	R		1.32410		0.7552	15	15	0.05	0.99	
1,2-Dichlorobenzene		1.4752	1.4769	1.5022	1.4833	1.4783	1.4373	1.4027	1.3756	AVRG	R		0.68778		1.4539	3	15	0.05	0.99	
2-Methylphenol		1.0301	1.0146	0.9852	0.9268	0.9138	0.9505	0.9709	1.0118	AVRG	R		1.02515		0.9755	4	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		1.4729	1.4521	1.4219	1.3811	1.3006	1.2032	1.2018	1.2389	AVRG	R		0.74959		1.3341	8	15	0.05	0.99	
4-Methylphenol		1.4193	1.3496	1.2843	1.2882	1.3471	1.5711	1.6132	1.6609	AVRG	R		0.69362		1.4417	11	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.5627	0.5699	0.7300	0.8113	0.8431	0.9198	0.9327		LINR	R	7.20285	0.99905		0.7671	0.998	15	0.050	0.99	
Hexachloroethane		0.5640	0.5678	0.5803	0.5809	0.5731	0.5720	0.5563	0.5520	AVRG	R		1.75965		0.5683	2	15	0.05	0.99	
Nitrobenzene		0.3422	0.3499	0.3659	0.3603	0.3514	0.3513	0.3492	0.3540	AVRG	R		2.83253		0.3530	2	15	0.05	0.99	
Isophorone		0.6196	0.7268	0.8465	0.9041	0.9278	0.8666	0.8196	0.7906	AVRG	R		1.23047		0.8127	12	15	0.05	0.99	
2-Nitrophenol			0.1907	0.1932	0.1963	0.2077	0.2229	0.2199	0.2111	AVRG	R		4.85517		0.2060	6	15	0.05	0.99	
2,4-Dimethylphenol		0.3284	0.3174	0.3623	0.3974	0.4363	0.4350	0.4187	0.3969	AVRG	R		2.58688		0.3866	12	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.2959	0.3779	0.4411	0.5049	0.4934	0.4699	0.4540	LINR	R	2.14414	2.04112		0.4339	0.988	15	0.05	0.99	
Benzoic acid		0.1770	0.2231	0.2762	0.2924	0.3126	0.2889	0.2776	0.2669	QUAD	A	-26.711	0.83664	-0.00271	0.2644	0.996	15	0.05	0.99	
2,4-Dichlorophenol		0.3053	0.3029	0.3213	0.3405	0.3659	0.3622	0.3496	0.3312	AVRG	R		2.98630		0.3349	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3580	0.3726	0.3901	0.3895	0.3735	0.3296	0.3072	0.2980	AVRG	R		2.83846		0.3523	10	15	0.05	0.99	
Naphthalene	1.0556	1.0491	1.0511	1.0814	1.0747	1.0873	1.0956	1.0811	1.0701	AVRG	R		0.93303		1.0718	2	15	0.05	0.99	
4-Chloroaniline		0.3291	0.4187	0.5288	0.5819	0.6124	0.5611	0.5281		LINR	R	1.65587	1.77825		0.5086	0.986	15	0.05	0.99	
Hexachlorobutadiene		0.2076	0.2157	0.2290	0.2316	0.2244	0.1879	0.1726	0.1648	AVRG	R		4.89735		0.2042	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3333	0.3749	0.4223	0.4515	0.4562	0.4194	0.3950	0.3697	AVRG	R		2.48278		0.4028	11	15	0.05	0.99	
2-Methylnaphthalene	0.6059	0.6121	0.6405	0.8268	0.9174	0.9761	0.9077	0.8665	0.8135	LINR	R	0.19575	1.15962		0.7963	0.989	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3093	0.3377	0.3579	0.3938	0.4329	0.4266	0.4282	AVRG	R		2.60571		0.3838	13	15	0.050	0.99	
2,4,6-Trichlorophenol		0.3949	0.4279	0.4484	0.4477	0.4427	0.4467	0.4323	0.4394	AVRG	R		2.29884		0.4350	4	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4514	0.4561	0.4861	0.4797	0.4820	0.4668	0.4580	0.4429	AVRG	R		2.14876		0.4654	3	15	0.05	0.99	
2-Chloronaphthalene			1.2042	1.2820	1.2930	1.2812	1.3034	1.2668	1.2760	AVRG	R		0.78594		1.2724	3	15	0.05	0.99	
2-Nitroaniline			0.3516	0.3683	0.3692	0.3681	0.3768	0.3770	0.3791	AVRG	R		2.70249		0.3700	3	15	0.05	0.99	
Dimethylphthalate		1.4754	1.4747	1.5400	1.5251	1.5196	1.5090	1.4576	1.4698	AVRG	R		0.66827		1.4964	2	15	0.05	0.99	
2,6-Dinitrotoluene		0.3458	0.3494	0.3634	0.3656	0.3679	0.3659	0.3550	0.3616	AVRG	R		2.78300		0.3593	2	15	0.05	0.99	
Acenaphthylene	1.9720	2.0320	2.0812	2.1729	2.1436	2.1767	2.1456	2.0990	2.0903	AVRG	R		0.47585		2.1015	3	15	0.05	0.99	
3-Nitroaniline			0.3439	0.3599m	0.3615m	0.3729	0.3847	0.3792	0.3834	AVRG	R		2.70748		0.3693	4	15	0.05	0.99	
Acenaphthene	1.2257	1.2386	1.2317	1.2966	1.2736	1.2721	1.2553	1.2109	1.2152	AVRG	R		0.80216		1.2466	2	15	0.05	0.99	
2,4-Dinitrophenol			0.1610	0.2011	0.2111	0.2323	0.2517	0.2535	0.2617	LINR	R	9.11394	3.54789		0.2246	1.000	15	0.050	0.99	
4-Nitrophenol			0.1498	0.1656	0.1677	0.1731	0.1765	0.1721	0.1759	AVRG	R		5.92915		0.1687	5	15	0.050	0.99	
Dibenzofuran			1.8872	1.9384	1.9237	1.8957	1.8188	1.7312	1.7147	AVRG	R		0.54223		1.8442	5	15	0.05	0.99	
2,4-Dinitrotoluene		0.4591	0.4764	0.4959	0.4919	0.4871	0.4730	0.4500	0.4521	AVRG	R		2.11337		0.4732	4	15	0.05	0.99	
Diethylphthalate			1.4621	1.5161	1.5133	1.5120	1.5065	1.4732	1.4803	AVRG	R		0.66900		1.4948	1	15	0.05	0.99	
Fluorene	1.5591	1.5743	1.5769	1.6006	1.6173	1.5768	1.5477	1.4927	1.4823	AVRG	R		0.64159		1.5586	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7748	0.8073	0.7987	0.7990	0.7810	0.7617	0.7571	AVRG	R		1.27746		0.7828	2	15	0.05	0.99	
4-Nitroaniline			0.3357	0.3595	0.3664	0.3751	0.3909	0.4096	0.3893	AVRG	R		2.66528		0.3752	6	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1469	0.1597	0.1636	0.1685	0.1723	0.1723	0.1673	AVRG	R		6.08377		0.1644	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5838	0.6103	0.6090	0.6018	0.6018	0.5895	0.5872	AVRG	R		1.67323		0.5976	2	15	0.05	0.99	
Azobenzene			0.6738	0.6902	0.6928	0.7003	0.6949	0.7052	0.6943	AVRG	R		1.44289		0.6931	1	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2408	0.2494	0.2510	0.2517	0.2499	0.2512	0.2483	AVRG	R		4.01784		0.2489	2	15	0.05	0.99	
Hexachlorobenzene		0.2466	0.2488	0.2562	0.2584	0.2611	0.2591	0.2499	0.2469	AVRG	R		3.94661		0.2534	2	15	0.05	0.99	
Pentachlorophenol			0.1501	0.1689	0.1758	0.1797	0.1840	0.1841	0.1864	AVRG	R		5.69567		0.1756	7	15	0.05	0.99	
Phenanthrene	1.1292	1.1162	1.1302	1.1612	1.1607	1.1541	1.1185	1.1177	1.0923	AVRG	R		0.88409		1.1311	2	15	0.05	0.99	
Anthracene	1.1032	1.1330	1.1469	1.1998	1.1787	1.1855	1.1499	1.1148	1.1098	AVRG	R		0.87196		1.1468	3	15	0.05	0.99	
Di-n-butylphthalate			1.2287	1.2754	1.2908	1.3024	1.2939	1.3104	1.2145	AVRG	R		0.78511		1.2737	3	15	0.05	0.99	
Fluoranthene	1.2150	1.2508	1.2737	1.3260	1.3316	1.3165	1.3069	1.3187	1.2457	AVRG	R		0.77687		1.2872	3	15	0.05	0.99	
Pyrene	1.1871	1.2464	1.2762	1.3080	1.3112	1.3103	1.2855	1.2921	1.2473	AVRG	R		0.78508		1.2738	3	15	0.05	0.99	
Butylbenzylphthalate			0.4725	0.4972	0.5068	0.5109	0.5080	0.5072	0.5064	AVRG	R		1.99485		0.5013	3	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4076	0.4480	0.4599	0.4715	0.4736	0.4627	0.4581	AVRG	R		2.20030		0.4545	5	15	0.05	0.99	
Benzo(a)anthracene	1.1429	1.1717	1.1779	1.1971	1.1955	1.2009	1.1803	1.1551	1.1409	AVRG	R		0.85209		1.1736	2	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.6929	0.7158	0.7251	0.7297	0.7086	0.6833	0.6714	AVRG	R		1.42082		0.7038	3	15	0.05	0.99	
Chrysene	1.0828	1.0690	1.1029	1.1387	1.1493	1.1382	1.1223	1.1113	1.1175	AVRG	R		0.89714		1.1147	2	15	0.05	0.99	
Di-n-octylphthalate			1.1652	1.2657	1.2934	1.3036	1.3260	1.3088	1.3210	AVRG	R		0.77919		1.2834	4	15	0.05	0.99	
Benzo(b)fluoranthene	1.0844	1.1430	1.1736	1.2524	1.2457	1.2818	1.2908	1.3206	1.3598	AVRG	R		0.80702		1.2391	7	15	0.05	0.99	
Benzo(k)fluoranthene	1.0542	1.1131	1.1719	1.1921	1.2135	1.1817	1.1775	1.1353	1.1047	AVRG	R		0.87007		1.1493	4	15	0.05	0.99	
Benzo(a)pyrene	0.9569	1.0678	1.1214	1.1776	1.1956	1.2093	1.2277	1.2174	1.2237	AVRG	R		0.86560		1.1553	8	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0160	1.1229	1.2039	1.2762	1.3054	1.3080	1.3166	1.2958	1.2832	AVRG	R		0.80876		1.2365	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8837	0.9658	1.0289	1.0944	1.1136	1.1223	1.1402	1.1206	1.1125	AVRG	R		0.93925		1.0647	8	15	0.05	0.99	
Benzo(g,h,i)perylene	0.8921	0.9244	0.9713	1.0246	1.0606	1.0694	1.0746	1.0563	1.0523	AVRG	R		0.98624		1.0140	7	15	0.05	0.99	
2-Fluorophenol	1.0257	1.1469	1.2395	1.2931	1.3290	1.3239	1.3693	1.3701	1.3834	AVRG	R		0.78391		1.2757	9	15	0.05	0.99	
Phenol-d5	1.4054	1.4686	1.5137	1.5267	1.5119	1.4763	1.4408	1.4399	1.4718	AVRG	R		0.67898		1.4728	3	15	0.05	0.99	
Nitrobenzene-d5	0.3586	0.3765	0.3968	0.4130	0.4093	0.3957	0.3896	0.3912	0.3920	AVRG	R		2.55493		0.3914	4	15	0.05	0.99	
2-Fluorobiphenyl	1.5294	1.6444	1.6680	1.7518	1.7527	1.7449	1.7349	1.6847	1.6897	AVRG	R		0.59208		1.6889	4	15	0.05	0.99	
2,4,6-Tribromophenol	0.1717	0.1986	0.2123	0.2254	0.2281	0.2361	0.2412	0.2433	0.2488	AVRG	R		4.48788		0.2228	11	15	0.05	0.99	
Terphenyl-d14	0.9757	1.0232	1.0322	1.0686	1.0835	1.0838	1.0509	1.0429	1.0262	AVRG	R		0.95877		1.0430	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-8	20.000	0	32.000	1	40.000	2	50.000	0	80.000	1	100.00	2	120.00	1
Phenol			10.000	-5	20.000	-1	32.000	4	40.000	2	50.000	0	80.000	-1	100.00	-1	120.00	2
bis(2-Chloroethyl)ether			10.000	6	20.000	6	32.000	6	40.000	4	50.000	1	80.000	-5	100.00	-8	120.00	-10
2-Chlorophenol			10.000	-1	20.000	2	32.000	4	40.000	3	50.000	2	80.000	-1	100.00	-4	120.00	-6
1,3-Dichlorobenzene			10.000	-1	20.000	2	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-2	120.00	-3
1,4-Dichlorobenzene			10.000	1	20.000	2	32.000	3	40.000	2	50.000	1	80.000	-1	100.00	-2	120.00	-5
Benzyl alcohol			10.000	-4	20.000	-5	32.000	-14	40.000	-13	50.000	-5	80.000	19	100.00	**22**		
1,2-Dichlorobenzene			10.000	1	20.000	2	32.000	3	40.000	2	50.000	2	80.000	-1	100.00	-4	120.00	-5
2-Methylphenol			10.000	6	20.000	4	32.000	1	40.000	-5	50.000	-6	80.000	-3	100.00	0	120.00	4
bis(2-Chloroisopropyl) ether			10.000	10	20.000	9	32.000	7	40.000	4	50.000	-3	80.000	-10	100.00	-10	120.00	-7
4-Methylphenol			10.000	-2	20.000	-6	32.000	-11	40.000	-11	50.000	-7	80.000	9	100.00	12	120.00	15
N-Nitroso-di-n-propylamine			10.000	**28**	20.000	-7	32.000	-5	40.000	-1	50.000	-1	80.000	1	100.00	0		
Hexachloroethane			10.000	-1	20.000	0	32.000	2	40.000	2	50.000	1	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	-3	20.000	-1	32.000	4	40.000	2	50.000	0	80.000	0	100.00	-1	120.00	0
Isophorone			10.000	**-24**	20.000	-11	32.000	4	40.000	11	50.000	14	80.000	7	100.00	1	120.00	-3
2-Nitrophenol					20.000	-7	32.000	-6	40.000	-5	50.000	1	80.000	8	100.00	7	120.00	2
2,4-Dimethylphenol			10.000	-15	20.000	-18	32.000	-6	40.000	3	50.000	13	80.000	13	100.00	8	120.00	3
bis(2-Chloroethoxy)methane					10.000	-18	16.000	-9	20.000	1	25.000	12	40.000	6	50.000	0	60.000	-4
Benzoic acid			50.000	2	60.000	-1	80.000	-2	90.000	-1	100.00	5	120.00	0	130.00	-1	140.00	0
2,4-Dichlorophenol			10.000	-9	20.000	-10	32.000	-4	40.000	2	50.000	9	80.000	8	100.00	4	120.00	-1
1,2,4-Trichlorobenzene			10.000	2	20.000	6	32.000	11	40.000	11	50.000	6	80.000	-6	100.00	-13	120.00	-15
Naphthalene	2.0000	-2	5.0000	-2	10.000	-2	16.000	1	20.000	0	25.000	1	40.000	2	50.000	1	60.000	0
4-Chloroaniline			10.000	**-25**	20.000	-17	32.000	-1	40.000	8	50.000	12	80.000	2	100.00	-4		
Hexachlorobutadiene			10.000	2	20.000	6	32.000	12	40.000	13	50.000	10	80.000	-8	100.00	-15	120.00	-19
4-Chloro-3-methylphenol			10.000	-17	20.000	-7	32.000	5	40.000	12	50.000	13	80.000	4	100.00	-2	120.00	-8
2-Methylnaphthalene	2.0000	-20	5.0000	**-25**	10.000	**-24**	16.000	-3	20.000	7	25.000	14	40.000	6	50.000	1	60.000	-5
Hexachlorocyclopentadiene					20.000	-19	32.000	-12	40.000	-7	50.000	3	80.000	13	100.00	11	120.00	12
2,4,6-Trichlorophenol			10.000	-9	20.000	-2	32.000	3	40.000	3	50.000	2	80.000	3	100.00	-1	120.00	1
2,4,5-Trichlorophenol			10.000	-3	20.000	-2	32.000	4	40.000	3	50.000	4	80.000	0	100.00	-2	120.00	-5
2-Chloronaphthalene					10.000	-5	16.000	1	20.000	2	25.000	1	40.000	2	50.000	0	60.000	0
2-Nitroaniline					20.000	-5	32.000	0	40.000	0	50.000	-1	80.000	2	100.00	2	120.00	2
Dimethylphthalate			10.000	-1	20.000	-1	32.000	3	40.000	2	50.000	2	80.000	1	100.00	-3	120.00	-2
2,6-Dinitrotoluene			10.000	-4	20.000	-3	32.000	1	40.000	2	50.000	2	80.000	2	100.00	-1	120.00	1
Acenaphthylene	2.0000	-6	5.0000	-3	10.000	-1	16.000	3	20.000	2	25.000	4	40.000	2	50.000	0	60.000	-1
3-Nitroaniline					20.000	-7	32.000	-3	40.000	-2	50.000	1	80.000	4	100.00	3	120.00	4
Acenaphthene	2.0000	-2	5.0000	-1	10.000	-1	16.000	4	20.000	2	25.000	2	40.000	1	50.000	-3	60.000	-3
2,4-Dinitrophenol					20.000	3	32.000	0	40.000	-2	50.000	1	80.000	1	100.00	-1	120.00	0
4-Nitrophenol					20.000	-11	32.000	-2	40.000	-1	50.000	3	80.000	5	100.00	2	120.00	4
Dibenzofuran					10.000	2	16.000	5	20.000	4	25.000	3	40.000	-1	50.000	-6	60.000	-7
2,4-Dinitrotoluene			10.000	-3	20.000	1	32.000	5	40.000	4	50.000	3	80.000	0	100.00	-5	120.00	-4
Diethylphthalate					10.000	-2	16.000	1	20.000	1	25.000	1	40.000	1	50.000	-1	60.000	-1
Fluorene	2.0000	0	5.0000	1	10.000	1	16.000	3	20.000	4	25.000	1	40.000	-1	50.000	-4	60.000	-5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-1	16.000	3	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-3
4-Nitroaniline					20.000	-11	32.000	-4	40.000	-2	50.000	0	80.000	4	100.00	9	120.00	4
4,6-Dinitro-2-methylphenol					20.000	-11	32.000	-3	40.000	0	50.000	3	80.000	5	100.00	5	120.00	2
N-Nitrosodiphenylamine					10.000	-2	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-1	60.000	-2
Azobenzene					10.000	-3	16.000	0	20.000	0	25.000	1	40.000	0	50.000	2	60.000	0
4-Bromophenyl-phenylether					10.000	-3	16.000	0	20.000	1	25.000	1	40.000	0	50.000	1	60.000	0
Hexachlorobenzene			10.000	-3	20.000	-2	32.000	1	40.000	2	50.000	3	80.000	2	100.00	-1	120.00	-3
Pentachlorophenol					20.000	-15	32.000	-4	40.000	0	50.000	2	80.000	5	100.00	5	120.00	6
Phenanthrene	2.0000	0	5.0000	-1	10.000	0	16.000	3	20.000	3	25.000	2	40.000	-1	50.000	-1	60.000	-3
Anthracene	2.0000	-4	5.0000	-1	10.000	0	16.000	5	20.000	3	25.000	3	40.000	0	50.000	-3	60.000	-3
Di-n-butylphthalate					10.000	-4	16.000	0	20.000	1	25.000	2	40.000	2	50.000	3	60.000	-5
Fluoranthene	2.0000	-6	5.0000	-3	10.000	-1	16.000	3	20.000	3	25.000	2	40.000	2	50.000	2	60.000	-3
Pyrene	2.0000	-7	5.0000	-2	10.000	0	16.000	3	20.000	3	25.000	3	40.000	1	50.000	1	60.000	-2
Butylbenzylphthalate					10.000	-6	16.000	-1	20.000	1	25.000	2	40.000	1	50.000	1	60.000	1
3,3'-Dichlorobenzidine					20.000	-10	32.000	-1	40.000	1	50.000	4	80.000	4	100.00	2	120.00	1
Benzo(a)anthracene	2.0000	-3	5.0000	0	10.000	0	16.000	2	20.000	2	25.000	2	40.000	1	50.000	-2	60.000	-3
bis(2-Ethylhexyl)phthalate					10.000	-2	16.000	2	20.000	3	25.000	4	40.000	1	50.000	-3	60.000	-5
Chrysene	2.0000	-3	5.0000	-4	10.000	-1	16.000	2	20.000	3	25.000	2	40.000	1	50.000	0	60.000	0
Di-n-octylphthalate					10.000	-9	16.000	-1	20.000	1	25.000	2	40.000	3	50.000	2	60.000	3
Benzo(b)fluoranthene	2.0000	-12	5.0000	-8	10.000	-5	16.000	1	20.000	1	25.000	3	40.000	4	50.000	7	60.000	10
Benzo(k)fluoranthene	2.0000	-8	5.0000	-3	10.000	2	16.000	4	20.000	6	25.000	3	40.000	2	50.000	-1	60.000	-4
Benzo(a)pyrene	2.0000	-17	5.0000	-8	10.000	-3	16.000	2	20.000	3	25.000	5	40.000	6	50.000	5	60.000	6
Indeno(1,2,3-cd)pyrene	2.0000	-18	5.0000	-9	10.000	-3	16.000	3	20.000	6	25.000	6	40.000	6	50.000	5	60.000	4
Dibenz(a,h)anthracene	2.0000	-17	5.0000	-9	10.000	-3	16.000	3	20.000	5	25.000	5	40.000	7	50.000	5	60.000	4
Benzo(g,h,i)perylene	2.0000	-12	5.0000	-9	10.000	-4	16.000	1	20.000	5	25.000	5	40.000	6	50.000	4	60.000	4
2-Fluorophenol	2.0000	-20	5.0000	-10	10.000	-3	16.000	1	20.000	4	25.000	4	40.000	7	50.000	7	60.000	8
Phenol-d5	2.0000	-5	5.0000	0	10.000	3	16.000	4	20.000	3	25.000	0	40.000	-2	50.000	-2	60.000	0
Nitrobenzene-d5	2.0000	-8	5.0000	-4	10.000	1	16.000	6	20.000	5	25.000	1	40.000	0	50.000	0	60.000	0
2-Fluorobiphenyl	2.0000	-9	5.0000	-3	10.000	-1	16.000	4	20.000	4	25.000	3	40.000	3	50.000	0	60.000	0
2,4,6-Tribromophenol	2.0000	**-23**	5.0000	-11	10.000	-5	16.000	1	20.000	2	25.000	6	40.000	8	50.000	9	60.000	12
Terphenyl-d14	2.0000	-6	5.0000	-2	10.000	-1	16.000	2	20.000	4	25.000	4	40.000	1	50.000	0	60.000	-2

NPM 02/11/15 [Aniline]: Picked or reassigned peak in all levels.

NPM 02/11/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 02/11/15 [3-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 02/11/15 [1,3-Dichlorobenzene]: Picked or reassigned peak in all levels.

NPM 02/11/15 [1,4-Dichlorobenzene]: Picked or reassigned peak in all levels.

KMH 03/11/15 : cut 1 loop to improve Di-n-octylphthalate

Analyst: NPM Date: 02/11/15 Reviewer: LW Date: 02/12/15

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

585053925002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA09 Name : 6PTBNA9
Calnum : 585053925002 Cal Date : 06-FEB-2015

ICV 585053925016 (rb616 06-FEB-2015) stds: S25418

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	37.54	ug/mL	-6	30	
Phenol	40.00	37.44	ug/mL	-6	20	
bis(2-Chloroethyl)ether	40.00	38.40	ug/mL	-4	30	
2-Chlorophenol	40.00	37.66	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	37.29	ug/mL	-7	30	
1,4-Dichlorobenzene	40.00	37.07	ug/mL	-7	20	
Benzyl alcohol	40.00	34.99	ug/mL	-13	30	
1,2-Dichlorobenzene	40.00	38.23	ug/mL	-4	30	
2-Methylphenol	40.00	36.34	ug/mL	-9	30	
bis(2-Chloroisopropyl) ether	40.00	38.47	ug/mL	-4	30	
4-Methylphenol	40.00	30.83	ug/mL	**-23**	30	!v-
N-Nitroso-di-n-propylamine	40.00	37.36	ug/mL	-7	30	
Hexachloroethane	40.00	37.20	ug/mL	-7	30	
Nitrobenzene	40.00	36.37	ug/mL	-9	30	
Isophorone	40.00	38.24	ug/mL	-4	30	
2-Nitrophenol	40.00	36.04	ug/mL	-10	20	
2,4-Dimethylphenol	40.00	38.84	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.72	ug/mL	-6	30	
Benzoic acid	100.0	92.55	ug/mL	-7	40	
2,4-Dichlorophenol	40.00	38.96	ug/mL	-3	20	
1,2,4-Trichlorobenzene	40.00	39.47	ug/mL	-1	30	
Naphthalene	40.00	36.57	ug/mL	-9	30	
4-Chloroaniline	40.00	39.85	ug/mL	0	30	
Hexachlorobutadiene	40.00	41.11	ug/mL	3	20	
4-Chloro-3-methylphenol	40.00	39.27	ug/mL	-2	20	
2-Methylnaphthalene	40.00	40.52	ug/mL	1	30	
Hexachlorocyclopentadiene	40.00	30.64	ug/mL	**-23**	40	!v-
2,4,6-Trichlorophenol	40.00	32.88	ug/mL	-18	20	
2,4,5-Trichlorophenol	40.00	33.40	ug/mL	-17	30	
2-Chloronaphthalene	40.00	33.02	ug/mL	-17	30	
2-Nitroaniline	40.00	32.33	ug/mL	-19	30	
Dimethylphthalate	40.00	33.35	ug/mL	-17	30	
2,6-Dinitrotoluene	40.00	34.01	ug/mL	-15	30	
Acenaphthylene	40.00	32.98	ug/mL	-18	30	
3-Nitroaniline	40.00	33.47	ug/mL	-16	30	m
Acenaphthene	40.00	33.32	ug/mL	-17	20	
2,4-Dinitrophenol	40.00	34.46	ug/mL	-14	40	
4-Nitrophenol	40.00	32.45	ug/mL	-19	40	
Dibenzofuran	40.00	33.82	ug/mL	-15	30	
2,4-Dinitrotoluene	40.00	34.15	ug/mL	-15	30	
Diethylphthalate	40.00	32.08	ug/mL	-20	30	
Fluorene	40.00	32.20	ug/mL	-19	30	
4-Chlorophenyl-phenylether	40.00	32.42	ug/mL	-19	40	
4-Nitroaniline	40.00	32.97	ug/mL	-18	30	
4,6-Dinitro-2-methylphenol	40.00	36.12	ug/mL	-10	30	
N-Nitrosodiphenylamine	40.00	42.07	ug/mL	5	20	
Azobenzene	40.00	36.56	ug/mL	-9	30	
4-Bromophenyl-phenylether	40.00	36.69	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.17	ug/mL	-7	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	34.37	ug/mL	-14	20	
Phenanthrene	40.00	36.47	ug/mL	-9	30	
Anthracene	40.00	37.06	ug/mL	-7	30	
Di-n-butylphthalate	40.00	36.61	ug/mL	-8	30	
Fluoranthene	40.00	36.87	ug/mL	-8	20	
Pyrene	40.00	32.94	ug/mL	-18	30	
Butylbenzylphthalate	40.00	35.89	ug/mL	-10	30	
3,3'-Dichlorobenzidine	60.00	53.07	ug/mL	-12	40	
Benzo(a)anthracene	40.00	35.55	ug/mL	-11	30	
bis(2-Ethylhexyl)phthalate	40.00	34.88	ug/mL	-13	30	
Chrysene	40.00	33.37	ug/mL	-17	30	
Di-n-octylphthalate	40.00	35.91	ug/mL	-10	20	
Benzo(b)fluoranthene	40.00	37.06	ug/mL	-7	30	
Benzo(k)fluoranthene	40.00	38.74	ug/mL	-3	30	
Benzo(a)pyrene	40.00	37.46	ug/mL	-6	20	
Indeno(1,2,3-cd)pyrene	40.00	36.41	ug/mL	-9	30	
Dibenz(a,h)anthracene	40.00	36.65	ug/mL	-8	30	
Benzo(g,h,i)perylene	40.00	35.57	ug/mL	-11	30	

Analyst: NPM Date: 02/11/15 Reviewer: LW Date: 02/12/15

!=warning -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA06 IDF : 1.0
Seqnum : 555182096003 File : ye603 Time : 06-MAY-2015 11:47
Cal : 555120229001 Caldate : 24-MAR-2015
Standards: S26477

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	1.4908	1.2926	32.00	27.75	ug/mL	-13	30	0.0500	
Phenol	1.9445	1.9251	32.00	31.68	ug/mL	-1	20	0.0500	
bis(2-Chloroethyl)ether	1.3230	1.3098	32.00	31.68	ug/mL	-1	30	0.0500	
2-Chlorophenol	1.3741	1.3559	32.00	31.58	ug/mL	-1	30	0.0500	
1,3-Dichlorobenzene	1.5624	1.5540	32.00	31.83	ug/mL	-1	30	0.0500	
1,4-Dichlorobenzene	1.4134	1.4370	32.00	32.53	ug/mL	2	20	0.0500	
Benzyl alcohol	0.8668	0.8254	32.00	30.47	ug/mL	-5	30	0.0500	
1,2-Dichlorobenzene	1.3361	1.3223	32.00	31.67	ug/mL	-1	30	0.0500	
2-Methylphenol	0.9875	0.9584	32.00	31.05	ug/mL	-3	30	0.0500	
bis(2-Chloroisopropyl) ether	2.0533	1.8328	32.00	28.56	ug/mL	-11	30	0.0500	
4-Methylphenol	1.5012	1.4619	32.00	31.16	ug/mL	-3	30	0.0500	
N-Nitroso-di-n-propylamine	0.8217	0.7846	32.00	30.56	ug/mL	-5	30	0.0500	
Hexachloroethane	0.6422	0.6280	32.00	31.29	ug/mL	-2	30	0.0500	
Nitrobenzene	0.4379	0.4275	32.00	31.24	ug/mL	-2	30	0.0500	
Isophorone	0.8618	0.8298	32.00	30.81	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2096	0.2122	32.00	32.38	ug/mL	1	20	0.0500	
2,4-Dimethylphenol	0.4025	0.3995	32.00	31.76	ug/mL	-1	30	0.0500	
bis(2-Chloroethoxy)methane	0.4534	0.4365	16.00	15.41	ug/mL	-4	30	0.0500	
Benzoic acid	0.2980	0.1962	80.00	52.68	ug/mL	**-34**	40	0.0500	!c-
2,4-Dichlorophenol	0.3437	0.3600	32.00	33.52	ug/mL	5	20	0.0500	
1,2,4-Trichlorobenzene	0.4130	0.4280	32.00	33.17	ug/mL	4	30	0.0500	
Naphthalene	0.9959	0.9720	16.00	15.62	ug/mL	-2	30	0.0500	
4-Chloroaniline	0.4175	0.4307	32.00	32.50	ug/mL	2	30	0.0500	
Hexachlorobutadiene	0.2660	0.2846	32.00	34.25	ug/mL	7	20	0.0500	
4-Chloro-3-methylphenol	0.3785	0.3843	32.00	32.49	ug/mL	2	20	0.0500	
2-Methylnaphthalene	0.7917	0.8002	16.00	16.17	ug/mL	1	30	0.0500	
Hexachlorocyclopentadiene	0.4535	0.3992	32.00	28.17	ug/mL	-12	40	0.0500	
2,4,6-Trichlorophenol	0.5195	0.5212	32.00	32.10	ug/mL	0	20	0.0500	
2,4,5-Trichlorophenol	0.5227	0.5268	32.00	32.25	ug/mL	1	30	0.0500	
2-Chloronaphthalene	1.2940	1.2611	16.00	15.59	ug/mL	-3	30	0.0500	
2-Nitroaniline	0.4715	0.4315	32.00	29.29	ug/mL	-8	30	0.0500	
Dimethylphthalate	1.5682	1.5736	32.00	32.11	ug/mL	0	30	0.0500	
2,6-Dinitrotoluene	0.3509	0.3518	32.00	32.08	ug/mL	0	30	0.0500	
Acenaphthylene	2.0263	1.9957	16.00	15.76	ug/mL	-2	30	0.0500	
3-Nitroaniline	0.3567	0.3277	32.00	29.40	ug/mL	-8	30	0.0500	
Acenaphthene	1.1114	1.0771	16.00	15.51	ug/mL	-3	20	0.0500	
2,4-Dinitrophenol	0.2013	0.1036	32.00	24.55	ug/mL	**-23**	40	0.0500	!c-
4-Nitrophenol	0.2615	0.2346	32.00	28.71	ug/mL	-10	40	0.0500	
Dibenzofuran	1.7330	1.7513	16.00	16.17	ug/mL	1	30	0.0500	
2,4-Dinitrotoluene	0.4589	0.4552	32.00	31.75	ug/mL	-1	30	0.0500	
Diethylphthalate	1.6100	1.5943	16.00	15.84	ug/mL	-1	30	0.0500	
Fluorene	1.5373	1.5201	16.00	15.82	ug/mL	-1	30	0.0500	
4-Chlorophenyl-phenylether	0.8974	0.8924	16.00	15.91	ug/mL	-1	40	0.0500	
4-Nitroaniline	0.3219	0.2762	32.00	27.46	ug/mL	-14	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1345	0.1110	32.00	26.41	ug/mL	-17	30	0.0500	
N-Nitrosodiphenylamine	0.4995	0.5038	16.00	16.14	ug/mL	1	20	0.0500	
Azobenzene	0.7102	0.6868	16.00	15.47	ug/mL	-3	30	0.0500	
4-Bromophenyl-phenylether	0.2631	0.2721	16.00	16.55	ug/mL	3	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2558	0.2784	32.00	34.84	ug/mL	9	30	0.0500	
Pentachlorophenol	0.1892	0.1640	32.00	27.73	ug/mL	-13	20	0.0500	
Phenanthrene	0.9724	0.9740	16.00	16.03	ug/mL	0	30	0.0500	
Anthracene	1.0075	0.9962	16.00	15.82	ug/mL	-1	30	0.0500	
Di-n-butylphthalate	1.3465	1.3629	16.00	16.20	ug/mL	1	30	0.0500	
Fluoranthene	1.4832	1.4915	16.00	16.09	ug/mL	1	20	0.0500	
Pyrene	1.4953	1.5268	16.00	16.34	ug/mL	2	30	0.0500	
Butylbenzylphthalate	0.6762	0.6528	16.00	15.45	ug/mL	-3	30	0.0500	
3,3'-Dichlorobenzidine	0.5388	0.5656	32.00	33.59	ug/mL	5	40	0.0500	
Benzo(a)anthracene	1.2478	1.2330	16.00	15.81	ug/mL	-1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.8203	0.8745	16.00	17.06	ug/mL	7	30	0.0500	
Chrysene	1.1047	1.0777	16.00	15.61	ug/mL	-2	30	0.0500	
Di-n-octylphthalate	1.5226	1.5062	16.00	15.83	ug/mL	-1	20	0.0500	
Benzo(b)fluoranthene	1.3503	1.3315	16.00	15.78	ug/mL	-1	30	0.0500	
Benzo(k)fluoranthene	1.1285	1.1781	16.00	16.70	ug/mL	4	30	0.0500	
Benzo(a)pyrene	1.2719	1.2706	16.00	15.98	ug/mL	0	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3830	1.3598	16.00	15.73	ug/mL	-2	30	0.0500	
Dibenz(a,h)anthracene	1.0673	1.0798	16.00	16.19	ug/mL	1	30	0.0500	
Benzo(g,h,i)perylene	1.0854	1.0772	16.00	15.88	ug/mL	-1	30	0.0500	
2-Fluorophenol	1.6585	1.5999	16.00	15.43	ug/mL	-4	30	0.0500	
Phenol-d5	2.0836	2.0402	16.00	15.67	ug/mL	-2	30	0.0500	
Nitrobenzene-d5	0.5150	0.4894	16.00	15.20	ug/mL	-5	30	0.0500	
2-Fluorobiphenyl	1.6233	1.6195	16.00	15.96	ug/mL	0	30	0.0500	
2,4,6-Tribromophenol	0.2824	0.2808	16.00	15.91	ug/mL	-1	30	0.0500	
Terphenyl-d14	1.1429	1.1947	16.00	16.72	ug/mL	5	30	0.0500	

KMH 05/06/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

!=warning -=low bias c=CCV

555182096003

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSBNA Water
EPA 8270C

Inst : MSBNA09 IDF : 1.0
Seqnum : 585180755009 File : re509 Time : 05-MAY-2015 17:16
Cal : 585053925002 Caldate : 06-FEB-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.6143	0.7678	40.00	50.00	ug/mL	**25**	30	0.0500	!c+
Phenol	1.4887	1.7040	40.00	45.79	ug/mL	14	20	0.0500	
bis(2-Chloroethyl)ether	1.1557	1.2127	40.00	41.97	ug/mL	5	30	0.0500	
2-Chlorophenol	1.3624	1.3624	40.00	40.00	ug/mL	0	30	0.0500	
1,3-Dichlorobenzene	1.5713	1.5753	40.00	40.10	ug/mL	0	30	0.0500	
1,4-Dichlorobenzene	1.5932	1.6481	40.00	41.38	ug/mL	3	20	0.0500	
Benzyl alcohol	0.7552	0.8332	40.00	44.13	ug/mL	10	30	0.0500	
1,2-Dichlorobenzene	1.4539	1.4815	40.00	40.76	ug/mL	2	30	0.0500	
2-Methylphenol	0.9755	1.0640	40.00	43.63	ug/mL	9	30	0.0500	
bis(2-Chloroisopropyl) ether	1.3341	1.4722	40.00	44.14	ug/mL	10	30	0.0500	
4-Methylphenol	1.4417	1.6378	40.00	45.44	ug/mL	14	30	0.0500	!v-
N-Nitroso-di-n-propylamine	0.7671	1.0155	40.00	47.78	ug/mL	19	30	0.0500	
Hexachloroethane	0.5683	0.6196	40.00	43.61	ug/mL	9	30	0.0500	
Nitrobenzene	0.3530	0.3760	40.00	42.60	ug/mL	7	30	0.0500	
Isophorone	0.8127	0.7413	40.00	36.49	ug/mL	-9	30	0.0500	
2-Nitrophenol	0.2060	0.1933	40.00	37.55	ug/mL	-6	20	0.0500	
2,4-Dimethylphenol	0.3866	0.3663	40.00	37.91	ug/mL	-5	30	0.0500	
bis(2-Chloroethoxy)methane	0.4339	0.3918	20.00	18.14	ug/mL	-9	30	0.0500	
Benzoic acid	0.2644	0.1888	90.00	66.56	ug/mL	**-26**	40	0.0500	!c-
2,4-Dichlorophenol	0.3349	0.3146	40.00	37.58	ug/mL	-6	20	0.0500	
1,2,4-Trichlorobenzene	0.3523	0.3558	40.00	40.39	ug/mL	1	30	0.0500	
Naphthalene	1.0718	0.9773	20.00	18.24	ug/mL	-9	30	0.0500	
4-Chloroaniline	0.5086	0.4596	40.00	34.35	ug/mL	-14	30	0.0500	
Hexachlorobutadiene	0.2042	0.2213	40.00	43.35	ug/mL	8	20	0.0500	
4-Chloro-3-methylphenol	0.4028	0.3616	40.00	35.91	ug/mL	-10	20	0.0500	
2-Methylnaphthalene	0.7963	0.7312	20.00	17.15	ug/mL	-14	30	0.0500	
Hexachlorocyclopentadiene	0.3838	0.4101	40.00	42.75	ug/mL	7	40	0.0500	!v-
2,4,6-Trichlorophenol	0.4350	0.4411	40.00	40.56	ug/mL	1	20	0.0500	
2,4,5-Trichlorophenol	0.4654	0.4794	40.00	41.21	ug/mL	3	30	0.0500	
2-Chloronaphthalene	1.2724	1.2122	20.00	19.05	ug/mL	-5	30	0.0500	
2-Nitroaniline	0.3700	0.4144	40.00	44.80	ug/mL	12	30	0.0500	
Dimethylphthalate	1.4964	1.5842	40.00	42.35	ug/mL	6	30	0.0500	
2,6-Dinitrotoluene	0.3593	0.3569	40.00	39.73	ug/mL	-1	30	0.0500	
Acenaphthylene	2.1015	1.9272	20.00	18.34	ug/mL	-8	30	0.0500	
3-Nitroaniline	0.3693	0.3534	40.00	38.27	ug/mL	-4	30	0.0500	
Acenaphthene	1.2466	1.1262	20.00	18.07	ug/mL	-10	20	0.0500	
2,4-Dinitrophenol	0.2246	0.1467	40.00	29.94	ug/mL	**-25**	40	0.0500	!c-
4-Nitrophenol	0.1687	0.2070	40.00	49.10	ug/mL	**23**	40	0.0500	!c+
Dibenzofuran	1.8442	1.8701	20.00	20.28	ug/mL	1	30	0.0500	
2,4-Dinitrotoluene	0.4732	0.5194	40.00	43.91	ug/mL	10	30	0.0500	
Diethylphthalate	1.4948	1.5876	20.00	21.24	ug/mL	6	30	0.0500	
Fluorene	1.5586	1.5947	20.00	20.46	ug/mL	2	30	0.0500	
4-Chlorophenyl-phenylether	0.7828	0.8219	20.00	21.00	ug/mL	5	40	0.0500	
4-Nitroaniline	0.3752	0.3405	40.00	36.30	ug/mL	-9	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1644	0.1382	40.00	33.63	ug/mL	-16	30	0.0500	
N-Nitrosodiphenylamine	0.5976	0.5450	20.00	18.24	ug/mL	-9	20	0.0500	
Azobenzene	0.6931	0.7342	20.00	21.19	ug/mL	6	30	0.0500	
4-Bromophenyl-phenylether	0.2489	0.2221	20.00	17.84	ug/mL	-11	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2534	0.2619	40.00	41.34	ug/mL	3	30	0.0500	
Pentachlorophenol	0.1756	0.1485	40.00	33.83	ug/mL	-15	20	0.0500	
Phenanthrene	1.1311	1.0722	20.00	18.96	ug/mL	-5	30	0.0500	
Anthracene	1.1468	1.0999	20.00	19.18	ug/mL	-4	30	0.0500	
Di-n-butylphthalate	1.2737	1.3334	20.00	20.94	ug/mL	5	30	0.0500	
Fluoranthene	1.2872	1.2552	20.00	19.50	ug/mL	-2	20	0.0500	
Pyrene	1.2738	1.1807	20.00	18.54	ug/mL	-7	30	0.0500	
Butylbenzylphthalate	0.5013	0.5019	20.00	20.02	ug/mL	0	30	0.0500	
3,3'-Dichlorobenzidine	0.4545	0.4686	40.00	41.25	ug/mL	3	40	0.0500	
Benzo(a)anthracene	1.1736	1.1929	20.00	20.33	ug/mL	2	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.7038	0.8097	20.00	23.01	ug/mL	15	30	0.0500	
Chrysene	1.1147	1.0730	20.00	19.25	ug/mL	-4	30	0.0500	
Di-n-octylphthalate	1.2834	1.4472	20.00	22.55	ug/mL	13	20	0.0500	
Benzo(b)fluoranthene	1.2391	1.2336	20.00	19.91	ug/mL	0	30	0.0500	
Benzo(k)fluoranthene	1.1493	1.1632	20.00	20.24	ug/mL	1	30	0.0500	
Benzo(a)pyrene	1.1553	1.1714	20.00	20.28	ug/mL	1	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2365	1.2433	20.00	20.11	ug/mL	1	30	0.0500	
Dibenz(a,h)anthracene	1.0647	1.0291	20.00	19.33	ug/mL	-3	30	0.0500	
Benzo(g,h,i)perylene	1.0140	1.0024	20.00	19.77	ug/mL	-1	30	0.0500	
2-Fluorophenol	1.2757	1.1820	20.00	18.53	ug/mL	-7	30	0.0500	
Phenol-d5	1.4728	1.5228	20.00	20.68	ug/mL	3	30	0.0500	
Nitrobenzene-d5	0.3914	0.4077	20.00	20.83	ug/mL	4	30	0.0500	
2-Fluorobiphenyl	1.6889	1.6189	20.00	19.17	ug/mL	-4	30	0.0500	
2,4,6-Tribromophenol	0.2228	0.2347	20.00	21.06	ug/mL	5	30	0.0500	
Terphenyl-d14	1.0430	0.9943	20.00	19.07	ug/mL	-5	30	0.0500	

NPM 05/05/15 [Aniline]: Picked or reassigned peak.

Analyst: NPM Date: 05/05/15 Reviewer: LW Date: 05/06/15

!=warning +=high bias -=low bias c=CCV v=ICV

585180755009

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 555182096

Date : 05/06/15
Sequence : MSBNA06 ye6

Reference : ye603
Analyzed : 05/06/15 11:47

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	447781	6.07	1453835	7.57	886708	9.72	1923461	11.57	1898776	14.98	2012590	17.87
		LOWER LIMIT	223891	5.57	726918	7.07	443354	9.22	961731	11.07	949388	14.48	1006295	17.37
		UPPER LIMIT	895562	6.57	2907670	8.07	1773416	10.22	3846922	12.07	3797552	15.48	4025180	18.37
003	CCV		447781	6.07	1453835	7.57	886708	9.72	1923461	11.57	1898776	14.98	2012590	17.87
004	MS	QC786535	393751	6.08	1361636	7.57	844344	9.72	1796176	11.58	1769472	14.98	1727299	17.88
005	MSD	QC786536	414258	6.08	1369177	7.57	869175	9.72	1836978	11.58	1725905	14.98	1832227	17.87
006	SAMPLE	266501-001	512456	6.07	1763468	7.56	991406	9.72	1982704	11.57	2085421	14.97	2199656	17.87
007	SAMPLE	266501-002	510098	6.07	1731511	7.56	979683	9.72	2018853	11.57	2127878	14.97	2176597	17.87
008	SAMPLE	266511-021	481999	6.08	1722989	7.56	981412	9.72	1913357	11.57	1891626	14.97	1739372	17.88
009	SAMPLE	266525-015	412036	6.07	1410485	7.56	1001584	9.72	1972181	11.57	1623475	14.99	1720272	17.87
010	SAMPLE	266525-017	621255	6.07	1244895	7.58	1031852	9.72	2191929	11.57	1754751	14.98	1895221	17.87
011	SAMPLE	266525-018	548412	6.07	1348235	7.57	1058058	9.72	2231702	11.57	1801116	14.98	2018728	17.87
012	SAMPLE	266507-005	590395	6.07	1814315	7.56	961054	9.72	1867223	11.57	1866431	14.98	1878544	17.87
013	SAMPLE	266525-029	452159	6.07	1523854	7.56	1014373	9.72	2091526	11.57	2159226	14.97	2058965	17.87
014	SAMPLE	266525-011	600667	6.07	1911553	7.56	1064891	9.72	2080590	11.57	2083089	14.97	1895706	17.87
015	SAMPLE	266525-010	596230	6.07	1805530	7.56	1042048	9.72	2071319	11.57	1890263	14.97	1759217	17.87
016	SAMPLE	266511-005	551629	6.07	1867421	7.56	1046550	9.72	1990052	11.58	2076259	14.98	1944692	17.88
017	SAMPLE	266511-008	517364	6.07	1798214	7.56	974123	9.72	1888080	11.58	2006705	14.98	1876503	17.88
018	SAMPLE	266511-009	532250	6.07	1804399	7.56	975381	9.72	1910479	11.58	1970303	14.98	1854425	17.88
019	SAMPLE	266578-001	432732	6.07	1336152	7.56	808939	9.72	1838149	11.58	2038118	14.97	1775650	17.87
020	SAMPLE	266525-017	584759	6.07	1477009	7.56	1016185	9.72	2087056	11.57	1829612	14.97	1866809	17.87
021	SAMPLE	266525-018	555288	6.07	1497483	7.56	1004260	9.72	2081586	11.57	1787663	14.97	1842468	17.87

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 585180755

Date : 05/05/15 Reference : re509
Sequence : MSBNA09 re5 Analyzed : 05/05/15 17:16

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	542866	5.63	2034293	7.10	1218485	9.25	2526160	11.08	2963704	14.37	2456219	16.83
		LOWER LIMIT	271433	5.13	1017147	6.60	609243	8.75	1263080	10.58	1481852	13.87	1228110	16.33
		UPPER LIMIT	1085732	6.13	4068586	7.60	2436970	9.75	5052320	11.58	5927408	14.87	4912438	17.33
009	CCV		542866	5.63	2034293	7.10	1218485	9.25	2526160	11.08	2963704	14.37	2456219	16.83
010	BLANK	QC786555	531873	5.63	2100805	7.10	1189174	9.24	2306177	11.08	2848461	14.37	2589747	16.83
011	BS	QC786556	518264	5.63	1969913	7.10	1173417	9.25	2455127	11.08	2961137	14.37	2579298	16.83
012	BSD	QC786557	528366	5.63	2003327	7.10	1208951	9.25	2506265	11.08	3068496	14.37	2640555	16.83
013	SAMPLE	266511-001	550100	5.63	2135469	7.10	1187198	9.24	2342224	11.08	2899388	14.37	2561134	16.83
014	SAMPLE	266514-004	528362	5.63	2052333	7.10	1154389	9.24	2280784	11.08	2830646	14.36	2573731	16.83
015	SAMPLE	266514-006	543229	5.63	2113756	7.10	1172757	9.24	2308634	11.08	2913957	14.37	2567250	16.83
016	SAMPLE	266525-026	535757	5.63	2083575	7.10	1175574	9.24	2265135	11.08	2807004	14.36	2498982	16.83
017	SAMPLE	266511-002	550183	5.63	2133672	7.10	1245007	9.24	2565030	11.07	2963281	14.37	2709281	16.83
018	SAMPLE	266511-003	565681	5.63	2204795	7.10	1259395	9.24	2592946	11.08	3009015	14.37	2739145	16.83
019	SAMPLE	266511-007	592969	5.63	2275015	7.10	1312027	9.24	2693450	11.08	3058907	14.37	2535478	16.83
020	SAMPLE	266525-028	568265	5.63	2156257	7.10	1245392	9.24	2550161	11.08	2922077	14.37	2198502	16.83
021	SAMPLE	266511-006	593768	5.63	2324637	7.10	1359302	9.24	2765036	11.08	3047421	14.37	2183206	16.83
022	SAMPLE	266525-030	580532	5.63	2275639	7.10	1284376	9.24	2661360	11.08	2908970	14.37	2170184	16.83
023	SAMPLE	266525-027	596191	5.63	2321183	7.10	1349302	9.24	2787063	11.08	3096592	14.37	2345276	16.83
024	SAMPLE	266525-029	557206	5.65	2084979	7.11	1283121	9.24	2723910	11.08	2935290	14.37	1363681	16.83
025	SAMPLE	266507-001	520602	5.63	1997061	7.10	1195557	9.24	2453973	11.08	2604750	14.37	2018232	16.83
026	SAMPLE	266511-017	529380	5.63	1952733	7.10	1161038	9.24	2286444	11.08	2514110	14.36	1847545	16.83
027	SAMPLE	266511-025	524946	5.63	2043171	7.10	1167212	9.24	2343043	11.08	2428585	14.37	1596711	16.83
028	SAMPLE	266511-015	522335	5.63	2030673	7.10	1139047	9.24	2331454	11.08	2356753	14.37	1597206	16.83

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555120229

Instrument : MSBNA06 Begun : 03/24/15 11:49
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yco01	IB	IB			03/24/15 11:49	1.0		?t
002	yco02	TUN	DFTPP			03/24/15 12:18	1.0	1	
003	yco03	CCV				03/24/15 12:38	1.0	2	cc+
004	yco04	TUN	DFTPP			03/24/15 13:15	1.0	1	t
005	yco05	TUN	DFTPP			03/24/15 13:30	1.0	1	
006	yco06	CCV				03/24/15 13:51	1.0	2	cc+
007	yco07	TUN	DFTPP			03/24/15 14:39	1.0	1	
008	yco08	CCV				03/24/15 14:57	1.0	2	cc+
009	yco09	TUN	DFTPP			03/24/15 15:50	1.0	1	
010	yco10	CCV				03/24/15 16:12	1.0	2	cc+
011	yco11	ICAL	ICAL			03/24/15 16:49	1.0	3	
012	yco12	ICAL	ICAL			03/24/15 17:25	1.0	4	
013	yco13	ICAL	ICAL			03/24/15 18:01	1.0	5	
014	yco14	ICAL	ICAL			03/24/15 18:37	1.0	6	
015	yco15	ICAL	ICAL			03/24/15 19:14	1.0	2	
016	yco16	ICAL	ICAL			03/24/15 19:50	1.0	7	
017	yco17	ICAL	ICAL			03/24/15 20:28	1.0	8	
018	yco18	ICAL	ICAL			03/24/15 21:07	1.0	9	
019	yco19	ICAL	ICAL			03/24/15 21:45	1.0	10	
020	yco20	ICV	ICV			03/24/15 22:23	1.0	11	

KMH 03/24/15 : tune adjusted after runs 3, 4 & 6. maint done after run 8

NPM 03/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S26170 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias ?t=missing tune cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555182096

Instrument : MSBNA06 Begun : 05/06/15 10:56
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ye601	IB	IB			05/06/15 10:56	1.0		?t
002	ye602	TUN	DFTPP			05/06/15 11:25	1.0	1	
003	ye603	CCV				05/06/15 11:47	1.0	2	
004	ye604	MS	QC786535	Soil	222836	05/06/15 12:28	2.0	3	
005	ye605	MSD	QC786536	Soil	222836	05/06/15 13:05	2.0	3	
006	ye606	SAMPLE	266501-001	Water	222841	05/06/15 13:44	1.0	3	
007	ye607	SAMPLE	266501-002	Water	222841	05/06/15 14:21	1.0	3	
008	ye608	SAMPLE	266511-021	Soil	222828	05/06/15 15:00	1.0	3	
009	ye609	SAMPLE	266525-015	Soil	222836	05/06/15 15:37	10.0	3	
010	ye610	SAMPLE	266525-017	Soil	222836	05/06/15 16:14	200.0	3	high NT, 1:TCB124=480
011	ye611	SAMPLE	266525-018	Soil	222836	05/06/15 16:52	200.0	3	1:TCB124=220
012	ye612	SAMPLE	266507-005	Soil	222836	05/06/15 17:30	50.0	3	
013	ye613	SAMPLE	266525-029	Water	222841	05/06/15 18:07	10.0	3	
014	ye614	SAMPLE	266525-011	Soil	222836	05/06/15 18:44	50.0	3	
015	ye615	SAMPLE	266525-010	Soil	222836	05/06/15 19:22	100.0	3	
016	ye616	SAMPLE	266511-005	Water	222841	05/06/15 20:00	1.0	3	
017	ye617	SAMPLE	266511-008	Water	222841	05/06/15 20:37	1.0	3	
018	ye618	SAMPLE	266511-009	Water	222841	05/06/15 21:17	1.0	3	
019	ye619	SAMPLE	266578-001	Water	222893	05/06/15 21:54	150.0	3	high NT
020	ye620	SAMPLE	266525-017	Soil	222836	05/06/15 22:33	2000	3	
021	ye621	SAMPLE	266525-018	Soil	222836	05/06/15 23:13	1000	3	

KMH 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S26814 2=S26477 3=S26738

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 585053925

Instrument : MSBNA09 Begun : 02/06/15 10:45
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	rb601	IB	IB			02/06/15 10:45	1.0		?t
002	rb602	TUN	DFTPP			02/06/15 11:12	1.0	1	
003	rb603	CCV				02/06/15 11:28	1.0	2	cc+
004	rb604	CCV				02/06/15 12:09	1.0	2	cc+
005	rb605	CCV	RFCHECK			02/06/15 12:45	1.0	3	cc- cc+
006	rb606	TUN	DFTPP			02/06/15 13:30	1.0	1	
007	rb607	ICAL	ICAL			02/06/15 13:54	1.0	4	
008	rb608	ICAL	ICAL			02/06/15 14:23	1.0	5	
009	rb609	ICAL	ICAL			02/06/15 14:54	1.0	3	
010	rb610	ICAL	ICAL			02/06/15 15:24	1.0	6	
011	rb611	ICAL	ICAL			02/06/15 15:54	1.0	2	
012	rb612	ICAL	ICAL			02/06/15 16:25	1.0	7	
013	rb613	ICAL	ICAL			02/06/15 16:55	1.0	8	
014	rb614	ICAL	ICAL			02/06/15 17:25	1.0	9	
015	rb615	ICAL	ICAL			02/06/15 17:55	1.0	10	
016	rb616	ICV	ICV			02/06/15 18:25	1.0	11	

NPM 02/09/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Standards used: 1=S26170 2=S26478 3=S26476 4=S26474 5=S26475 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S25418
Flags used: +=high bias -=low bias ?t=missing tune cc=CCV CCC failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 585180755

Instrument : MSBNA09 Begun : 05/05/15 12:35
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	re501	IB	IB			05/05/15 12:35	1.0		?t
002	re502	TUN	DFTPP			05/05/15 13:02	1.0	1	
003	re503	CCV				05/05/15 13:17	1.0	2	
004	re504	TUN	DFTPP			05/05/15 15:14	1.0	1	
005	re505	CCV				05/05/15 15:28	1.0	2	cc-
006	re506	TUN	DFTPP			05/05/15 15:55	1.0	1	
007	re507	CCV				05/05/15 16:11	1.0	2	
008	re508	TUN	DFTPP			05/05/15 17:01	1.0	1	
009	re509	CCV				05/05/15 17:16	1.0	2	
010	re510	BLANK	QC786555	Water	222841	05/05/15 17:47	1.0	3	
011	re511	BS	QC786556	Water	222841	05/05/15 18:17	1.0	3	
012	re512	BSD	QC786557	Water	222841	05/05/15 18:48	1.0	3	
013	re513	SAMPLE	266511-001	Water	222841	05/05/15 19:18	1.0	3	
014	re514	SAMPLE	266514-004	Water	222841	05/05/15 19:49	1.0	3	
015	re515	SAMPLE	266514-006	Water	222841	05/05/15 20:20	1.0	3	
016	re516	SAMPLE	266525-026	Water	222841	05/05/15 20:50	1.0	3	
017	re517	SAMPLE	266511-002	Water	222841	05/05/15 21:22	1.0	3	
018	re518	SAMPLE	266511-003	Water	222841	05/05/15 21:53	1.0	3	
019	re519	SAMPLE	266511-007	Water	222841	05/05/15 22:24	1.0	3	
020	re520	SAMPLE	266525-028	Water	222841	05/05/15 22:56	1.0	3	
021	re521	SAMPLE	266511-006	Water	222841	05/05/15 23:29	1.0	3	
022	re522	SAMPLE	266525-030	Water	222841	05/06/15 00:01	1.0	3	
023	re523	SAMPLE	266525-027	Water	222841	05/06/15 00:32	1.0	3	
024	re524	SAMPLE	266525-029	Water	222841	05/06/15 01:04	1.0	3	3:DCBZ14=560
025	re525	SAMPLE	266507-001	Water	222841	05/06/15 01:35	100.0	3	
026	re526	SAMPLE	266511-017	Soil	222828	05/06/15 02:07	5.0	3	
027	re527	SAMPLE	266511-025	Soil	222828	05/06/15 02:38	20.0	3	
028	re528	SAMPLE	266511-015	Soil	222828	05/06/15 03:09	100.0	3	

KMH 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S26814 2=S26478 3=S26738

Flags used: -=low bias ?t=missing tune cc=CCV CCC failure

SAMPLE PREPARATION SUMMARY

Batch # : 222841
Started By : ARG
Method : 3520C
Spike #1 ID : S26606
Prep Date : 04-MAY-2015 13:40
SOP Version : 8270_3520_rv20
Spike #2 ID : S27020
Analysis : 8270-1
Finished By : JCD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266501-001		Water	1040	1	1	0.0009615	7	.4				8270-1	Prepped 05-MAY-2015 13:20
266501-002		Water	1040	1	1	0.0009615	7	.4				8270-1	Prepped 05-MAY-2015 13:20
266507-001		Water	1060	1	1	0.0009434	7	.4				8270-1	
266511-001		Water	800	1	1	0.00125	7	.4				8270-1	
266511-002		Water	1020	1	1	0.0009804	7	.4				8270-1	
266511-003		Water	1020	1	1	0.0009804	7	.4				8270-1	
266511-005		Water	1000	1	1	0.001	7	.4				8270-1	
266511-006		Water	1020	1	1	0.0009804	7	.4				8270-1	
266511-007		Water	1020	1	1	0.0009804	7	.4				8270-1	
266511-008		Water	1020	1	1	0.0009804	7	.4				8270-1	
266511-009		Water	1060	1	1	0.0009434	7	.4				8270-1	
266514-004		Water	1060	1	1	0.0009434	7	.4				8040	
266514-006		Water	1060	1	1	0.0009434	7	.4				8040	
266525-026		Water	800	1	1	0.00125	7	.4				8270-1	
266525-027		Water	800	1	1	0.00125	7	.4				8270-1	
266525-028		Water	900	1	1	0.001111	7	.4				8270-1	
266525-029		Water	800	1	1	0.00125	7	.4				8270-1	
266525-030		Water	800	1	1	0.00125	7	.4				8270-1	
QC786555	BLANK	Water	1000	1	1	0.001		.4				8270-1	
QC786556	BS	Water	1000	1	1	0.001		.4	1			8270-1	
QC786557	BSD	Water	1000	1	1	0.001		.4	1			8270-1	

KMH 05/06/15 : Matrix spikes were not performed for this analysis in batch 222841 due to insufficient sample amount.

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

BNA (8270 & 625) Water Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 222841 Extraction Method:
LIMS Analysis: 8270 ☑ EPA 3520c cont. L/L
Date Extracted: 5.4.15 ☐ _____

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Confirmed pH ≤2	Comments
266507-001	I	1060	☑7 ☐	☑1.0 ☐	☑ ≤2	
266511-001	I	800	☑7 ☐	☑1.0 ☐	☑ ≤2	
2	H	1020	☑7 ☐	☑1.0 ☐	☑ ≤2	
3	I	1020	☑7 ☐	☑1.0 ☐	☑ ≤2	
4	I	~~1000~~	~~☑7 ☐~~	~~☑1.0 ☐~~	~~☑ ≤2~~	not in batch AR 5615
5	B	1000	☑7 ☐	☑1.0 ☐	☑ ≤2	
6	I	1020	☑7 ☐	☑1.0 ☐	☑ ≤2	
7	H	1020	☑7 ☐	☑1.0 ☐	☑ ≤2	
8	G	1020	☑7 ☐	☑1.0 ☐	☑ ≤2	
9	I	1060	☑7 ☐	☑1.0 ☐	☑ ≤2	
266514-004	Q	1060	☑7 ☐	☑1.0 ☐	☑ ≤2	
6	P	1060	☑7 ☐	☑1.0 ☐	☑ ≤2	
266525-026	D	800	☑7 ☐	☑1.0 ☐	☑ ≤2	
27	D	800	☑7 ☐	☑1.0 ☐	☑ ≤2	
28	E	900	☑7 ☐	☑1.0 ☐	☑ ≤2	
29	I	800	☑7 ☐	☑1.0 ☐	☑ ≤2	
30	I	800	☑7 ☐	☑1.0 ☐	☑ ≤2	
MBQC786555	MA	1000	☐7 ☑NA	☑1.0 ☐	☑ ≤2	
BS 6	I	1000	☐7 ☑	☑1.0 ☐	☑ ≤2	
BSD 7	I	1000	☐7 ☑	☑1.0 ☐	☑ ≤2	
266509-001	J	1040	☑7 ☐	☑1.0 ☐	☑ ≤2	n/a on 5/5/15 @ 1320 by ARW
1 2	K	1076	☑7 ☐	☑1.0 ☐	☑ ≤2	↓
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	
			☐7 ☐	☐ 1.0 ☐	☐ ≤2	

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Lot# / LIMS # / Time	Date/ Initials
0.4 mL of surrogate solution was added to all samples	S 270205	5.4.15 ARG
1.0 mL of matrix spiking solution was added to all spikes	S 266066	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133088	
Cont. L/L extracted with 450mL of CH_2Cl_2	EM54351	
Extraction Start Time:	1340 / 1320	
Extraction End Time:	0740 / 1720	CAS 5/5/15
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH	NA	DCD 5/5/15
Extraction Start Time:		
Extraction End Time:		
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	

Extraction Chemist 5/5/15 **Date** AR 5/6/15

Contined from Page 1
Continued on Page _____

Reviewed by 5/6/15 **Date**

Laboratory Job Number 266525

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Soil

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(2)	Batch#:	222836
Lab ID:	266525-010	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	100.0		

Moisture: 7%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	36,000
Phenol	ND	36,000
bis(2-Chloroethyl)ether	ND	36,000
2-Chlorophenol	ND	36,000
1,3-Dichlorobenzene	ND	36,000
1,4-Dichlorobenzene	ND	36,000
Benzyl alcohol	ND	36,000
1,2-Dichlorobenzene	ND	36,000
2-Methylphenol	ND	36,000
bis(2-Chloroisopropyl) ether	ND	36,000
4-Methylphenol	ND	36,000
N-Nitroso-di-n-propylamine	ND	36,000
Hexachloroethane	ND	36,000
Nitrobenzene	ND	36,000
Isophorone	ND	36,000
2-Nitrophenol	ND	72,000
2,4-Dimethylphenol	ND	36,000
Benzoic acid	ND	180,000
bis(2-Chloroethoxy)methane	ND	36,000
2,4-Dichlorophenol	ND	36,000
1,2,4-Trichlorobenzene	ND	36,000
Naphthalene	ND	7,200
4-Chloroaniline	ND	36,000
Hexachlorobutadiene	ND	36,000
4-Chloro-3-methylphenol	ND	36,000
2-Methylnaphthalene	ND	7,200
Hexachlorocyclopentadiene	ND	72,000
2,4,6-Trichlorophenol	ND	36,000
2,4,5-Trichlorophenol	ND	36,000
2-Chloronaphthalene	ND	36,000
2-Nitroaniline	ND	72,000
Dimethylphthalate	ND	36,000
Acenaphthylene	ND	7,200
2,6-Dinitrotoluene	ND	36,000
3-Nitroaniline	ND	72,000
Acenaphthene	ND	7,200
2,4-Dinitrophenol	ND	72,000
4-Nitrophenol	ND	72,000
Dibenzofuran	ND	36,000
2,4-Dinitrotoluene	ND	36,000
Diethylphthalate	ND	36,000
Fluorene	ND	7,200
4-Chlorophenyl-phenylether	ND	36,000
4-Nitroaniline	ND	72,000
4,6-Dinitro-2-methylphenol	ND	72,000
N-Nitrosodiphenylamine	ND	36,000
Azobenzene	ND	36,000
4-Bromophenyl-phenylether	ND	36,000
Hexachlorobenzene	ND	36,000
Pentachlorophenol	ND	72,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(2)	Batch#:	222836
Lab ID:	266525-010	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	100.0		

Analyte	Result	RL
Phenanthrene	ND	7,200
Anthracene	ND	7,200
Di-n-butylphthalate	ND	36,000
Fluoranthene	ND	7,200
Pyrene	ND	7,200
Butylbenzylphthalate	ND	36,000
3,3'-Dichlorobenzidine	ND	72,000
Benzo(a)anthracene	ND	7,200
Chrysene	ND	7,200
bis(2-Ethylhexyl)phthalate	ND	36,000
Di-n-octylphthalate	ND	36,000
Benzo(b)fluoranthene	ND	7,200
Benzo(k)fluoranthene	ND	7,200
Benzo(a)pyrene	ND	7,200
Indeno(1,2,3-cd)pyrene	ND	7,200
Dibenz(a,h)anthracene	ND	7,200
Benzo(g,h,i)perylene	ND	7,200

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(4.5)	Batch#:	222836
Lab ID:	266525-011	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	50.00		

Moisture: 6%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	36,000
Phenol	ND	36,000
bis(2-Chloroethyl)ether	ND	36,000
2-Chlorophenol	ND	36,000
1,3-Dichlorobenzene	ND	36,000
1,4-Dichlorobenzene	ND	36,000
Benzyl alcohol	ND	36,000
1,2-Dichlorobenzene	ND	36,000
2-Methylphenol	ND	36,000
bis(2-Chloroisopropyl) ether	ND	36,000
4-Methylphenol	ND	36,000
N-Nitroso-di-n-propylamine	ND	36,000
Hexachloroethane	ND	36,000
Nitrobenzene	ND	36,000
Isophorone	ND	36,000
2-Nitrophenol	ND	71,000
2,4-Dimethylphenol	ND	36,000
Benzoic acid	ND	180,000
bis(2-Chloroethoxy)methane	ND	36,000
2,4-Dichlorophenol	ND	36,000
1,2,4-Trichlorobenzene	ND	36,000
Naphthalene	ND	7,100
4-Chloroaniline	ND	36,000
Hexachlorobutadiene	ND	36,000
4-Chloro-3-methylphenol	ND	36,000
2-Methylnaphthalene	ND	7,100
Hexachlorocyclopentadiene	ND	71,000
2,4,6-Trichlorophenol	ND	36,000
2,4,5-Trichlorophenol	ND	36,000
2-Chloronaphthalene	ND	36,000
2-Nitroaniline	ND	71,000
Dimethylphthalate	ND	36,000
Acenaphthylene	ND	7,100
2,6-Dinitrotoluene	ND	36,000
3-Nitroaniline	ND	71,000
Acenaphthene	ND	7,100
2,4-Dinitrophenol	ND	71,000
4-Nitrophenol	ND	71,000
Dibenzofuran	ND	36,000
2,4-Dinitrotoluene	ND	36,000
Diethylphthalate	ND	36,000
Fluorene	ND	7,100
4-Chlorophenyl-phenylether	ND	36,000
4-Nitroaniline	ND	71,000
4,6-Dinitro-2-methylphenol	ND	71,000
N-Nitrosodiphenylamine	ND	36,000
Azobenzene	ND	36,000
4-Bromophenyl-phenylether	ND	36,000
Hexachlorobenzene	ND	36,000
Pentachlorophenol	ND	71,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(4.5)	Batch#:	222836
Lab ID:	266525-011	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	50.00		

Analyte	Result	RL
Phenanthrene	ND	7,100
Anthracene	ND	7,100
Di-n-butylphthalate	ND	36,000
Fluoranthene	ND	7,100
Pyrene	ND	7,100
Butylbenzylphthalate	ND	36,000
3,3'-Dichlorobenzidine	ND	71,000
Benzo(a)anthracene	ND	7,100
Chrysene	ND	7,100
bis(2-Ethylhexyl)phthalate	ND	36,000
Di-n-octylphthalate	ND	36,000
Benzo(b)fluoranthene	ND	7,100
Benzo(k)fluoranthene	ND	7,100
Benzo(a)pyrene	ND	7,100
Indeno(1,2,3-cd)pyrene	ND	7,100
Dibenz(a,h)anthracene	ND	7,100
Benzo(g,h,i)perylene	ND	7,100

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(8.4)	Batch#:	222836
Lab ID:	266525-012	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 19%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	410
Phenol	ND	410
bis(2-Chloroethyl)ether	ND	410
2-Chlorophenol	ND	410
1,3-Dichlorobenzene	ND	410
1,4-Dichlorobenzene	ND	410
Benzyl alcohol	ND	410
1,2-Dichlorobenzene	ND	410
2-Methylphenol	ND	410
bis(2-Chloroisopropyl) ether	ND	410
4-Methylphenol	ND	410
N-Nitroso-di-n-propylamine	ND	410
Hexachloroethane	ND	410
Nitrobenzene	ND	410
Isophorone	ND	410
2-Nitrophenol	ND	820
2,4-Dimethylphenol	ND	410
Benzoic acid	ND	2,000
bis(2-Chloroethoxy)methane	ND	410
2,4-Dichlorophenol	ND	410
1,2,4-Trichlorobenzene	ND	410
Naphthalene	ND	82
4-Chloroaniline	ND	410
Hexachlorobutadiene	ND	410
4-Chloro-3-methylphenol	ND	410
2-Methylnaphthalene	ND	82
Hexachlorocyclopentadiene	ND	820
2,4,6-Trichlorophenol	ND	410
2,4,5-Trichlorophenol	ND	410
2-Chloronaphthalene	ND	410
2-Nitroaniline	ND	820
Dimethylphthalate	ND	410
Acenaphthylene	ND	82
2,6-Dinitrotoluene	ND	410
3-Nitroaniline	ND	820
Acenaphthene	ND	82
2,4-Dinitrophenol	ND	820
4-Nitrophenol	ND	820
Dibenzofuran	ND	410
2,4-Dinitrotoluene	ND	410
Diethylphthalate	ND	410
Fluorene	ND	82
4-Chlorophenyl-phenylether	ND	410
4-Nitroaniline	ND	820
4,6-Dinitro-2-methylphenol	ND	820
N-Nitrosodiphenylamine	ND	410
Azobenzene	ND	410
4-Bromophenyl-phenylether	ND	410
Hexachlorobenzene	ND	410
Pentachlorophenol	ND	820
Phenanthrene	85	82

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-1(8.4)	Batch#:	222836
Lab ID:	266525-012	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	82
Di-n-butylphthalate	ND	410
Fluoranthene	130	82
Pyrene	120	82
Butylbenzylphthalate	ND	410
3,3'-Dichlorobenzidine	ND	820
Benzo(a)anthracene	ND	82
Chrysene	ND	82
bis(2-Ethylhexyl)phthalate	ND	410
Di-n-octylphthalate	ND	410
Benzo(b)fluoranthene	ND	82
Benzo(k)fluoranthene	ND	82
Benzo(a)pyrene	ND	82
Indeno(1,2,3-cd)pyrene	ND	82
Dibenz(a,h)anthracene	ND	82
Benzo(g,h,i)perylene	ND	82

Surrogate	%REC	Limits
2-Fluorophenol	64	25-120
Phenol-d5	69	36-120
2,4,6-Tribromophenol	61	27-120
Nitrobenzene-d5	53	44-120
2-Fluorobiphenyl	55	47-120
Terphenyl-d14	69	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(2)	Batch#:	222836
Lab ID:	266525-013	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	50.00		

Moisture: 7%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	18,000
Phenol	ND	18,000
bis(2-Chloroethyl)ether	ND	18,000
2-Chlorophenol	ND	18,000
1,3-Dichlorobenzene	ND	18,000
1,4-Dichlorobenzene	ND	18,000
Benzyl alcohol	ND	18,000
1,2-Dichlorobenzene	ND	18,000
2-Methylphenol	ND	18,000
bis(2-Chloroisopropyl) ether	ND	18,000
4-Methylphenol	ND	18,000
N-Nitroso-di-n-propylamine	ND	18,000
Hexachloroethane	ND	18,000
Nitrobenzene	ND	18,000
Isophorone	ND	18,000
2-Nitrophenol	ND	36,000
2,4-Dimethylphenol	ND	18,000
Benzoic acid	ND	89,000
bis(2-Chloroethoxy)methane	ND	18,000
2,4-Dichlorophenol	ND	18,000
1,2,4-Trichlorobenzene	ND	18,000
Naphthalene	ND	3,600
4-Chloroaniline	ND	18,000
Hexachlorobutadiene	ND	18,000
4-Chloro-3-methylphenol	ND	18,000
2-Methylnaphthalene	ND	3,600
Hexachlorocyclopentadiene	ND	36,000
2,4,6-Trichlorophenol	ND	18,000
2,4,5-Trichlorophenol	ND	18,000
2-Chloronaphthalene	ND	18,000
2-Nitroaniline	ND	36,000
Dimethylphthalate	ND	18,000
Acenaphthylene	ND	3,600
2,6-Dinitrotoluene	ND	18,000
3-Nitroaniline	ND	36,000
Acenaphthene	ND	3,600
2,4-Dinitrophenol	ND	36,000
4-Nitrophenol	ND	36,000
Dibenzofuran	ND	18,000
2,4-Dinitrotoluene	ND	18,000
Diethylphthalate	ND	18,000
Fluorene	ND	3,600
4-Chlorophenyl-phenylether	ND	18,000
4-Nitroaniline	ND	36,000
4,6-Dinitro-2-methylphenol	ND	36,000
N-Nitrosodiphenylamine	ND	18,000
Azobenzene	ND	18,000
4-Bromophenyl-phenylether	ND	18,000
Hexachlorobenzene	ND	18,000
Pentachlorophenol	ND	36,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(2)	Batch#:	222836
Lab ID:	266525-013	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	50.00		

Analyte	Result	RL
Phenanthrene	ND	3,600
Anthracene	ND	3,600
Di-n-butylphthalate	ND	18,000
Fluoranthene	ND	3,600
Pyrene	ND	3,600
Butylbenzylphthalate	ND	18,000
3,3'-Dichlorobenzidine	ND	36,000
Benzo(a)anthracene	ND	3,600
Chrysene	ND	3,600
bis(2-Ethylhexyl)phthalate	ND	18,000
Di-n-octylphthalate	ND	18,000
Benzo(b)fluoranthene	ND	3,600
Benzo(k)fluoranthene	ND	3,600
Benzo(a)pyrene	ND	3,600
Indeno(1,2,3-cd)pyrene	ND	3,600
Dibenz(a,h)anthracene	ND	3,600
Benzo(g,h,i)perylene	ND	3,600

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(4.5)	Batch#:	222836
Lab ID:	266525-014	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 3%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	350
Phenol	ND	350
bis(2-Chloroethyl)ether	ND	350
2-Chlorophenol	ND	350
1,3-Dichlorobenzene	ND	350
1,4-Dichlorobenzene	530	350
Benzyl alcohol	ND	350
1,2-Dichlorobenzene	ND	350
2-Methylphenol	ND	350
bis(2-Chloroisopropyl) ether	ND	350
4-Methylphenol	ND	350
N-Nitroso-di-n-propylamine	ND	350
Hexachloroethane	ND	350
Nitrobenzene	ND	350
Isophorone	ND	350
2-Nitrophenol	ND	690
2,4-Dimethylphenol	ND	350
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	350
2,4-Dichlorophenol	ND	350
1,2,4-Trichlorobenzene	3,400	350
Naphthalene	ND	69
4-Chloroaniline	ND	350
Hexachlorobutadiene	ND	350
4-Chloro-3-methylphenol	ND	350
2-Methylnaphthalene	ND	69
Hexachlorocyclopentadiene	ND	690
2,4,6-Trichlorophenol	ND	350
2,4,5-Trichlorophenol	ND	350
2-Chloronaphthalene	ND	350
2-Nitroaniline	ND	690
Dimethylphthalate	ND	350
Acenaphthylene	ND	69
2,6-Dinitrotoluene	ND	350
3-Nitroaniline	ND	690
Acenaphthene	ND	69
2,4-Dinitrophenol	ND	690
4-Nitrophenol	ND	690
Dibenzofuran	ND	350
2,4-Dinitrotoluene	ND	350
Diethylphthalate	ND	350
Fluorene	ND	69
4-Chlorophenyl-phenylether	ND	350
4-Nitroaniline	ND	690
4,6-Dinitro-2-methylphenol	ND	690
N-Nitrosodiphenylamine	ND	350
Azobenzene	ND	350
4-Bromophenyl-phenylether	ND	350
Hexachlorobenzene	ND	350
Pentachlorophenol	ND	690
Phenanthrene	ND	69

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(4.5)	Batch#:	222836
Lab ID:	266525-014	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	69
Di-n-butylphthalate	ND	350
Fluoranthene	ND	69
Pyrene	ND	69
Butylbenzylphthalate	ND	350
3,3'-Dichlorobenzidine	ND	690
Benzo(a)anthracene	ND	69
Chrysene	ND	69
bis(2-Ethylhexyl)phthalate	ND	350
Di-n-octylphthalate	ND	350
Benzo(b)fluoranthene	ND	69
Benzo(k)fluoranthene	ND	69
Benzo(a)pyrene	ND	69
Indeno(1,2,3-cd)pyrene	ND	69
Dibenz(a,h)anthracene	ND	69
Benzo(g,h,i)perylene	ND	69

Surrogate	%REC	Limits
2-Fluorophenol	71	25-120
Phenol-d5	75	36-120
2,4,6-Tribromophenol	62	27-120
Nitrobenzene-d5	64	44-120
2-Fluorobiphenyl	71	47-120
Terphenyl-d14	74	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(7)	Batch#:	222836
Lab ID:	266525-015	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry		

Moisture: 16%

Analyte	Result	RL	Diln Fac	Analyzed
N-Nitrosodimethylamine	ND	790	2.000	05/05/15
Phenol	ND	790	2.000	05/05/15
bis(2-Chloroethyl)ether	ND	790	2.000	05/05/15
2-Chlorophenol	ND	790	2.000	05/05/15
1,3-Dichlorobenzene	36,000	4,000	10.00	05/06/15
1,4-Dichlorobenzene	40,000	4,000	10.00	05/06/15
Benzyl alcohol	ND	790	2.000	05/05/15
1,2-Dichlorobenzene	ND	790	2.000	05/05/15
2-Methylphenol	ND	790	2.000	05/05/15
bis(2-Chloroisopropyl) ether	ND	790	2.000	05/05/15
4-Methylphenol	ND	790	2.000	05/05/15
N-Nitroso-di-n-propylamine	ND	790	2.000	05/05/15
Hexachloroethane	ND	790	2.000	05/05/15
Nitrobenzene	ND	790	2.000	05/05/15
Isophorone	ND	790	2.000	05/05/15
2-Nitrophenol	ND	1,600	2.000	05/05/15
2,4-Dimethylphenol	ND	790	2.000	05/05/15
Benzoic acid	ND	4,000	2.000	05/05/15
bis(2-Chloroethoxy)methane	ND	790	2.000	05/05/15
2,4-Dichlorophenol	ND	790	2.000	05/05/15
1,2,4-Trichlorobenzene	29,000	4,000	10.00	05/06/15
Naphthalene	ND	160	2.000	05/05/15
4-Chloroaniline	ND	790	2.000	05/05/15
Hexachlorobutadiene	ND	790	2.000	05/05/15
4-Chloro-3-methylphenol	ND	790	2.000	05/05/15
2-Methylnaphthalene	ND	160	2.000	05/05/15
Hexachlorocyclopentadiene	ND	1,600	2.000	05/05/15
2,4,6-Trichlorophenol	ND	790	2.000	05/05/15
2,4,5-Trichlorophenol	ND	790	2.000	05/05/15
2-Chloronaphthalene	ND	790	2.000	05/05/15
2-Nitroaniline	ND	1,600	2.000	05/05/15
Dimethylphthalate	ND	790	2.000	05/05/15
Acenaphthylene	ND	160	2.000	05/05/15
2,6-Dinitrotoluene	ND	790	2.000	05/05/15
3-Nitroaniline	ND	1,600	2.000	05/05/15
Acenaphthene	ND	160	2.000	05/05/15
2,4-Dinitrophenol	ND	1,600	2.000	05/05/15
4-Nitrophenol	ND	1,600	2.000	05/05/15
Dibenzofuran	ND	790	2.000	05/05/15
2,4-Dinitrotoluene	ND	790	2.000	05/05/15
Diethylphthalate	ND	790	2.000	05/05/15
Fluorene	ND	160	2.000	05/05/15
4-Chlorophenyl-phenylether	ND	790	2.000	05/05/15
4-Nitroaniline	ND	1,600	2.000	05/05/15
4,6-Dinitro-2-methylphenol	ND	1,600	2.000	05/05/15
N-Nitrosodiphenylamine	ND	790	2.000	05/05/15
Azobenzene	ND	790	2.000	05/05/15
4-Bromophenyl-phenylether	ND	790	2.000	05/05/15
Hexachlorobenzene	ND	790	2.000	05/05/15
Pentachlorophenol	ND	1,600	2.000	05/05/15
Phenanthrene	ND	160	2.000	05/05/15
Anthracene	ND	160	2.000	05/05/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-4(7)	Batch#:	222836
Lab ID:	266525-015	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry		

Analyte	Result	RL	Diln Fac	Analyzed
Di-n-butylphthalate	ND	790	2.000	05/05/15
Fluoranthene	ND	160	2.000	05/05/15
Pyrene	ND	160	2.000	05/05/15
Butylbenzylphthalate	ND	790	2.000	05/05/15
3,3'-Dichlorobenzidine	ND	1,600	2.000	05/05/15
Benzo(a)anthracene	ND	160	2.000	05/05/15
Chrysene	ND	160	2.000	05/05/15
bis(2-Ethylhexyl)phthalate	ND	790	2.000	05/05/15
Di-n-octylphthalate	ND	790	2.000	05/05/15
Benzo(b)fluoranthene	ND	160	2.000	05/05/15
Benzo(k)fluoranthene	ND	160	2.000	05/05/15
Benzo(a)pyrene	ND	160	2.000	05/05/15
Indeno(1,2,3-cd)pyrene	ND	160	2.000	05/05/15
Dibenz(a,h)anthracene	ND	160	2.000	05/05/15
Benzo(g,h,i)perylene	ND	160	2.000	05/05/15

Surrogate	%REC	Limits	Diln Fac	Analyzed
2-Fluorophenol	76	25-120	2.000	05/05/15
Phenol-d5	79	36-120	2.000	05/05/15
2,4,6-Tribromophenol	74	27-120	2.000	05/05/15
Nitrobenzene-d5	65	44-120	2.000	05/05/15
2-Fluorobiphenyl	68	47-120	2.000	05/05/15
Terphenyl-d14	95	49-120	2.000	05/05/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(2)	Batch#:	222836
Lab ID:	266525-016	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	5.000		

Moisture: 5%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	1,800
Phenol	ND	1,800
bis(2-Chloroethyl)ether	ND	1,800
2-Chlorophenol	ND	1,800
1,3-Dichlorobenzene	ND	1,800
1,4-Dichlorobenzene	ND	1,800
Benzyl alcohol	ND	1,800
1,2-Dichlorobenzene	ND	1,800
2-Methylphenol	ND	1,800
bis(2-Chloroisopropyl) ether	ND	1,800
4-Methylphenol	ND	1,800
N-Nitroso-di-n-propylamine	ND	1,800
Hexachloroethane	ND	1,800
Nitrobenzene	ND	1,800
Isophorone	ND	1,800
2-Nitrophenol	ND	3,500
2,4-Dimethylphenol	ND	1,800
Benzoic acid	ND	8,800
bis(2-Chloroethoxy)methane	ND	1,800
2,4-Dichlorophenol	ND	1,800
1,2,4-Trichlorobenzene	ND	1,800
Naphthalene	ND	350
4-Chloroaniline	ND	1,800
Hexachlorobutadiene	ND	1,800
4-Chloro-3-methylphenol	ND	1,800
2-Methylnaphthalene	ND	350
Hexachlorocyclopentadiene	ND	3,500
2,4,6-Trichlorophenol	ND	1,800
2,4,5-Trichlorophenol	ND	1,800
2-Chloronaphthalene	ND	1,800
2-Nitroaniline	ND	3,500
Dimethylphthalate	ND	1,800
Acenaphthylene	ND	350
2,6-Dinitrotoluene	ND	1,800
3-Nitroaniline	ND	3,500
Acenaphthene	ND	350
2,4-Dinitrophenol	ND	3,500
4-Nitrophenol	ND	3,500
Dibenzofuran	ND	1,800
2,4-Dinitrotoluene	ND	1,800
Diethylphthalate	ND	1,800
Fluorene	ND	350
4-Chlorophenyl-phenylether	ND	1,800
4-Nitroaniline	ND	3,500
4,6-Dinitro-2-methylphenol	ND	3,500
N-Nitrosodiphenylamine	ND	1,800
Azobenzene	ND	1,800
4-Bromophenyl-phenylether	ND	1,800
Hexachlorobenzene	ND	1,800
Pentachlorophenol	ND	3,500
Phenanthrene	ND	350

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(2)	Batch#:	222836
Lab ID:	266525-016	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	5.000		

Analyte	Result	RL
Anthracene	ND	350
Di-n-butylphthalate	ND	1,800
Fluoranthene	ND	350
Pyrene	ND	350
Butylbenzylphthalate	ND	1,800
3,3'-Dichlorobenzidine	ND	3,500
Benzo(a)anthracene	ND	350
Chrysene	ND	350
bis(2-Ethylhexyl)phthalate	ND	1,800
Di-n-octylphthalate	ND	1,800
Benzo(b)fluoranthene	ND	350
Benzo(k)fluoranthene	ND	350
Benzo(a)pyrene	ND	350
Indeno(1,2,3-cd)pyrene	ND	350
Dibenz(a,h)anthracene	ND	350
Benzo(g,h,i)perylene	ND	350

Surrogate	%REC	Limits
2-Fluorophenol	81	25-120
Phenol-d5	84	36-120
2,4,6-Tribromophenol	62	27-120
Nitrobenzene-d5	71	44-120
2-Fluorobiphenyl	80	47-120
Terphenyl-d14	81	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(5)	Batch#:	222836
Lab ID:	266525-017	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15

Moisture: 8%

Analyte	Result	RL	Dil'n Fac
N-Nitrosodimethylamine	ND	72,000	200.0
Phenol	ND	72,000	200.0
bis(2-Chloroethyl)ether	ND	72,000	200.0
2-Chlorophenol	ND	72,000	200.0
1,3-Dichlorobenzene	ND	72,000	200.0
1,4-Dichlorobenzene	ND	72,000	200.0
Benzyl alcohol	ND	72,000	200.0
1,2-Dichlorobenzene	ND	72,000	200.0
2-Methylphenol	ND	72,000	200.0
bis(2-Chloroisopropyl) ether	ND	72,000	200.0
4-Methylphenol	ND	72,000	200.0
N-Nitroso-di-n-propylamine	ND	72,000	200.0
Hexachloroethane	ND	72,000	200.0
Nitrobenzene	ND	72,000	200.0
Isophorone	ND	72,000	200.0
2-Nitrophenol	ND	140,000	200.0
2,4-Dimethylphenol	ND	72,000	200.0
Benzoic acid	ND	360,000	200.0
bis(2-Chloroethoxy)methane	ND	72,000	200.0
2,4-Dichlorophenol	ND	72,000	200.0
1,2,4-Trichlorobenzene	6,000,000	720,000	2,000
Naphthalene	ND	14,000	200.0
4-Chloroaniline	ND	72,000	200.0
Hexachlorobutadiene	ND	72,000	200.0
4-Chloro-3-methylphenol	ND	72,000	200.0
2-Methylnaphthalene	ND	14,000	200.0
Hexachlorocyclopentadiene	ND	140,000	200.0
2,4,6-Trichlorophenol	ND	72,000	200.0
2,4,5-Trichlorophenol	ND	72,000	200.0
2-Chloronaphthalene	ND	72,000	200.0
2-Nitroaniline	ND	140,000	200.0
Dimethylphthalate	ND	72,000	200.0
Acenaphthylene	ND	14,000	200.0
2,6-Dinitrotoluene	ND	72,000	200.0
3-Nitroaniline	ND	140,000	200.0
Acenaphthene	ND	14,000	200.0
2,4-Dinitrophenol	ND	140,000	200.0
4-Nitrophenol	ND	140,000	200.0
Dibenzofuran	ND	72,000	200.0
2,4-Dinitrotoluene	ND	72,000	200.0
Diethylphthalate	ND	72,000	200.0
Fluorene	ND	14,000	200.0
4-Chlorophenyl-phenylether	ND	72,000	200.0
4-Nitroaniline	ND	140,000	200.0
4,6-Dinitro-2-methylphenol	ND	140,000	200.0
N-Nitrosodiphenylamine	ND	72,000	200.0
Azobenzene	ND	72,000	200.0
4-Bromophenyl-phenylether	ND	72,000	200.0
Hexachlorobenzene	ND	72,000	200.0
Pentachlorophenol	ND	140,000	200.0
Phenanthrene	ND	14,000	200.0

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(5)	Batch#:	222836
Lab ID:	266525-017	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15

Analyte	Result	RL	Diln Fac
Anthracene	ND	14,000	200.0
Di-n-butylphthalate	ND	72,000	200.0
Fluoranthene	ND	14,000	200.0
Pyrene	ND	14,000	200.0
Butylbenzylphthalate	ND	72,000	200.0
3,3'-Dichlorobenzidine	ND	140,000	200.0
Benzo(a)anthracene	ND	14,000	200.0
Chrysene	ND	14,000	200.0
bis(2-Ethylhexyl)phthalate	ND	72,000	200.0
Di-n-octylphthalate	ND	72,000	200.0
Benzo(b)fluoranthene	ND	14,000	200.0
Benzo(k)fluoranthene	ND	14,000	200.0
Benzo(a)pyrene	ND	14,000	200.0
Indeno(1,2,3-cd)pyrene	ND	14,000	200.0
Dibenz(a,h)anthracene	ND	14,000	200.0
Benzo(g,h,i)perylene	ND	14,000	200.0

Surrogate	%REC	Limits	Diln Fac
2-Fluorophenol	DO	25-120	200.0
Phenol-d5	DO	36-120	200.0
2,4,6-Tribromophenol	DO	27-120	200.0
Nitrobenzene-d5	DO	44-120	200.0
2-Fluorobiphenyl	DO	47-120	200.0
Terphenyl-d14	DO	49-120	200.0

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(8)	Batch#:	222836
Lab ID:	266525-018	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15

Moisture: 13%

Analyte	Result	RL	Dil'n Fac
N-Nitrosodimethylamine	ND	78,000	200.0
Phenol	ND	78,000	200.0
bis(2-Chloroethyl)ether	ND	78,000	200.0
2-Chlorophenol	ND	78,000	200.0
1,3-Dichlorobenzene	220,000	78,000	200.0
1,4-Dichlorobenzene	560,000	78,000	200.0
Benzyl alcohol	ND	78,000	200.0
1,2-Dichlorobenzene	ND	78,000	200.0
2-Methylphenol	ND	78,000	200.0
bis(2-Chloroisopropyl) ether	ND	78,000	200.0
4-Methylphenol	ND	78,000	200.0
N-Nitroso-di-n-propylamine	ND	78,000	200.0
Hexachloroethane	ND	78,000	200.0
Nitrobenzene	ND	78,000	200.0
Isophorone	ND	78,000	200.0
2-Nitrophenol	ND	160,000	200.0
2,4-Dimethylphenol	ND	78,000	200.0
Benzoic acid	ND	390,000	200.0
bis(2-Chloroethoxy)methane	ND	78,000	200.0
2,4-Dichlorophenol	ND	78,000	200.0
1,2,4-Trichlorobenzene	2,300,000	390,000	1,000
Naphthalene	ND	16,000	200.0
4-Chloroaniline	ND	78,000	200.0
Hexachlorobutadiene	ND	78,000	200.0
4-Chloro-3-methylphenol	ND	78,000	200.0
2-Methylnaphthalene	ND	16,000	200.0
Hexachlorocyclopentadiene	ND	160,000	200.0
2,4,6-Trichlorophenol	ND	78,000	200.0
2,4,5-Trichlorophenol	ND	78,000	200.0
2-Chloronaphthalene	ND	78,000	200.0
2-Nitroaniline	ND	160,000	200.0
Dimethylphthalate	ND	78,000	200.0
Acenaphthylene	ND	16,000	200.0
2,6-Dinitrotoluene	ND	78,000	200.0
3-Nitroaniline	ND	160,000	200.0
Acenaphthene	ND	16,000	200.0
2,4-Dinitrophenol	ND	160,000	200.0
4-Nitrophenol	ND	160,000	200.0
Dibenzofuran	ND	78,000	200.0
2,4-Dinitrotoluene	ND	78,000	200.0
Diethylphthalate	ND	78,000	200.0
Fluorene	ND	16,000	200.0
4-Chlorophenyl-phenylether	ND	78,000	200.0
4-Nitroaniline	ND	160,000	200.0
4,6-Dinitro-2-methylphenol	ND	160,000	200.0
N-Nitrosodiphenylamine	ND	78,000	200.0
Azobenzene	ND	78,000	200.0
4-Bromophenyl-phenylether	ND	78,000	200.0
Hexachlorobenzene	ND	78,000	200.0
Pentachlorophenol	ND	160,000	200.0
Phenanthrene	ND	16,000	200.0

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-3(8)	Batch#:	222836
Lab ID:	266525-018	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/06/15

Analyte	Result	RL	Diln Fac
Anthracene	ND	16,000	200.0
Di-n-butylphthalate	ND	78,000	200.0
Fluoranthene	ND	16,000	200.0
Pyrene	ND	16,000	200.0
Butylbenzylphthalate	ND	78,000	200.0
3,3'-Dichlorobenzidine	ND	160,000	200.0
Benzo(a)anthracene	ND	16,000	200.0
Chrysene	ND	16,000	200.0
bis(2-Ethylhexyl)phthalate	ND	78,000	200.0
Di-n-octylphthalate	ND	78,000	200.0
Benzo(b)fluoranthene	ND	16,000	200.0
Benzo(k)fluoranthene	ND	16,000	200.0
Benzo(a)pyrene	ND	16,000	200.0
Indeno(1,2,3-cd)pyrene	ND	16,000	200.0
Dibenz(a,h)anthracene	ND	16,000	200.0
Benzo(g,h,i)perylene	ND	16,000	200.0

Surrogate	%REC	Limits	Diln Fac
2-Fluorophenol	DO	25-120	200.0
Phenol-d5	DO	36-120	200.0
2,4,6-Tribromophenol	DO	27-120	200.0
Nitrobenzene-d5	DO	44-120	200.0
2-Fluorobiphenyl	DO	47-120	200.0
Terphenyl-d14	DO	49-120	200.0

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(2)	Batch#:	222836
Lab ID:	266525-019	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	16.67		

Moisture: 7%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	6,000
Phenol	ND	6,000
bis(2-Chloroethyl)ether	ND	6,000
2-Chlorophenol	ND	6,000
1,3-Dichlorobenzene	ND	6,000
1,4-Dichlorobenzene	ND	6,000
Benzyl alcohol	ND	6,000
1,2-Dichlorobenzene	ND	6,000
2-Methylphenol	ND	6,000
bis(2-Chloroisopropyl) ether	ND	6,000
4-Methylphenol	ND	6,000
N-Nitroso-di-n-propylamine	ND	6,000
Hexachloroethane	ND	6,000
Nitrobenzene	ND	6,000
Isophorone	ND	6,000
2-Nitrophenol	ND	12,000
2,4-Dimethylphenol	ND	6,000
Benzoic acid	ND	30,000
bis(2-Chloroethoxy)methane	ND	6,000
2,4-Dichlorophenol	ND	6,000
1,2,4-Trichlorobenzene	ND	6,000
Naphthalene	ND	1,200
4-Chloroaniline	ND	6,000
Hexachlorobutadiene	ND	6,000
4-Chloro-3-methylphenol	ND	6,000
2-Methylnaphthalene	ND	1,200
Hexachlorocyclopentadiene	ND	12,000
2,4,6-Trichlorophenol	ND	6,000
2,4,5-Trichlorophenol	ND	6,000
2-Chloronaphthalene	ND	6,000
2-Nitroaniline	ND	12,000
Dimethylphthalate	ND	6,000
Acenaphthylene	ND	1,200
2,6-Dinitrotoluene	ND	6,000
3-Nitroaniline	ND	12,000
Acenaphthene	ND	1,200
2,4-Dinitrophenol	ND	12,000
4-Nitrophenol	ND	12,000
Dibenzofuran	ND	6,000
2,4-Dinitrotoluene	ND	6,000
Diethylphthalate	ND	6,000
Fluorene	ND	1,200
4-Chlorophenyl-phenylether	ND	6,000
4-Nitroaniline	ND	12,000
4,6-Dinitro-2-methylphenol	ND	12,000
N-Nitrosodiphenylamine	ND	6,000
Azobenzene	ND	6,000
4-Bromophenyl-phenylether	ND	6,000
Hexachlorobenzene	ND	6,000
Pentachlorophenol	ND	12,000

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(2)	Batch#:	222836
Lab ID:	266525-019	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	16.67		

Analyte	Result	RL
Phenanthrene	ND	1,200
Anthracene	ND	1,200
Di-n-butylphthalate	ND	6,000
Fluoranthene	ND	1,200
Pyrene	ND	1,200
Butylbenzylphthalate	ND	6,000
3,3'-Dichlorobenzidine	ND	12,000
Benzo(a)anthracene	ND	1,200
Chrysene	ND	1,200
bis(2-Ethylhexyl)phthalate	ND	6,000
Di-n-octylphthalate	ND	6,000
Benzo(b)fluoranthene	ND	1,200
Benzo(k)fluoranthene	ND	1,200
Benzo(a)pyrene	ND	1,200
Indeno(1,2,3-cd)pyrene	ND	1,200
Dibenz(a,h)anthracene	ND	1,200
Benzo(g,h,i)perylene	ND	1,200

Surrogate	%REC	Limits
2-Fluorophenol	DO	25-120
Phenol-d5	DO	36-120
2,4,6-Tribromophenol	DO	27-120
Nitrobenzene-d5	DO	44-120
2-Fluorobiphenyl	DO	47-120
Terphenyl-d14	DO	49-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(5)	Batch#:	222836
Lab ID:	266525-020	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 6%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	360
Phenol	ND	360
bis(2-Chloroethyl)ether	ND	360
2-Chlorophenol	ND	360
1,3-Dichlorobenzene	520	360
1,4-Dichlorobenzene	ND	360
Benzyl alcohol	ND	360
1,2-Dichlorobenzene	ND	360
2-Methylphenol	ND	360
bis(2-Chloroisopropyl) ether	ND	360
4-Methylphenol	ND	360
N-Nitroso-di-n-propylamine	ND	360
Hexachloroethane	ND	360
Nitrobenzene	ND	360
Isophorone	ND	360
2-Nitrophenol	ND	710
2,4-Dimethylphenol	ND	360
Benzoic acid	ND	1,800
bis(2-Chloroethoxy)methane	ND	360
2,4-Dichlorophenol	ND	360
1,2,4-Trichlorobenzene	360	360
Naphthalene	ND	71
4-Chloroaniline	ND	360
Hexachlorobutadiene	ND	360
4-Chloro-3-methylphenol	ND	360
2-Methylnaphthalene	ND	71
Hexachlorocyclopentadiene	ND	710
2,4,6-Trichlorophenol	ND	360
2,4,5-Trichlorophenol	ND	360
2-Chloronaphthalene	ND	360
2-Nitroaniline	ND	710
Dimethylphthalate	ND	360
Acenaphthylene	ND	71
2,6-Dinitrotoluene	ND	360
3-Nitroaniline	ND	710
Acenaphthene	ND	71
2,4-Dinitrophenol	ND	710
4-Nitrophenol	ND	710
Dibenzofuran	ND	360
2,4-Dinitrotoluene	ND	360
Diethylphthalate	ND	360
Fluorene	ND	71
4-Chlorophenyl-phenylether	ND	360
4-Nitroaniline	ND	710
4,6-Dinitro-2-methylphenol	ND	710
N-Nitrosodiphenylamine	ND	360
Azobenzene	ND	360
4-Bromophenyl-phenylether	ND	360
Hexachlorobenzene	ND	360
Pentachlorophenol	ND	710
Phenanthrene	ND	71

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(5)	Batch#:	222836
Lab ID:	266525-020	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	71
Di-n-butylphthalate	ND	360
Fluoranthene	94	71
Pyrene	110	71
Butylbenzylphthalate	ND	360
3,3'-Dichlorobenzidine	ND	710
Benzo(a)anthracene	ND	71
Chrysene	ND	71
bis(2-Ethylhexyl)phthalate	ND	360
Di-n-octylphthalate	ND	360
Benzo(b)fluoranthene	ND	71
Benzo(k)fluoranthene	ND	71
Benzo(a)pyrene	ND	71
Indeno(1,2,3-cd)pyrene	ND	71
Dibenz(a,h)anthracene	ND	71
Benzo(g,h,i)perylene	ND	71

Surrogate	%REC	Limits
2-Fluorophenol	62	25-120
Phenol-d5	64	36-120
2,4,6-Tribromophenol	53	27-120
Nitrobenzene-d5	56	44-120
2-Fluorobiphenyl	62	47-120
Terphenyl-d14	64	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(8)	Batch#:	222836
Lab ID:	266525-021	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Moisture: 33%

Analyte	Result	RL
N-Nitrosodimethylamine	ND	500
Phenol	ND	500
bis(2-Chloroethyl)ether	ND	500
2-Chlorophenol	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
Benzyl alcohol	ND	500
1,2-Dichlorobenzene	ND	500
2-Methylphenol	ND	500
bis(2-Chloroisopropyl) ether	ND	500
4-Methylphenol	ND	500
N-Nitroso-di-n-propylamine	ND	500
Hexachloroethane	ND	500
Nitrobenzene	ND	500
Isophorone	ND	500
2-Nitrophenol	ND	1,000
2,4-Dimethylphenol	ND	500
Benzoic acid	ND	2,500
bis(2-Chloroethoxy)methane	ND	500
2,4-Dichlorophenol	ND	500
1,2,4-Trichlorobenzene	ND	500
Naphthalene	ND	100
4-Chloroaniline	ND	500
Hexachlorobutadiene	ND	500
4-Chloro-3-methylphenol	ND	500
2-Methylnaphthalene	ND	100
Hexachlorocyclopentadiene	ND	1,000
2,4,6-Trichlorophenol	ND	500
2,4,5-Trichlorophenol	ND	500
2-Chloronaphthalene	ND	500
2-Nitroaniline	ND	1,000
Dimethylphthalate	ND	500
Acenaphthylene	ND	100
2,6-Dinitrotoluene	ND	500
3-Nitroaniline	ND	1,000
Acenaphthene	ND	100
2,4-Dinitrophenol	ND	1,000
4-Nitrophenol	ND	1,000
Dibenzofuran	ND	500
2,4-Dinitrotoluene	ND	500
Diethylphthalate	ND	500
Fluorene	ND	100
4-Chlorophenyl-phenylether	ND	500
4-Nitroaniline	ND	1,000
4,6-Dinitro-2-methylphenol	ND	1,000
N-Nitrosodiphenylamine	ND	500
Azobenzene	ND	500
4-Bromophenyl-phenylether	ND	500
Hexachlorobenzene	ND	500
Pentachlorophenol	ND	1,000
Phenanthrene	210	100

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(8)	Batch#:	222836
Lab ID:	266525-021	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry	Analyzed:	05/05/15
Diln Fac:	1.000		

Analyte	Result	RL
Anthracene	ND	100
Di-n-butylphthalate	ND	500
Fluoranthene	210	100
Pyrene	200	100
Butylbenzylphthalate	ND	500
3,3'-Dichlorobenzidine	ND	1,000
Benzo(a)anthracene	ND	100
Chrysene	110	100
bis(2-Ethylhexyl)phthalate	ND	500
Di-n-octylphthalate	ND	500
Benzo(b)fluoranthene	110	100
Benzo(k)fluoranthene	ND	100
Benzo(a)pyrene	ND	100
Indeno(1,2,3-cd)pyrene	ND	100
Dibenz(a,h)anthracene	ND	100
Benzo(g,h,i)perylene	ND	100

Surrogate	%REC	Limits
2-Fluorophenol	65	25-120
Phenol-d5	69	36-120
2,4,6-Tribromophenol	64	27-120
Nitrobenzene-d5	59	44-120
2-Fluorobiphenyl	63	47-120
Terphenyl-d14	67	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786533	Batch#:	222836
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/05/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	340
Phenol	ND	340
bis(2-Chloroethyl)ether	ND	340
2-Chlorophenol	ND	340
1,3-Dichlorobenzene	ND	340
1,4-Dichlorobenzene	ND	340
Benzyl alcohol	ND	340
1,2-Dichlorobenzene	ND	340
2-Methylphenol	ND	340
bis(2-Chloroisopropyl) ether	ND	340
4-Methylphenol	ND	340
N-Nitroso-di-n-propylamine	ND	340
Hexachloroethane	ND	340
Nitrobenzene	ND	340
Isophorone	ND	340
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	340
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	340
2,4-Dichlorophenol	ND	340
1,2,4-Trichlorobenzene	ND	340
Naphthalene	ND	67
4-Chloroaniline	ND	340
Hexachlorobutadiene	ND	340
4-Chloro-3-methylphenol	ND	340
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	340
2,4,5-Trichlorophenol	ND	340
2-Chloronaphthalene	ND	340
2-Nitroaniline	ND	670
Dimethylphthalate	ND	340
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	340
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	340
2,4-Dinitrotoluene	ND	340
Diethylphthalate	ND	340
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	340
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	340
Azobenzene	ND	340
4-Bromophenyl-phenylether	ND	340
Hexachlorobenzene	ND	340
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	340
Fluoranthene	ND	67

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786533	Batch#:	222836
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/05/15

Analyte	Result	RL
Pyrene	ND	67
Butylbenzylphthalate	ND	340
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	340
Di-n-octylphthalate	ND	340
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	68	25-120
Phenol-d5	69	36-120
2,4,6-Tribromophenol	41	27-120
Nitrobenzene-d5	62	44-120
2-Fluorobiphenyl	68	47-120
Terphenyl-d14	70	49-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC786534	Batch#:	222836
Matrix:	Soil	Prepared:	05/04/15
Units:	ug/Kg	Analyzed:	05/05/15

Analyte	Spiked	Result	%REC	Limits
Phenol	2,689	2,172	81	42-120
2-Chlorophenol	2,689	2,160	80	45-120
1,4-Dichlorobenzene	2,689	2,184	81	48-120
N-Nitroso-di-n-propylamine	2,689	2,197	82	27-123
1,2,4-Trichlorobenzene	2,689	2,215	82	50-120
4-Chloro-3-methylphenol	2,689	2,325	86	59-120
Acenaphthene	1,008	854.6	85	53-120
4-Nitrophenol	2,689	2,344	87	47-120
2,4-Dinitrotoluene	2,689	2,329	87	55-120
Pentachlorophenol	2,689	2,007	75	32-120
Pyrene	1,008	876.3	87	52-120

Surrogate	%REC	Limits
2-Fluorophenol	80	25-120
Phenol-d5	80	36-120
2,4,6-Tribromophenol	88	27-120
Nitrobenzene-d5	72	44-120
2-Fluorobiphenyl	73	47-120
Terphenyl-d14	78	49-120

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	APLB-2(5)	Batch#:	222836
MSS Lab ID:	266525-020	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	ug/Kg	Prepared:	05/04/15
Basis:	dry		

Type: MS Moisture: 6%
Lab ID: QC786535

Analyte	MSS Result	Spiked	Result	%REC	Limits	Diln Fac	Analyzed
Phenol	<16.05	2,836	2,312	82	47-120	1.000	05/05/15
2-Chlorophenol	<14.91	2,836	2,302	81	44-120	1.000	05/05/15
1,4-Dichlorobenzene	129.6	2,836	2,875	97	49-120	1.000	05/05/15
N-Nitroso-di-n-propylamine	<16.24	2,836	2,332	82	42-120	1.000	05/05/15
1,2,4-Trichlorobenzene	365.0	2,836	3,318	104	54-120	1.000	05/05/15
4-Chloro-3-methylphenol	<9.265	2,836	2,548	90	55-120	1.000	05/05/15
Acenaphthene	<7.154	1,063	944.7	89	51-120	1.000	05/05/15
4-Nitrophenol	<7.574	2,836	2,581	91	36-120	1.000	05/05/15
2,4-Dinitrotoluene	<8.910	2,836	2,507	88	52-120	1.000	05/05/15
Pentachlorophenol	<109.7	2,836	1,888	67	14-120	1.000	05/05/15
Pyrene	113.0	1,063	1,173	100	46-124	2.000	05/06/15

Surrogate	%REC	Limits	Diln Fac	Analyzed
2-Fluorophenol	82	25-120	1.000	05/05/15
Phenol-d5	82	36-120	1.000	05/05/15
2,4,6-Tribromophenol	89	27-120	1.000	05/05/15
Nitrobenzene-d5	75	44-120	1.000	05/05/15
2-Fluorobiphenyl	76	47-120	1.000	05/05/15
Terphenyl-d14	81	49-120	1.000	05/05/15

Type: MSD Moisture: 6%
Lab ID: QC786536

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Diln Fac	Analyzed
Phenol	2,843	2,337	82	47-120	1	39	1.000	05/05/15
2-Chlorophenol	2,843	2,286	80	44-120	1	38	1.000	05/05/15
1,4-Dichlorobenzene	2,843	2,440	81	49-120	17	45	1.000	05/05/15
N-Nitroso-di-n-propylamine	2,843	2,331	82	42-120	0	40	1.000	05/05/15
1,2,4-Trichlorobenzene	2,843	3,583	113	54-120	7	38	1.000	05/05/15
4-Chloro-3-methylphenol	2,843	2,501	88	55-120	2	41	1.000	05/05/15
Acenaphthene	1,066	917.9	86	51-120	3	47	1.000	05/05/15
4-Nitrophenol	2,843	2,640	93	36-120	2	41	1.000	05/05/15
2,4-Dinitrotoluene	2,843	2,475	87	52-120	2	40	1.000	05/05/15
Pentachlorophenol	2,843	1,852	65	14-120	2	53	1.000	05/05/15
Pyrene	1,066	2,169	193 *	46-124	59 *	50	2.000	05/06/15

Surrogate	%REC	Limits	Diln Fac	Analyzed
2-Fluorophenol	80	25-120	1.000	05/05/15
Phenol-d5	82	36-120	1.000	05/05/15
2,4,6-Tribromophenol	84	27-120	1.000	05/05/15
Nitrobenzene-d5	73	44-120	1.000	05/05/15
2-Fluorobiphenyl	74	47-120	1.000	05/05/15
Terphenyl-d14	81	49-120	1.000	05/05/15

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555120229009 File : yco09 Time : 24-MAR-2015 15:50

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	173190	44.21	
68	< 2% of mass 69	0	0.00	
69		171552	100.00	
70	< 2% of mass 69	137	0.08	
127	40% - 60% of mass 198	173290	44.24	
197	< 1% of mass 198	0	0.00	
198		391701	100.00	
199	5% - 9% of mass 198	27384	6.99	
275	10% - 30% of mass 198	97650	24.93	
365	> 1% of mass 198	11479	2.93	
441	Present, < mass 443	43290	74.41	
442	> 40% and < 100% of mass 198	295808	75.52	
443	17% - 23% of mass 442	58178	19.67	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

PEM Report

File Name : G:\msbna06\032415\YCO09.D
Date Acquired : 24 Mar 2015 3:50 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.881	5.49	736084
Benzidine	0.569	7.35	2546584
4,4'-DDT		8.37	1789243
4,4'-DDE		7.58	19791
4,4'-DDD		8.00	86883

% Breakdown: 4,4'-DDT	LIMIT <=20%	6%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Tue Mar 24 16:07:08 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP IDF : 1.0
Seqnum : 555182096002 File : ye602 Time : 06-MAY-2015 11:25

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	130709	41.26	
68	< 2% of mass 69	0	0.00	
69		133434	100.00	
70	< 2% of mass 69	647	0.48	
127	40% - 60% of mass 198	139392	44.00	
197	< 1% of mass 198	0	0.00	
198		316800	100.00	
199	5% - 9% of mass 198	21808	6.88	
275	10% - 30% of mass 198	83162	26.25	
365	> 1% of mass 198	10385	3.28	
441	Present, < mass 443	38541	76.75	
442	> 40% and < 100% of mass 198	260053	82.09	
443	17% - 23% of mass 442	50218	19.31	

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

PEM Report

File Name : G:\msbna06\050615\YE602.D
Date Acquired : 6 May 2015 11:25 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA06 BNA DFTPP/PEM
Inst. Name : MSBNA06
AcquisitionMeth: DFTPP06.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.349	5.47	244614
Benzidine	0.576	7.33	2218029
4,4'-DDT		8.35	1257229
4,4'-DDE		7.55	7518
4,4'-DDD		7.97	65030

% Breakdown: 4,4'-DDT	LIMIT <=20%	5%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.3	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA07 Run Name : DFTPP/PEM IDF : 1.0
Seqnum : 565140315004 File : zd704 Time : 07-APR-2015 12:07

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	206958	57.41	
68	< 2% of mass 69	0	0.00	
69		179733	100.00	
70	< 2% of mass 69	1034	0.58	
127	40% - 60% of mass 198	206101	57.17	
197	< 1% of mass 198	1203	0.33	
198		360512	100.00	
199	5% - 9% of mass 198	24250	6.73	
275	10% - 30% of mass 198	89637	24.86	
365	> 1% of mass 198	8308	2.30	
441	Present, < mass 443	34890	95.68	
442	> 40% and < 100% of mass 198	192320	53.35	
443	17% - 23% of mass 442	36464	18.96	

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

PEM Report

File Name : G:\msbna07\040715\ZD704.D
Date Acquired : 7 Apr 2015 12:07 pm
Sample Name : TUN,S26814
Misc. Info : DFTPP/PEM
Calib. Title : MSBNA07 BNA DFTPP/PEM
Inst. Name : MSBNA07
AcquisitionMeth: DFTPP07.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.917	5.42	394816
Benzidine	0.739	7.27	2814268
4,4'-DDT		8.30	1488711
4,4'-DDE		7.51	2586
4,4'-DDD		7.93	31993

% Breakdown: 4,4'-DDT	LIMIT <=20%	2%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.7	PASS
	8270D <=2	1	PASS

CURTIS & TOMPKINS DFTPP TUNE FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA07 Run Name : DFTPP/PEM IDF : 1.0
Seqnum : 565180636002 File : ze502 Time : 05-MAY-2015 11:06

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	175663	57.75	
68	< 2% of mass 69	0	0.00	
69		155071	100.00	
70	< 2% of mass 69	877	0.57	
127	40% - 60% of mass 198	172160	56.60	
197	< 1% of mass 198	0	0.00	
198		304170	100.00	
199	5% - 9% of mass 198	20088	6.60	
275	10% - 30% of mass 198	73928	24.30	
365	> 1% of mass 198	6616	2.18	
441	Present, < mass 443	29749	95.63	
442	> 40% and < 100% of mass 198	166336	54.69	
443	17% - 23% of mass 442	31109	18.70	

Analyst: KMH Date: 05/05/15 Reviewer: LW Date: 05/06/15

PEM Report

File Name : G:\msbna07\050515\ZE502.D
Date Acquired : 5 May 2015 11:06 am
Sample Name : TUN,S26814
Misc. Info : DFTPP/PEM
Calib. Title : MSBNA07 BNA DFTPP/PEM
Inst. Name : MSBNA07
AcquisitionMeth: DFTPP07.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.976	5.41	249463
Benzidine	0.535	7.26	2421993
4,4'-DDT		8.28	1155603
4,4'-DDE		7.49	2799
4,4'-DDD		7.91	28009

% Breakdown: 4,4'-DDT	LIMIT <=20%	3%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.0	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.5	PASS
	8270D <=2	1	PASS

Tue May 05 11:17:02 2015

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSBNA Soil: EPA 8270C

Inst : MSBNA06
Calnum : 555120229001
Units : ug/mL

Name : 6PTBNA6
Date : 24-MAR-2015 16:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	yco11	555120229011	ICAL	24-MAR-2015 16:49	S26474
L2	yco12	555120229012	ICAL	24-MAR-2015 17:25	S26475
L3	yco13	555120229013	ICAL	24-MAR-2015 18:01	S26476
L4	yco14	555120229014	ICAL	24-MAR-2015 18:37	S26477
L5	yco15	555120229015	ICAL	24-MAR-2015 19:14	S26478
L6	yco16	555120229016	ICAL	24-MAR-2015 19:50	S26479
L7	yco17	555120229017	ICAL	24-MAR-2015 20:28	S26480
L8	yco18	555120229018	ICAL	24-MAR-2015 21:07	S26481
L9	yco19	555120229019	ICAL	24-MAR-2015 21:45	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		1.3307	1.5049	1.5667	1.5813	1.5648	1.5018	1.4510	1.4252	AVRG		0.67079		1.4908	6	15	0.05	0.99	
Phenol		1.9695	2.0270	2.0160	2.0056	1.9671	1.8901m	1.8366	1.8444	AVRG		0.51426		1.9445	4	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4461m	1.4290	1.3624	1.3572	1.3154	1.2739m	1.2380m	1.1616m	AVRG		0.75588		1.3230	7	15	0.05	0.99	
2-Chlorophenol		1.4296	1.4027	1.3955	1.3856	1.3703	1.3500	1.3245	1.3346	AVRG		0.72775		1.3741	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.6099	1.5785	1.6009	1.5877	1.5642	1.5471	1.5097	1.5014	AVRG		0.64003		1.5624	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.3648	1.4121	1.4292	1.4382	1.4403	1.4327	1.3968	1.3932	AVRG		0.70751		1.4134	2	15	0.05	0.99	
Benzyl alcohol		0.8185	0.8487	0.8633	0.8820	0.8744	0.8778	0.8696	0.9000	AVRG		1.15369		0.8668	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.3102	1.3492	1.3631	1.3718	1.3595	1.3462	1.3013	1.2875	AVRG		0.74844		1.3361	2	15	0.05	0.99	
2-Methylphenol		0.9195	0.9763	1.0087	1.0056	1.0074	0.9979	0.9952	0.9896	AVRG		1.01263		0.9875	3	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.2241	2.2134	2.1602	2.1669	2.0843	1.9565	1.8476	1.7731	AVRG		0.48703		2.0533	8	15	0.05	0.99	
4-Methylphenol		1.3922	1.4729	1.5322	1.5346	1.5309	1.5442			AVRG		0.66614		1.5012	4	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7996	0.8268	0.8338	0.8228	0.8144	0.8159	0.8207	0.8394	AVRG		1.21704		0.8217	1	15	0.050	0.99	
Hexachloroethane		0.6099	0.6399	0.6636	0.6651	0.6567	0.6506	0.6292	0.6224	AVRG		1.55722		0.6422	3	15	0.05	0.99	
Nitrobenzene		0.4583	0.4571	0.4507	0.4481	0.4352	0.4306	0.4150	0.4084	AVRG		2.28354		0.4379	4	15	0.05	0.99	
Isophorone		0.8707	0.8475	0.8545	0.8571	0.8579	0.8761	0.8670	0.8633	AVRG		1.16040		0.8618	1	15	0.05	0.99	
2-Nitrophenol			0.2131	0.2163	0.2150	0.2127	0.2127	0.1999	0.1979m	AVRG		4.76986		0.2096	4	15	0.05	0.99	
2,4-Dimethylphenol		0.4380	0.4121	0.4151	0.4090	0.3974	0.3924	0.3815	0.3748	AVRG		2.48433		0.4025	5	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4570	0.4568	0.4590	0.4562	0.4473	0.4452	0.4523	AVRG		2.20555		0.4534	1	15	0.05	0.99	
Benzoic acid		0.2757	0.2779	0.2941	0.2980	0.3000	0.3133	0.3098	0.3153	AVRG		3.35561		0.2980	5	15	0.05	0.99	
2,4-Dichlorophenol		0.3561	0.3561	0.3505	0.3486	0.3438	0.3395	0.3273	0.3274	AVRG		2.90992		0.3437	3	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4247	0.4272	0.4262	0.4240	0.4170	0.4107	0.3941	0.3797	AVRG		2.42160		0.4130	4	15	0.05	0.99	
Naphthalene	0.9607	0.9619	0.9757	1.0059	1.0108	1.0216	1.0334	1.0014	0.9916	AVRG		1.00413		0.9959	3	15	0.05	0.99	
4-Chloroaniline		0.2778m	0.4133	0.4290	0.4372	0.4397	0.4464	0.4483	0.4484	LINR	2.53671	2.17378		0.4175	1.000	15	0.05	0.99	
Hexachlorobutadiene		0.2729	0.2791	0.2765	0.2751	0.2735	0.2641	0.2475	0.2390	AVRG		3.75983		0.2660	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3650	0.3791	0.3879	0.3929	0.3867	0.3839	0.3692	0.3635	AVRG		2.64186		0.3785	3	15	0.05	0.99	
2-Methylnaphthalene	0.7688	0.7984	0.7990	0.8056	0.8029	0.7920	0.7868	0.7868	0.7849	AVRG		1.26311		0.7917	1	15	0.05	0.99	
Hexachlorocyclopentadiene			0.4175	0.4629	0.4606	0.4598	0.4657	0.4554	0.4526	AVRG		2.20520		0.4535	4	15	0.050	0.99	
2,4,6-Trichlorophenol		0.5108	0.5151	0.5253	0.5305	0.5212	0.5223	0.5169	0.5141	AVRG		1.92486		0.5195	1	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5272	0.5254	0.5407	0.5269	0.5333	0.5193m	0.5067m	0.5018m	AVRG		1.91329		0.5227	2	15	0.05	0.99	
2-Chloronaphthalene			1.2826	1.2727	1.2799	1.2731	1.3165	1.3135	1.3197	AVRG		0.77280		1.2940	2	15	0.05	0.99	
2-Nitroaniline			0.4727	0.4755	0.4756	0.4714	0.4714	0.4687	0.4649	AVRG		2.12101		0.4715	1	15	0.05	0.99	
Dimethylphthalate		1.6348	1.5826	1.6120	1.5945	1.5671	1.5458	1.5182	1.4903	AVRG		0.63769		1.5682	3	15	0.05	0.99	
2,6-Dinitrotoluene		0.3531	0.3472	0.3519	0.3515	0.3490	0.3529	0.3508	0.3508	AVRG		2.84971		0.3509	1	15	0.05	0.99	
Acenaphthylene	2.1002	2.0135	2.0049	2.0617	2.0463	2.0337	2.0195	1.9932	1.9637	AVRG		0.49351		2.0263	2	15	0.05	0.99	
3-Nitroaniline			0.3257	0.3567	0.3422	0.3477	0.3703	0.3726	0.3817	AVRG		2.80345		0.3567	6	15	0.05	0.99	
Acenaphthene	0.9997	1.0447	1.0995	1.1208	1.1639	1.1368	1.1555	1.1330	1.1485	AVRG		0.89977		1.1114	5	15	0.05	0.99	
2,4-Dinitrophenol			0.1275	0.1699	0.1861	0.2018	0.2276	0.2439	0.2520	LINR	12.6402	3.59390		0.2013	0.999	15	0.050	0.99	
4-Nitrophenol			0.2513	0.2633	0.2634	0.2588	0.2656	0.2618	0.2665	AVRG		3.82385		0.2615	2	15	0.050	0.99	
Dibenzofuran			1.7589	1.8052	1.7751	1.7665	1.7223	1.6703	1.6326	AVRG		0.57705		1.7330	4	15	0.05	0.99	
2,4-Dinitrotoluene		0.4359	0.4485	0.4708	0.4706	0.4627	0.4710	0.4598	0.4515	AVRG		2.17929		0.4589	3	15	0.05	0.99	
Diethylphthalate			1.6170	1.6367	1.6220	1.6175	1.6078	1.5897	1.5792	AVRG		0.62112		1.6100	1	15	0.05	0.99	
Fluorene	1.6226	1.5719	1.5459	1.5586	1.5500	1.5174	1.5094	1.4840	1.4762	AVRG		0.65048		1.5373	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.8797	0.9042	0.9056	0.9012	0.9076	0.9000	0.8836	AVRG		1.11432		0.8974	1	15	0.05	0.99	
4-Nitroaniline			0.2764	0.3172	0.3121	0.3216	0.3229	0.3471m	0.3557m	AVRG		3.10689		0.3219	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1206	0.1336	0.1366	0.1373	0.1398	0.1387		AVRG		7.43742		0.1345	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5197	0.5248	0.5079	0.5025	0.4914	0.4764	0.4736	AVRG		2.00213		0.4995	4	15	0.05	0.99	
Azobenzene			0.7569	0.7592	0.7378	0.7211	0.6852	0.6636	0.6477	AVRG		1.40800		0.7102	6	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2626	0.2680	0.2714	0.2623	0.2604	0.2594	0.2577	AVRG		3.80070		0.2631	2	15	0.05	0.99	
Hexachlorobenzene		0.2648	0.2682	0.2661	0.2635	0.2590	0.2491	0.2397	0.2356	AVRG		3.91004		0.2558	5	15	0.05	0.99	
Pentachlorophenol			0.1812	0.1931	0.1936	0.1948	0.1900	0.1854	0.1865	AVRG		5.28472		0.1892	3	15	0.05	0.99	
Phenanthrene	0.9926	0.9600	0.9733	0.9920	0.9947	0.9906	0.9772	0.9450	0.9264	AVRG		1.02837		0.9724	2	15	0.05	0.99	
Anthracene	1.0259	1.0143	1.0354	1.0485	1.0387	1.0179	0.9925	0.9568	0.9377	AVRG		0.99252		1.0075	4	15	0.05	0.99	
Di-n-butylphthalate			1.4071	1.4334	1.3907	1.3864	1.3197	1.2570	1.2310	AVRG		0.74268		1.3465	6	15	0.05	0.99	
Fluoranthene	1.4760	1.5076	1.5402	1.5657	1.5490	1.5121	1.4585	1.3900	1.3492	AVRG		0.67424		1.4832	5	15	0.05	0.99	
Pyrene	1.4880	1.5248	1.5498	1.5415	1.5294	1.5163	1.4611	1.4263	1.4204	AVRG		0.66877		1.4953	3	15	0.05	0.99	
Butylbenzylphthalate			0.6557	0.6894	0.6917	0.6817	0.6832	0.6651	0.6668	AVRG		1.47877		0.6762	2	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4727	0.5582	0.5682	0.5739	0.5553	0.5292	0.5140	AVRG		1.85603		0.5388	7	15	0.05	0.99	
Benzo(a)anthracene	1.3345	1.2972	1.2579	1.2635	1.2511	1.2234	1.2144	1.1929	1.1952	AVRG		0.80142		1.2478	4	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.8762	0.8850	0.8678	0.8522	0.7779	0.7434	0.7394	AVRG		1.21911		0.8203	8	15	0.05	0.99	
Chrysene	0.9999	1.0134	1.0620	1.1125	1.1374	1.1450	1.1486	1.1555	1.1685	AVRG		0.90519		1.1047	6	15	0.05	0.99	
Di-n-octylphthalate			1.4977	1.5796	1.5701	1.5542	1.5191	1.4824	1.4551	AVRG		0.65678		1.5226	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.2561	1.3048	1.3017	1.3778	1.3660	1.3628	1.3695	1.3850	1.4287	AVRG		0.74058		1.3503	4	15	0.05	0.99	
Benzo(k)fluoranthene	1.2230m	1.2015m	1.1886m	1.1833	1.1623	1.1420	1.0799	1.0125m	0.9631m	AVRG		0.88617		1.1285	8	15	0.05	0.99	
Benzo(a)pyrene	1.2255	1.2461	1.2709	1.3029	1.3162	1.2847	1.2896	1.2611	1.2502	AVRG		0.78622		1.2719	2	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.2470	1.3168	1.3470	1.4514	1.4416	1.4487	1.4266	1.3925	1.3754	AVRG		0.72306		1.3830	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.9899	1.0624	1.0695	1.1269	1.1019	1.0882	1.0711	1.0528	1.0426	AVRG		0.93698		1.0673	4	15	0.05	0.99	
Benzo(g,h,i)perylene	1.0827	1.0273	1.0271	1.1077	1.1328	1.1182	1.1101	1.0822	1.0808	AVRG		0.92128		1.0854	3	15	0.05	0.99	
2-Fluorophenol	1.4394	1.5826	1.6954	1.7335	1.7446	1.6983	1.6762	1.6688	1.6873	AVRG		0.60297		1.6585	6	15	0.05	0.99	
Phenol-d5	1.8330	1.9930	2.1586	2.1984	2.1661	2.1589	2.1145	2.0687	2.0608	AVRG		0.47995		2.0836	5	15	0.05	0.99	
Nitrobenzene-d5	0.5404	0.5262	0.5215	0.5153	0.5180	0.5049	0.5102	0.5004	0.4983	AVRG		1.94163		0.5150	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7758	1.7475	1.6289	1.6053	1.5848	1.5576	1.5885	1.5622	1.5587	AVRG		0.61604		1.6233	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.2560	0.2710	0.2730	0.2806	0.2830	0.2810	0.2965	0.2989	0.3019	AVRG		3.54068		0.2824	5	15	0.05	0.99	
Terphenyl-d14	1.0974	1.1340	1.1399	1.1837	1.1796	1.1680	1.1436	1.1164	1.1239	AVRG		0.87494		1.1429	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-11	20.000	1	32.000	5	40.000	6	50.000	5	80.000	1	100.00	-3	120.00	-4
Phenol			10.000	1	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-5
bis(2-Chloroethyl)ether			10.000	9	20.000	8	32.000	3	40.000	3	50.000	-1	80.000	-4	100.00	-6	120.00	-12
2-Chlorophenol			10.000	4	20.000	2	32.000	2	40.000	1	50.000	0	80.000	-2	100.00	-4	120.00	-3
1,3-Dichlorobenzene			10.000	3	20.000	1	32.000	2	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-4
1,4-Dichlorobenzene			10.000	-3	20.000	0	32.000	1	40.000	2	50.000	2	80.000	1	100.00	-1	120.00	-1
Benzyl alcohol			10.000	-6	20.000	-2	32.000	0	40.000	2	50.000	1	80.000	1	100.00	0	120.00	4
1,2-Dichlorobenzene			10.000	-2	20.000	1	32.000	2	40.000	3	50.000	2	80.000	1	100.00	-3	120.00	-4
2-Methylphenol			10.000	-7	20.000	-1	32.000	2	40.000	2	50.000	2	80.000	1	100.00	1	120.00	0
bis(2-Chloroisopropyl) ether			10.000	8	20.000	8	32.000	5	40.000	6	50.000	2	80.000	-5	100.00	-10	120.00	-14
4-Methylphenol			10.000	-7	20.000	-2	32.000	2	40.000	2	50.000	2	80.000	3				
N-Nitroso-di-n-propylamine			10.000	-3	20.000	1	32.000	1	40.000	0	50.000	-1	80.000	-1	100.00	0	120.00	2
Hexachloroethane			10.000	-5	20.000	0	32.000	3	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	5	20.000	4	32.000	3	40.000	2	50.000	-1	80.000	-2	100.00	-5	120.00	-7
Isophorone			10.000	1	20.000	-2	32.000	-1	40.000	-1	50.000	0	80.000	2	100.00	1	120.00	0
2-Nitrophenol					20.000	2	32.000	3	40.000	3	50.000	1	80.000	1	100.00	-5	120.00	-6
2,4-Dimethylphenol			10.000	9	20.000	2	32.000	3	40.000	2	50.000	-1	80.000	-3	100.00	-5	120.00	-7
bis(2-Chloroethoxy)methane					10.000	1	16.000	1	20.000	1	25.000	1	40.000	-1	50.000	-2	60.000	0
Benzoic acid			50.000	-7	60.000	-7	80.000	-1	90.000	0	100.00	1	120.00	5	130.00	4	140.00	6
2,4-Dichlorophenol			10.000	4	20.000	4	32.000	2	40.000	1	50.000	0	80.000	-1	100.00	-5	120.00	-5
1,2,4-Trichlorobenzene			10.000	3	20.000	3	32.000	3	40.000	3	50.000	1	80.000	-1	100.00	-5	120.00	-8
Naphthalene	2.0000	-4	5.0000	-3	10.000	-2	16.000	1	20.000	1	25.000	3	40.000	4	50.000	1	60.000	0
4-Chloroaniline			10.000	-13	20.000	3	32.000	1	40.000	1	50.000	1	80.000	0	100.00	0	120.00	0
Hexachlorobutadiene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	3	80.000	-1	100.00	-7	120.00	-10
4-Chloro-3-methylphenol			10.000	-4	20.000	0	32.000	2	40.000	4	50.000	2	80.000	1	100.00	-2	120.00	-4
2-Methylnaphthalene	2.0000	-3	5.0000	1	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-1	50.000	-1	60.000	-1
Hexachlorocyclopentadiene					20.000	-8	32.000	2	40.000	2	50.000	1	80.000	3	100.00	0	120.00	0
2,4,6-Trichlorophenol			10.000	-2	20.000	-1	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-1	120.00	-1
2,4,5-Trichlorophenol			10.000	1	20.000	1	32.000	3	40.000	1	50.000	2	80.000	-1	100.00	-3	120.00	-4
2-Chloronaphthalene					10.000	-1	16.000	-2	20.000	-1	25.000	-2	40.000	2	50.000	2	60.000	2
2-Nitroaniline					20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-1
Dimethylphthalate			10.000	4	20.000	1	32.000	3	40.000	2	50.000	0	80.000	-1	100.00	-3	120.00	-5
2,6-Dinitrotoluene			10.000	1	20.000	-1	32.000	0	40.000	0	50.000	-1	80.000	1	100.00	0	120.00	0
Acenaphthylene	2.0000	4	5.0000	-1	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-3
3-Nitroaniline					20.000	-9	32.000	0	40.000	-4	50.000	-3	80.000	4	100.00	4	120.00	7
Acenaphthene	2.0000	-10	5.0000	-6	10.000	-1	16.000	1	20.000	5	25.000	2	40.000	4	50.000	2	60.000	3
2,4-Dinitrophenol					20.000	9	32.000	1	40.000	-2	50.000	-2	80.000	-2	100.00	0	120.00	1
4-Nitrophenol					20.000	-4	32.000	1	40.000	1	50.000	-1	80.000	2	100.00	0	120.00	2
Dibenzofuran					10.000	1	16.000	4	20.000	2	25.000	2	40.000	-1	50.000	-4	60.000	-6
2,4-Dinitrotoluene			10.000	-5	20.000	-2	32.000	3	40.000	3	50.000	1	80.000	3	100.00	0	120.00	-2
Diethylphthalate					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-2
Fluorene	2.0000	6	5.0000	2	10.000	1	16.000	1	20.000	1	25.000	-1	40.000	-2	50.000	-3	60.000	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-2	16.000	1	20.000	1	25.000	0	40.000	1	50.000	0	60.000	-2
4-Nitroaniline					20.000	-14	32.000	-1	40.000	-3	50.000	0	80.000	0	100.00	8	120.00	11
4,6-Dinitro-2-methylphenol					20.000	-10	32.000	-1	40.000	2	50.000	2	80.000	4	100.00	3		
N-Nitrosodiphenylamine					10.000	4	16.000	5	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Azobenzene					10.000	7	16.000	7	20.000	4	25.000	2	40.000	-4	50.000	-7	60.000	-9
4-Bromophenyl-phenylether					10.000	0	16.000	2	20.000	3	25.000	0	40.000	-1	50.000	-1	60.000	-2
Hexachlorobenzene			10.000	4	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-3	100.00	-6	120.00	-8
Pentachlorophenol					20.000	-4	32.000	2	40.000	2	50.000	3	80.000	0	100.00	-2	120.00	-1
Phenanthrene	2.0000	2	5.0000	-1	10.000	0	16.000	2	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-5
Anthracene	2.0000	2	5.0000	1	10.000	3	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-5	60.000	-7
Di-n-butylphthalate					10.000	5	16.000	6	20.000	3	25.000	3	40.000	-2	50.000	-7	60.000	-9
Fluoranthene	2.0000	0	5.0000	2	10.000	4	16.000	6	20.000	4	25.000	2	40.000	-2	50.000	-6	60.000	-9
Pyrene	2.0000	0	5.0000	2	10.000	4	16.000	3	20.000	2	25.000	1	40.000	-2	50.000	-5	60.000	-5
Butylbenzylphthalate					10.000	-3	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-2	60.000	-1
3,3'-Dichlorobenzidine					20.000	-12	32.000	4	40.000	5	50.000	7	80.000	3	100.00	-2	120.00	-5
Benzo(a)anthracene	2.0000	7	5.0000	4	10.000	1	16.000	1	20.000	0	25.000	-2	40.000	-3	50.000	-4	60.000	-4
bis(2-Ethylhexyl)phthalate					10.000	7	16.000	8	20.000	6	25.000	4	40.000	-5	50.000	-9	60.000	-10
Chrysene	2.0000	-9	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	4	40.000	4	50.000	5	60.000	6
Di-n-octylphthalate					10.000	-2	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-3	60.000	-4
Benzo(b)fluoranthene	2.0000	-7	5.0000	-3	10.000	-4	16.000	2	20.000	1	25.000	1	40.000	1	50.000	3	60.000	6
Benzo(k)fluoranthene	2.0000	8	5.0000	6	10.000	5	16.000	5	20.000	3	25.000	1	40.000	-4	50.000	-10	60.000	-15
Benzo(a)pyrene	2.0000	-4	5.0000	-2	10.000	0	16.000	2	20.000	3	25.000	1	40.000	1	50.000	-1	60.000	-2
Indeno(1,2,3-cd)pyrene	2.0000	-10	5.0000	-5	10.000	-3	16.000	5	20.000	4	25.000	5	40.000	3	50.000	1	60.000	-1
Dibenz(a,h)anthracene	2.0000	-7	5.0000	0	10.000	0	16.000	6	20.000	3	25.000	2	40.000	0	50.000	-1	60.000	-2
Benzo(g,h,i)perylene	2.0000	0	5.0000	-5	10.000	-5	16.000	2	20.000	4	25.000	3	40.000	2	50.000	0	60.000	0
2-Fluorophenol	2.0000	-13	5.0000	-5	10.000	2	16.000	5	20.000	5	25.000	2	40.000	1	50.000	1	60.000	2
Phenol-d5	2.0000	-12	5.0000	-4	10.000	4	16.000	6	20.000	4	25.000	4	40.000	1	50.000	-1	60.000	-1
Nitrobenzene-d5	2.0000	5	5.0000	2	10.000	1	16.000	0	20.000	1	25.000	-2	40.000	-1	50.000	-3	60.000	-3
2-Fluorobiphenyl	2.0000	9	5.0000	8	10.000	0	16.000	-1	20.000	-2	25.000	-4	40.000	-2	50.000	-4	60.000	-4
2,4,6-Tribromophenol	2.0000	-9	5.0000	-4	10.000	-3	16.000	-1	20.000	0	25.000	-1	40.000	5	50.000	6	60.000	7
Terphenyl-d14	2.0000	-4	5.0000	-1	10.000	0	16.000	4	20.000	3	25.000	2	40.000	0	50.000	-2	60.000	-2

NPM 03/25/15 [Aniline]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [2,4,5-Trichlorophenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Benzidine]: Corrected automatically drawn baseline in ICAL (yco12).

NPM 03/25/15 [Phenol]: Picked or reassigned peak in ICAL (yco17).

NPM 03/25/15 [4-Methylphenol]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Aniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 03/25/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in multiple levels.

NPM 03/25/15 [Pyridine]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [2-Nitrophenol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (yco19).

NPM 03/25/15 [4,6-Dinitro-2-methylphenol]: Corrected automatically drawn baseline in ICAL (yco19).

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA06 Name : 6PTBNA6
Calnum : 555120229001 Cal Date : 24-MAR-2015

ICV 555120229020 (yco20 24-MAR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	40.57	ug/mL	1	30	
Phenol	40.00	37.01	ug/mL	-7	20	
bis(2-Chloroethyl)ether	40.00	37.87	ug/mL	-5	30	
2-Chlorophenol	40.00	37.60	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	38.61	ug/mL	-3	30	
1,4-Dichlorobenzene	40.00	38.94	ug/mL	-3	20	
Benzyl alcohol	40.00	38.78	ug/mL	-3	30	
1,2-Dichlorobenzene	40.00	39.81	ug/mL	0	30	
2-Methylphenol	40.00	39.37	ug/mL	-2	30	
bis(2-Chloroisopropyl) ether	40.00	38.86	ug/mL	-3	30	
4-Methylphenol	40.00	35.55	ug/mL	-11	30	
N-Nitroso-di-n-propylamine	40.00	38.03	ug/mL	-5	30	
Hexachloroethane	40.00	39.27	ug/mL	-2	30	
Nitrobenzene	40.00	37.56	ug/mL	-6	30	
Isophorone	40.00	37.96	ug/mL	-5	30	
2-Nitrophenol	40.00	39.52	ug/mL	-1	20	
2,4-Dimethylphenol	40.00	38.75	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.43	ug/mL	-6	30	
Benzoic acid	100.0	98.65	ug/mL	-1	40	
2,4-Dichlorophenol	40.00	38.04	ug/mL	-5	20	
1,2,4-Trichlorobenzene	40.00	39.93	ug/mL	0	30	
Naphthalene	40.00	37.88	ug/mL	-5	30	
4-Chloroaniline	40.00	38.21	ug/mL	-4	30	
Hexachlorobutadiene	40.00	40.43	ug/mL	1	20	
4-Chloro-3-methylphenol	40.00	38.65	ug/mL	-3	20	
2-Methylnaphthalene	40.00	38.28	ug/mL	-4	30	
Hexachlorocyclopentadiene	40.00	37.15	ug/mL	-7	40	
2,4,6-Trichlorophenol	40.00	38.55	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.89	ug/mL	-3	30	
2-Chloronaphthalene	40.00	37.40	ug/mL	-7	30	
2-Nitroaniline	40.00	37.59	ug/mL	-6	30	
Dimethylphthalate	40.00	37.77	ug/mL	-6	30	
2,6-Dinitrotoluene	40.00	37.29	ug/mL	-7	30	
Acenaphthylene	40.00	36.06	ug/mL	-10	30	
3-Nitroaniline	40.00	36.42	ug/mL	-9	30	
Acenaphthene	40.00	39.17	ug/mL	-2	20	
2,4-Dinitrophenol	40.00	39.87	ug/mL	0	40	
4-Nitrophenol	40.00	37.10	ug/mL	-7	40	
Dibenzofuran	40.00	39.34	ug/mL	-2	30	
2,4-Dinitrotoluene	40.00	40.78	ug/mL	2	30	
Diethylphthalate	40.00	36.54	ug/mL	-9	30	
Fluorene	40.00	36.00	ug/mL	-10	30	
4-Chlorophenyl-phenylether	40.00	37.82	ug/mL	-5	40	
4-Nitroaniline	40.00	37.61	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.56	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	43.60	ug/mL	9	20	
Azobenzene	40.00	35.74	ug/mL	-11	30	
4-Bromophenyl-phenylether	40.00	36.77	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.86	ug/mL	-5	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	38.02	ug/mL	-5	20	
Phenanthrene	40.00	37.31	ug/mL	-7	30	
Anthracene	40.00	37.43	ug/mL	-6	30	
Di-n-butylphthalate	40.00	36.66	ug/mL	-8	30	
Fluoranthene	40.00	36.56	ug/mL	-9	20	
Pyrene	40.00	35.15	ug/mL	-12	30	
Butylbenzylphthalate	40.00	37.87	ug/mL	-5	30	
3,3'-Dichlorobenzidine	60.00	58.22	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.04	ug/mL	-5	30	
bis(2-Ethylhexyl)phthalate	40.00	37.26	ug/mL	-7	30	
Chrysene	40.00	39.42	ug/mL	-1	30	
Di-n-octylphthalate	40.00	36.91	ug/mL	-8	20	
Benzo(b)fluoranthene	40.00	39.31	ug/mL	-2	30	
Benzo(k)fluoranthene	40.00	37.69	ug/mL	-6	30	
Benzo(a)pyrene	40.00	38.34	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	40.00	38.60	ug/mL	-3	30	
Dibenz(a,h)anthracene	40.00	37.25	ug/mL	-7	30	
Benzo(g,h,i)perylene	40.00	37.66	ug/mL	-6	30	

Analyst: NPM Date: 03/25/15 Reviewer: LW Date: 03/26/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 MSBNA Soil: EPA 8270C

Inst : MSBNA07
Calnum : 565140315001
Units : ug/mL

Name : 6PTBNA7
Date : 07-APR-2015 12:33
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	zd705	565140315005	ICAL	07-APR-2015 12:33	S26474
L2	zd706	565140315006	ICAL	07-APR-2015 13:11	S26475
L3	zd707	565140315007	ICAL	07-APR-2015 13:48	S26476
L4	zd708	565140315008	ICAL	07-APR-2015 14:26	S26477
L5	zd709	565140315009	ICAL	07-APR-2015 15:02	S26478
L6	zd710	565140315010	ICAL	07-APR-2015 15:39	S26479
L7	zd711	565140315011	ICAL	07-APR-2015 16:16	S26480
L8	zd712	565140315012	ICAL	07-APR-2015 16:54	S26481
L9	zd713	565140315013	ICAL	07-APR-2015 17:32	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.7375	0.7477	0.7664	0.7782	0.7711	0.7897	0.7860	0.7971	AVRG		1.29584		0.7717	3	15	0.05	0.99	
Phenol		1.8590	1.8750	1.9084	1.9116	1.8859	1.9174	1.9073	1.9121	AVRG		0.52712		1.8971	1	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4657	1.4423	1.4598	1.4642	1.4271	1.4174	1.3952	1.4581m	AVRG		0.69385		1.4412	2	15	0.05	0.99	
2-Chlorophenol		1.5570	1.5602	1.5821	1.5806	1.5578	1.5655	1.5407	1.5318	AVRG		0.64124		1.5595	1	15	0.05	0.99	
1,3-Dichlorobenzene		1.6814	1.6753	1.6759	1.6575	1.6193	1.5887	1.5464	1.5151	AVRG		0.61730		1.6200	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.7245	1.7074	1.6803	1.6647	1.6234	1.5768	1.5304	1.4713	AVRG		0.61639		1.6224	6	15	0.05	0.99	
Benzyl alcohol		0.9861	1.0029	1.0370	1.0270	1.0147	1.0252	1.0147	1.0160	AVRG		0.98478		1.0155	2	15	0.05	0.99	
1,2-Dichlorobenzene		1.6032	1.5855	1.5864	1.5546	1.5287	1.4743	1.4349	1.3944	AVRG		0.65779		1.5202	5	15	0.05	0.99	
2-Methylphenol		1.2295	1.2453	1.2604	1.2434	1.2028	1.1864	1.1578	1.1256	AVRG		0.82891		1.2064	4	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.4080	2.3839	2.4429	2.4292	2.3680	2.3717	2.3266	2.2797	AVRG		0.42083		2.3762	2	15	0.05	0.99	
4-Methylphenol		1.7974	1.7747	1.7943	1.7771	1.7369	1.7518			AVRG		0.56432		1.7720	1	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7868	0.7883	0.8074	0.7844	0.7805	0.7853	0.7760	0.7880	AVRG		1.27051		0.7871	1	15	0.050	0.99	
Hexachloroethane		0.5994	0.5999	0.6133	0.6072	0.5938	0.5867	0.5695	0.5567	AVRG		1.69256		0.5908	3	15	0.05	0.99	
Nitrobenzene		0.3599	0.3652	0.3682	0.3672	0.3604	0.3623	0.3572	0.3565	AVRG		2.76156		0.3621	1	15	0.05	0.99	
Isophorone		0.6753	0.6840	0.7078	0.7036	0.6929	0.7120	0.7028		AVRG		1.43488		0.6969	2	15	0.05	0.99	
2-Nitrophenol			0.2170m	0.2248	0.2225	0.2218	0.2234	0.2150	0.2147	AVRG		4.54756		0.2199	2	15	0.05	0.99	
2,4-Dimethylphenol		0.3436m	0.3397m	0.3473m	0.3372m	0.3299m	0.3333m	0.3280m	0.3298m	AVRG		2.97535		0.3361	2	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4183	0.4295	0.4255	0.4192	0.4188	0.4113	0.4171	AVRG		2.38122		0.4200	1	15	0.05	0.99	
Benzoic acid		0.2342	0.2357	0.2550	0.2551	0.2536	0.2518	0.2492	0.2529	AVRG		4.02506		0.2484	3	15	0.05	0.99	
2,4-Dichlorophenol		0.2943	0.2991	0.3005	0.2973	0.2908	0.2810	0.2712	0.2704	AVRG		3.47140		0.2881	4	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3021	0.3065	0.3053	0.3024	0.2956	0.2880	0.2758	0.2703	AVRG		3.40990		0.2933	5	15	0.05	0.99	
Naphthalene	1.1676	1.1573	1.1602	1.1576	1.1384	1.1116	1.0750	1.0425	1.0311	AVRG		0.89631		1.1157	5	15	0.05	0.99	
4-Chloroaniline		0.3048	0.4617	0.4755	0.4696m	0.4586	0.4537			LINR	0.96143	2.14419		0.4373	0.996	15	0.05	0.99	
Hexachlorobutadiene		0.1436	0.1491	0.1498	0.1477	0.1442	0.1403	0.1341	0.1304	AVRG		7.02285		0.1424	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.2983	0.3071	0.3125	0.3067	0.3027	0.3045	0.2947	0.2940	AVRG		3.30519		0.3026	2	15	0.05	0.99	
2-Methylnaphthalene	0.7348	0.7296	0.7444	0.7476	0.7335	0.7148	0.7085	0.6797	0.6775	AVRG		1.39095		0.7189	4	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3173	0.3298	0.3311	0.3256	0.3332	0.3267	0.3186	AVRG		3.06705		0.3260	2	15	0.050	0.99	
2,4,6-Trichlorophenol		0.3975	0.4016	0.4053	0.4061	0.4062	0.3931	0.3834	0.3752	AVRG		2.52485		0.3961	3	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4198	0.4276	0.4347	0.4360	0.4296	0.4092	0.3945	0.3843	AVRG		2.39837		0.4169	5	15	0.05	0.99	
2-Chloronaphthalene			1.3072	1.3073	1.2955	1.2712	1.2484	1.2261	1.2117	AVRG		0.78942		1.2668	3	15	0.05	0.99	
2-Nitroaniline			0.3954	0.4032	0.4045	0.4031	0.4073	0.4100	0.4175	AVRG		2.46400		0.4058	2	15	0.05	0.99	
Dimethylphthalate		1.5121	1.4820	1.4842	1.4640	1.4467	1.3965	1.3701	1.3522	AVRG		0.69518		1.4385	4	15	0.05	0.99	
2,6-Dinitrotoluene		0.3568	0.3664	0.3725	0.3732	0.3708	0.3647	0.3601	0.3600	AVRG		2.73554		0.3656	2	15	0.05	0.99	
Acenaphthylene	2.1973	2.2286	2.2024	2.2505	2.2190	2.1867	2.1176	2.0945	2.0451	AVRG		0.46055		2.1713	3	15	0.05	0.99	
3-Nitroaniline			0.3178	0.4018m	0.4314	0.4230	0.4355	0.4409	0.4435	AVRG		2.41881		0.4134	11	15	0.05	0.99	
Acenaphthene	1.3255	1.3892	1.3354	1.3489	1.3220	1.2859	1.2422	1.2406	1.2143	AVRG		0.76897		1.3004	4	15	0.05	0.99	
2,4-Dinitrophenol			0.1581	0.2018	0.2190	0.2255	0.2350	0.2438	0.2370	AVRG		4.60454		0.2172	14	15	0.050	0.99	
4-Nitrophenol			0.1323	0.1406	0.1421	0.1431	0.1453	0.1476	0.1490	AVRG		7.00013		0.1429	4	15	0.050	0.99	
Dibenzofuran			1.8401	1.8617	1.8569	1.8077	1.7350	1.6812	1.6145	AVRG		0.56465		1.7710	5	15	0.05	0.99	
2,4-Dinitrotoluene		0.4678	0.4673	0.4752	0.4743	0.4740	0.4581	0.4462	0.4315	AVRG		2.16539		0.4618	3	15	0.05	0.99	
Diethylphthalate			1.4869	1.5005	1.4914	1.4708	1.4256	1.4056	1.3820	AVRG		0.68878		1.4518	3	15	0.05	0.99	
Fluorene	1.5539	1.5723	1.5525	1.5518	1.5381	1.5078	1.4531	1.4292	1.4071	AVRG		0.66344		1.5073	4	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.6846	0.6994	0.6969	0.6870	0.6665	0.6428	0.6299	AVRG		1.48711		0.6724	4	15	0.05	0.99	
4-Nitroaniline			0.3216m	0.3968m	0.4050	0.4151	0.4151	0.4114	0.4027m	AVRG		2.52917		0.3954	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1445	0.1626	0.1658	0.1663	0.1660	0.1666	0.1646	AVRG		6.15931		0.1624	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.6401	0.6592	0.6464	0.6351	0.6243	0.6144	0.6064	AVRG		1.58159		0.6323	3	15	0.05	0.99	
Azobenzene			0.8350	0.8516	0.8518	0.8371	0.8349	0.8413	0.8329	AVRG		1.18957		0.8406	1	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2169	0.2263	0.2267	0.2216	0.2196	0.2179	0.2140	AVRG		4.53682		0.2204	2	15	0.05	0.99	
Hexachlorobenzene		0.2044	0.2182	0.2310	0.2316	0.2276	0.2248	0.2207	0.2157	AVRG		4.50988		0.2217	4	15	0.05	0.99	
Pentachlorophenol			0.1208	0.1461	0.1506	0.1521	0.1571	0.1566	0.1571	AVRG		6.72789		0.1486	9	15	0.05	0.99	
Phenanthrene	1.2385	1.2045	1.1769	1.1983	1.1738	1.1577	1.1170	1.0886	1.0778	AVRG		0.86264		1.1592	5	15	0.05	0.99	
Anthracene	1.2295	1.2171	1.2035	1.2011	1.1925	1.1616	1.1153	1.0991	1.0792	AVRG		0.85724		1.1665	5	15	0.05	0.99	
Di-n-butylphthalate			1.4507	1.5047	1.4851	1.4647	1.4371	1.4053	1.3861	AVRG		0.69076		1.4477	3	15	0.05	0.99	
Fluoranthene	1.2261	1.2334	1.2573	1.2961	1.2897	1.2657	1.2439	1.2376	1.2212	AVRG		0.79852		1.2523	2	15	0.05	0.99	
Pyrene	1.4519	1.4502	1.4283	1.4728	1.4595	1.4469	1.4444	1.4266	1.4316	AVRG		0.69166		1.4458	1	15	0.05	0.99	
Butylbenzylphthalate			0.6538	0.6945	0.6997	0.6930	0.7053	0.7062	0.7230	AVRG		1.43574		0.6965	3	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.3472	0.4150	0.4293	0.4390	0.4520	0.4523	0.4473	AVRG		2.34736		0.4260	9	15	0.05	0.99	
Benzo(a)anthracene	1.2743	1.2592	1.2206	1.2496	1.2449	1.2541	1.2462	1.2428	1.2434	AVRG		0.80106		1.2483	1	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.9520	0.9885	0.9923	0.9769	0.9274	0.8808	0.8481	AVRG		1.06610		0.9380	6	15	0.05	0.99	
Chrysene	1.1884	1.1751	1.1600	1.1743	1.1569	1.1501	1.1257	1.1119	1.1004	AVRG		0.87016		1.1492	3	15	0.05	0.99	
Di-n-octylphthalate			1.6722	1.7769	1.8008	1.8006	1.8133	1.8264	1.8603	AVRG		0.55775		1.7929	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.1210	1.1538	1.1685	1.2386	1.2475	1.2697	1.3255	1.3655	1.4505	AVRG		0.79362		1.2601	8	15	0.05	0.99	
Benzo(k)fluoranthene	1.0654	1.0895	1.1527	1.1816	1.2144	1.2011	1.1624	1.1320m	1.0939m	AVRG		0.87438		1.1437	5	15	0.05	0.99	
Benzo(a)pyrene	1.0251	1.0880	1.1340	1.1966	1.2204	1.2192	1.2334	1.2388	1.2625	AVRG		0.84762		1.1798	7	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0611	1.1031	1.1831	1.2824	1.3300	1.3498	1.4034	1.4228	1.4551	AVRG		0.77648		1.2879	11	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8817	0.9473	1.0221	1.1155	1.1584	1.1778	1.2138	1.2271	1.2491	AVRG		0.90066		1.1103	12	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9389	0.9117	0.9253	1.0479	1.0821	1.1045	1.1337	1.1415	1.1625	AVRG		0.95256		1.0498	9	15	0.05	0.99	
2-Fluorophenol	1.3661	1.4102	1.4704	1.4958	1.5149	1.5010	1.5538	1.5532	1.5616	AVRG		0.67029		1.4919	4	15	0.05	0.99	
Phenol-d5	1.7101	1.7796	1.8056	1.8393	1.8648	1.8506	1.8874	1.8640	1.8866	AVRG		0.54585		1.8320	3	15	0.05	0.99	
Nitrobenzene-d5	0.3862	0.3865	0.3993	0.4143	0.4110	0.4058	0.4131	0.4048	0.4053	AVRG		2.48194		0.4029	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7497	1.7452	1.6976	1.6886	1.6738	1.6355	1.5788	1.5359	1.4987	AVRG		0.60796		1.6449	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.1228	0.1422	0.1576	0.1759	0.1831	0.1833	0.1902	0.1908	0.1878	AVRG		5.86862		0.1704	14	15	0.05	0.99	
Terphenyl-d14	1.0068	1.0370	1.0266	1.0802	1.0931	1.0817	1.0778	1.0718	1.0714	AVRG		0.94276		1.0607	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-4	20.000	-3	32.000	-1	40.000	1	50.000	0	80.000	2	100.00	2	120.00	3
Phenol			10.000	-2	20.000	-1	32.000	1	40.000	1	50.000	-1	80.000	1	100.00	1	120.00	1
bis(2-Chloroethyl)ether			10.000	2	20.000	0	32.000	1	40.000	2	50.000	-1	80.000	-2	100.00	-3	120.00	1
2-Chlorophenol			10.000	0	20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-2
1,3-Dichlorobenzene			10.000	4	20.000	3	32.000	3	40.000	2	50.000	0	80.000	-2	100.00	-5	120.00	-6
1,4-Dichlorobenzene			10.000	6	20.000	5	32.000	4	40.000	3	50.000	0	80.000	-3	100.00	-6	120.00	-9
Benzyl alcohol			10.000	-3	20.000	-1	32.000	2	40.000	1	50.000	0	80.000	1	100.00	0	120.00	0
1,2-Dichlorobenzene			10.000	5	20.000	4	32.000	4	40.000	2	50.000	1	80.000	-3	100.00	-6	120.00	-8
2-Methylphenol			10.000	2	20.000	3	32.000	4	40.000	3	50.000	0	80.000	-2	100.00	-4	120.00	-7
bis(2-Chloroisopropyl) ether			10.000	1	20.000	0	32.000	3	40.000	2	50.000	0	80.000	0	100.00	-2	120.00	-4
4-Methylphenol			10.000	1	20.000	0	32.000	1	40.000	0	50.000	-2	80.000	-1				
N-Nitroso-di-n-propylamine			10.000	0	20.000	0	32.000	3	40.000	0	50.000	-1	80.000	0	100.00	-1	120.00	0
Hexachloroethane			10.000	1	20.000	2	32.000	4	40.000	3	50.000	1	80.000	-1	100.00	-4	120.00	-6
Nitrobenzene			10.000	-1	20.000	1	32.000	2	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-2
Isophorone			10.000	-3	20.000	-2	32.000	2	40.000	1	50.000	-1	80.000	2	100.00	1		
2-Nitrophenol					20.000	-1	32.000	2	40.000	1	50.000	1	80.000	2	100.00	-2	120.00	-2
2,4-Dimethylphenol			10.000	2	20.000	1	32.000	3	40.000	0	50.000	-2	80.000	-1	100.00	-2	120.00	-2
bis(2-Chloroethoxy)methane					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-1
Benzoic acid			50.000	-6	60.000	-5	80.000	3	90.000	3	100.00	2	120.00	1	130.00	0	140.00	2
2,4-Dichlorophenol			10.000	2	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-2	100.00	-6	120.00	-6
1,2,4-Trichlorobenzene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-2	100.00	-6	120.00	-8
Naphthalene	2.0000	5	5.0000	4	10.000	4	16.000	4	20.000	2	25.000	0	40.000	-4	50.000	-7	60.000	-8
4-Chloroaniline			10.000	**-25**	20.000	4	32.000	5	40.000	3	50.000	0	80.000	-2				
Hexachlorobutadiene			10.000	1	20.000	5	32.000	5	40.000	4	50.000	1	80.000	-1	100.00	-6	120.00	-8
4-Chloro-3-methylphenol			10.000	-1	20.000	1	32.000	3	40.000	1	50.000	0	80.000	1	100.00	-3	120.00	-3
2-Methylnaphthalene	2.0000	2	5.0000	1	10.000	4	16.000	4	20.000	2	25.000	-1	40.000	-1	50.000	-5	60.000	-6
Hexachlorocyclopentadiene					20.000	-3	32.000	1	40.000	2	50.000	0	80.000	2	100.00	0	120.00	-2
2,4,6-Trichlorophenol			10.000	0	20.000	1	32.000	2	40.000	3	50.000	3	80.000	-1	100.00	-3	120.00	-5
2,4,5-Trichlorophenol			10.000	1	20.000	3	32.000	4	40.000	5	50.000	3	80.000	-2	100.00	-5	120.00	-8
2-Chloronaphthalene					10.000	3	16.000	3	20.000	2	25.000	0	40.000	-1	50.000	-3	60.000	-4
2-Nitroaniline					20.000	-3	32.000	-1	40.000	0	50.000	-1	80.000	0	100.00	1	120.00	3
Dimethylphthalate			10.000	5	20.000	3	32.000	3	40.000	2	50.000	1	80.000	-3	100.00	-5	120.00	-6
2,6-Dinitrotoluene			10.000	-2	20.000	0	32.000	2	40.000	2	50.000	1	80.000	0	100.00	-2	120.00	-2
Acenaphthylene	2.0000	1	5.0000	3	10.000	1	16.000	4	20.000	2	25.000	1	40.000	-2	50.000	-4	60.000	-6
3-Nitroaniline					20.000	**-23**	32.000	-3	40.000	4	50.000	2	80.000	5	100.00	7	120.00	7
Acenaphthene	2.0000	2	5.0000	7	10.000	3	16.000	4	20.000	2	25.000	-1	40.000	-4	50.000	-5	60.000	-7
2,4-Dinitrophenol					20.000	**-27**	32.000	-7	40.000	1	50.000	4	80.000	8	100.00	12	120.00	9
4-Nitrophenol					20.000	-7	32.000	-2	40.000	-1	50.000	0	80.000	2	100.00	3	120.00	4
Dibenzofuran					10.000	4	16.000	5	20.000	5	25.000	2	40.000	-2	50.000	-5	60.000	-9
2,4-Dinitrotoluene			10.000	1	20.000	1	32.000	3	40.000	3	50.000	3	80.000	-1	100.00	-3	120.00	-7
Diethylphthalate					10.000	2	16.000	3	20.000	3	25.000	1	40.000	-2	50.000	-3	60.000	-5
Fluorene	2.0000	3	5.0000	4	10.000	3	16.000	3	20.000	2	25.000	0	40.000	-4	50.000	-5	60.000	-7

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	2	16.000	4	20.000	4	25.000	2	40.000	-1	50.000	-4	60.000	-6
4-Nitroaniline					20.000	-19	32.000	0	40.000	2	50.000	5	80.000	5	100.00	4	120.00	2
4,6-Dinitro-2-methylphenol					20.000	-11	32.000	0	40.000	2	50.000	2	80.000	2	100.00	3	120.00	1
N-Nitrosodiphenylamine					10.000	1	16.000	4	20.000	2	25.000	0	40.000	-1	50.000	-3	60.000	-4
Azobenzene					10.000	-1	16.000	1	20.000	1	25.000	0	40.000	-1	50.000	0	60.000	-1
4-Bromophenyl-phenylether					10.000	-2	16.000	3	20.000	3	25.000	1	40.000	0	50.000	-1	60.000	-3
Hexachlorobenzene			10.000	-8	20.000	-2	32.000	4	40.000	4	50.000	3	80.000	1	100.00	0	120.00	-3
Pentachlorophenol					20.000	-19	32.000	-2	40.000	1	50.000	2	80.000	6	100.00	5	120.00	6
Phenanthrene	2.0000	7	5.0000	4	10.000	2	16.000	3	20.000	1	25.000	0	40.000	-4	50.000	-6	60.000	-7
Anthracene	2.0000	5	5.0000	4	10.000	3	16.000	3	20.000	2	25.000	0	40.000	-4	50.000	-6	60.000	-7
Di-n-butylphthalate					10.000	0	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-3	60.000	-4
Fluoranthene	2.0000	-2	5.0000	-2	10.000	0	16.000	3	20.000	3	25.000	1	40.000	-1	50.000	-1	60.000	-2
Pyrene	2.0000	0	5.0000	0	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-1
Butylbenzylphthalate					10.000	-6	16.000	0	20.000	0	25.000	-1	40.000	1	50.000	1	60.000	4
3,3'-Dichlorobenzidine					20.000	-19	32.000	-3	40.000	1	50.000	3	80.000	6	100.00	6	120.00	5
Benzo(a)anthracene	2.0000	2	5.0000	1	10.000	-2	16.000	0	20.000	0	25.000	0	40.000	0	50.000	0	60.000	0
bis(2-Ethylhexyl)phthalate					10.000	1	16.000	5	20.000	6	25.000	4	40.000	-1	50.000	-6	60.000	-10
Chrysene	2.0000	3	5.0000	2	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-2	50.000	-3	60.000	-4
Di-n-octylphthalate					10.000	-7	16.000	-1	20.000	0	25.000	0	40.000	1	50.000	2	60.000	4
Benzo(b)fluoranthene	2.0000	-11	5.0000	-8	10.000	-7	16.000	-2	20.000	-1	25.000	1	40.000	5	50.000	8	60.000	15
Benzo(k)fluoranthene	2.0000	-7	5.0000	-5	10.000	1	16.000	3	20.000	6	25.000	5	40.000	2	50.000	-1	60.000	-4
Benzo(a)pyrene	2.0000	-13	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	3	40.000	5	50.000	5	60.000	7
Indeno(1,2,3-cd)pyrene	2.0000	-18	5.0000	-14	10.000	-8	16.000	0	20.000	3	25.000	5	40.000	9	50.000	10	60.000	13
Dibenz(a,h)anthracene	2.0000	**-21**	5.0000	-15	10.000	-8	16.000	0	20.000	4	25.000	6	40.000	9	50.000	11	60.000	12
Benzo(g,h,i)perylene	2.0000	-11	5.0000	-13	10.000	-12	16.000	0	20.000	3	25.000	5	40.000	8	50.000	9	60.000	11
2-Fluorophenol	2.0000	-8	5.0000	-5	10.000	-1	16.000	0	20.000	2	25.000	1	40.000	4	50.000	4	60.000	5
Phenol-d5	2.0000	-7	5.0000	-3	10.000	-1	16.000	0	20.000	2	25.000	1	40.000	3	50.000	2	60.000	3
Nitrobenzene-d5	2.0000	-4	5.0000	-4	10.000	-1	16.000	3	20.000	2	25.000	1	40.000	3	50.000	0	60.000	1
2-Fluorobiphenyl	2.0000	6	5.0000	6	10.000	3	16.000	3	20.000	2	25.000	-1	40.000	-4	50.000	-7	60.000	-9
2,4,6-Tribromophenol	2.0000	**-28**	5.0000	-17	10.000	-8	16.000	3	20.000	7	25.000	8	40.000	12	50.000	12	60.000	10
Terphenyl-d14	2.0000	-5	5.0000	-2	10.000	-3	16.000	2	20.000	3	25.000	2	40.000	2	50.000	1	60.000	1

KMH 04/08/15 [Pyridine]: Corrected automatically drawn baseline in multiple levels.

KMH 04/08/15 [Aniline]: Picked or reassigned peak in all levels.

KMH 04/08/15 [2-Nitrophenol]: Picked or reassigned peak in multiple levels.

KMH 04/08/15 [2,4-Dimethylphenol]: Picked or reassigned peak in multiple levels.

KMH 04/08/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

KMH 04/08/15 [3-Nitroaniline]: Corrected automatically drawn baseline in ICAL (zd708).

KMH 04/08/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (zd709).

KMH 04/08/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in ICAL (zd712).

KMH 04/08/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [4-Methylphenol]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [4-Nitroaniline]: Picked or reassigned peak in ICAL (zd713).

KMH 04/08/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in ICAL (zd713).

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

565140315001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA07 Name : 6PTBNA7
Calnum : 565140315001 Cal Date : 07-APR-2015

ICV 565140315014 (zd714 07-APR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	38.46	ug/mL	-4	30	
Phenol	40.00	38.97	ug/mL	-3	20	
bis(2-Chloroethyl)ether	40.00	39.22	ug/mL	-2	30	
2-Chlorophenol	40.00	39.26	ug/mL	-2	30	
1,3-Dichlorobenzene	40.00	39.34	ug/mL	-2	30	
1,4-Dichlorobenzene	40.00	39.25	ug/mL	-2	20	
Benzyl alcohol	40.00	39.02	ug/mL	-2	30	
1,2-Dichlorobenzene	40.00	39.72	ug/mL	-1	30	
2-Methylphenol	40.00	39.43	ug/mL	-1	30	
bis(2-Chloroisopropyl) ether	40.00	38.97	ug/mL	-3	30	
4-Methylphenol	40.00	35.07	ug/mL	-12	30	
N-Nitroso-di-n-propylamine	40.00	38.10	ug/mL	-5	30	
Hexachloroethane	40.00	38.75	ug/mL	-3	30	
Nitrobenzene	40.00	38.35	ug/mL	-4	30	
Isophorone	40.00	38.34	ug/mL	-4	30	
2-Nitrophenol	40.00	38.53	ug/mL	-4	20	
2,4-Dimethylphenol	40.00	37.87	ug/mL	-5	30	m
bis(2-Chloroethoxy)methane	40.00	37.97	ug/mL	-5	30	
Benzoic acid	100.0	101.3	ug/mL	1	40	
2,4-Dichlorophenol	40.00	39.28	ug/mL	-2	20	
1,2,4-Trichlorobenzene	40.00	39.89	ug/mL	0	30	
Naphthalene	40.00	36.68	ug/mL	-8	30	
4-Chloroaniline	40.00	37.71	ug/mL	-6	30	
Hexachlorobutadiene	40.00	38.91	ug/mL	-3	20	
4-Chloro-3-methylphenol	40.00	38.52	ug/mL	-4	20	
2-Methylnaphthalene	40.00	37.72	ug/mL	-6	30	
Hexachlorocyclopentadiene	40.00	34.50	ug/mL	-14	40	
2,4,6-Trichlorophenol	40.00	38.51	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.40	ug/mL	-4	30	
2-Chloronaphthalene	40.00	37.63	ug/mL	-6	30	
2-Nitroaniline	40.00	37.31	ug/mL	-7	30	
Dimethylphthalate	40.00	38.39	ug/mL	-4	30	
2,6-Dinitrotoluene	40.00	38.89	ug/mL	-3	30	
Acenaphthylene	40.00	37.25	ug/mL	-7	30	
3-Nitroaniline	40.00	36.95	ug/mL	-8	30	
Acenaphthene	40.00	37.04	ug/mL	-7	20	
2,4-Dinitrophenol	40.00	36.60	ug/mL	-8	40	
4-Nitrophenol	40.00	37.76	ug/mL	-6	40	
Dibenzofuran	40.00	37.95	ug/mL	-5	30	
2,4-Dinitrotoluene	40.00	39.03	ug/mL	-2	30	
Diethylphthalate	40.00	36.36	ug/mL	-9	30	
Fluorene	40.00	36.92	ug/mL	-8	30	
4-Chlorophenyl-phenylether	40.00	37.01	ug/mL	-7	40	
4-Nitroaniline	40.00	37.42	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.67	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	42.65	ug/mL	7	20	
Azobenzene	40.00	37.24	ug/mL	-7	30	
4-Bromophenyl-phenylether	40.00	37.86	ug/mL	-5	30	
Hexachlorobenzene	40.00	38.81	ug/mL	-3	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	37.81	ug/mL	-5	20	
Phenanthrene	40.00	36.85	ug/mL	-8	30	
Anthracene	40.00	37.02	ug/mL	-7	30	
Di-n-butylphthalate	40.00	37.32	ug/mL	-7	30	
Fluoranthene	40.00	37.91	ug/mL	-5	20	
Pyrene	40.00	35.97	ug/mL	-10	30	
Butylbenzylphthalate	40.00	38.98	ug/mL	-3	30	
3,3'-Dichlorobenzidine	60.00	58.14	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.57	ug/mL	-4	30	
bis(2-Ethylhexyl)phthalate	40.00	39.13	ug/mL	-2	30	
Chrysene	40.00	37.09	ug/mL	-7	30	
Di-n-octylphthalate	40.00	38.11	ug/mL	-5	20	
Benzo(b)fluoranthene	40.00	40.77	ug/mL	2	30	
Benzo(k)fluoranthene	40.00	40.67	ug/mL	2	30	
Benzo(a)pyrene	40.00	39.95	ug/mL	0	20	
Indeno(1,2,3-cd)pyrene	40.00	40.88	ug/mL	2	30	
Dibenz(a,h)anthracene	40.00	40.66	ug/mL	2	30	
Benzo(g,h,i)perylene	40.00	39.53	ug/mL	-1	30	

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

m=manual integration

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA06 IDF : 1.0
Seqnum : 555182096003 File : ye603 Time : 06-MAY-2015 11:47
Cal : 555120229001 Caldate : 24-MAR-2015
Standards: S26477

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	1.4908	1.2926	32.00	27.75	ug/mL	-13	30	0.0500	
Phenol	1.9445	1.9251	32.00	31.68	ug/mL	-1	20	0.0500	
bis(2-Chloroethyl)ether	1.3230	1.3098	32.00	31.68	ug/mL	-1	30	0.0500	
2-Chlorophenol	1.3741	1.3559	32.00	31.58	ug/mL	-1	30	0.0500	
1,3-Dichlorobenzene	1.5624	1.5540	32.00	31.83	ug/mL	-1	30	0.0500	
1,4-Dichlorobenzene	1.4134	1.4370	32.00	32.53	ug/mL	2	20	0.0500	
Benzyl alcohol	0.8668	0.8254	32.00	30.47	ug/mL	-5	30	0.0500	
1,2-Dichlorobenzene	1.3361	1.3223	32.00	31.67	ug/mL	-1	30	0.0500	
2-Methylphenol	0.9875	0.9584	32.00	31.05	ug/mL	-3	30	0.0500	
bis(2-Chloroisopropyl) ether	2.0533	1.8328	32.00	28.56	ug/mL	-11	30	0.0500	
4-Methylphenol	1.5012	1.4619	32.00	31.16	ug/mL	-3	30	0.0500	
N-Nitroso-di-n-propylamine	0.8217	0.7846	32.00	30.56	ug/mL	-5	30	0.0500	
Hexachloroethane	0.6422	0.6280	32.00	31.29	ug/mL	-2	30	0.0500	
Nitrobenzene	0.4379	0.4275	32.00	31.24	ug/mL	-2	30	0.0500	
Isophorone	0.8618	0.8298	32.00	30.81	ug/mL	-4	30	0.0500	
2-Nitrophenol	0.2096	0.2122	32.00	32.38	ug/mL	1	20	0.0500	
2,4-Dimethylphenol	0.4025	0.3995	32.00	31.76	ug/mL	-1	30	0.0500	
bis(2-Chloroethoxy)methane	0.4534	0.4365	16.00	15.41	ug/mL	-4	30	0.0500	
Benzoic acid	0.2980	0.1962	80.00	52.68	ug/mL	**-34**	40	0.0500	!c-
2,4-Dichlorophenol	0.3437	0.3600	32.00	33.52	ug/mL	5	20	0.0500	
1,2,4-Trichlorobenzene	0.4130	0.4280	32.00	33.17	ug/mL	4	30	0.0500	
Naphthalene	0.9959	0.9720	16.00	15.62	ug/mL	-2	30	0.0500	
4-Chloroaniline	0.4175	0.4307	32.00	32.50	ug/mL	2	30	0.0500	
Hexachlorobutadiene	0.2660	0.2846	32.00	34.25	ug/mL	7	20	0.0500	
4-Chloro-3-methylphenol	0.3785	0.3843	32.00	32.49	ug/mL	2	20	0.0500	
2-Methylnaphthalene	0.7917	0.8002	16.00	16.17	ug/mL	1	30	0.0500	
Hexachlorocyclopentadiene	0.4535	0.3992	32.00	28.17	ug/mL	-12	40	0.0500	
2,4,6-Trichlorophenol	0.5195	0.5212	32.00	32.10	ug/mL	0	20	0.0500	
2,4,5-Trichlorophenol	0.5227	0.5268	32.00	32.25	ug/mL	1	30	0.0500	
2-Chloronaphthalene	1.2940	1.2611	16.00	15.59	ug/mL	-3	30	0.0500	
2-Nitroaniline	0.4715	0.4315	32.00	29.29	ug/mL	-8	30	0.0500	
Dimethylphthalate	1.5682	1.5736	32.00	32.11	ug/mL	0	30	0.0500	
2,6-Dinitrotoluene	0.3509	0.3518	32.00	32.08	ug/mL	0	30	0.0500	
Acenaphthylene	2.0263	1.9957	16.00	15.76	ug/mL	-2	30	0.0500	
3-Nitroaniline	0.3567	0.3277	32.00	29.40	ug/mL	-8	30	0.0500	
Acenaphthene	1.1114	1.0771	16.00	15.51	ug/mL	-3	20	0.0500	
2,4-Dinitrophenol	0.2013	0.1036	32.00	24.55	ug/mL	**-23**	40	0.0500	!c-
4-Nitrophenol	0.2615	0.2346	32.00	28.71	ug/mL	-10	40	0.0500	
Dibenzofuran	1.7330	1.7513	16.00	16.17	ug/mL	1	30	0.0500	
2,4-Dinitrotoluene	0.4589	0.4552	32.00	31.75	ug/mL	-1	30	0.0500	
Diethylphthalate	1.6100	1.5943	16.00	15.84	ug/mL	-1	30	0.0500	
Fluorene	1.5373	1.5201	16.00	15.82	ug/mL	-1	30	0.0500	
4-Chlorophenyl-phenylether	0.8974	0.8924	16.00	15.91	ug/mL	-1	40	0.0500	
4-Nitroaniline	0.3219	0.2762	32.00	27.46	ug/mL	-14	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1345	0.1110	32.00	26.41	ug/mL	-17	30	0.0500	
N-Nitrosodiphenylamine	0.4995	0.5038	16.00	16.14	ug/mL	1	20	0.0500	
Azobenzene	0.7102	0.6868	16.00	15.47	ug/mL	-3	30	0.0500	
4-Bromophenyl-phenylether	0.2631	0.2721	16.00	16.55	ug/mL	3	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2558	0.2784	32.00	34.84	ug/mL	9	30	0.0500	
Pentachlorophenol	0.1892	0.1640	32.00	27.73	ug/mL	-13	20	0.0500	
Phenanthrene	0.9724	0.9740	16.00	16.03	ug/mL	0	30	0.0500	
Anthracene	1.0075	0.9962	16.00	15.82	ug/mL	-1	30	0.0500	
Di-n-butylphthalate	1.3465	1.3629	16.00	16.20	ug/mL	1	30	0.0500	
Fluoranthene	1.4832	1.4915	16.00	16.09	ug/mL	1	20	0.0500	
Pyrene	1.4953	1.5268	16.00	16.34	ug/mL	2	30	0.0500	
Butylbenzylphthalate	0.6762	0.6528	16.00	15.45	ug/mL	-3	30	0.0500	
3,3'-Dichlorobenzidine	0.5388	0.5656	32.00	33.59	ug/mL	5	40	0.0500	
Benzo(a)anthracene	1.2478	1.2330	16.00	15.81	ug/mL	-1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.8203	0.8745	16.00	17.06	ug/mL	7	30	0.0500	
Chrysene	1.1047	1.0777	16.00	15.61	ug/mL	-2	30	0.0500	
Di-n-octylphthalate	1.5226	1.5062	16.00	15.83	ug/mL	-1	20	0.0500	
Benzo(b)fluoranthene	1.3503	1.3315	16.00	15.78	ug/mL	-1	30	0.0500	
Benzo(k)fluoranthene	1.1285	1.1781	16.00	16.70	ug/mL	4	30	0.0500	
Benzo(a)pyrene	1.2719	1.2706	16.00	15.98	ug/mL	0	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.3830	1.3598	16.00	15.73	ug/mL	-2	30	0.0500	
Dibenz(a,h)anthracene	1.0673	1.0798	16.00	16.19	ug/mL	1	30	0.0500	
Benzo(g,h,i)perylene	1.0854	1.0772	16.00	15.88	ug/mL	-1	30	0.0500	
2-Fluorophenol	1.6585	1.5999	16.00	15.43	ug/mL	-4	30	0.0500	
Phenol-d5	2.0836	2.0402	16.00	15.67	ug/mL	-2	30	0.0500	
Nitrobenzene-d5	0.5150	0.4894	16.00	15.20	ug/mL	-5	30	0.0500	
2-Fluorobiphenyl	1.6233	1.6195	16.00	15.96	ug/mL	0	30	0.0500	
2,4,6-Tribromophenol	0.2824	0.2808	16.00	15.91	ug/mL	-1	30	0.0500	
Terphenyl-d14	1.1429	1.1947	16.00	16.72	ug/mL	5	30	0.0500	

KMH 05/06/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

!=warning -=low bias c=CCV

555182096003

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 MSBNA Soil
EPA 8270C

Inst : MSBNA07 IDF : 1.0
Seqnum : 565180636003 File : ze503 Time : 05-MAY-2015 11:26
Cal : 565140315001 Caldate : 07-APR-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.7717	0.7556	40.00	39.17	ug/mL	-2	30	0.0500	
Phenol	1.8971	1.9013	40.00	40.09	ug/mL	0	20	0.0500	
bis(2-Chloroethyl)ether	1.4412	1.4516	40.00	40.29	ug/mL	1	30	0.0500	
2-Chlorophenol	1.5595	1.5608	40.00	40.03	ug/mL	0	30	0.0500	
1,3-Dichlorobenzene	1.6200	1.6605	40.00	41.00	ug/mL	3	30	0.0500	
1,4-Dichlorobenzene	1.6224	1.6915	40.00	41.70	ug/mL	4	20	0.0500	
Benzyl alcohol	1.0155	1.0279	40.00	40.49	ug/mL	1	30	0.0500	
1,2-Dichlorobenzene	1.5202	1.5916	40.00	41.88	ug/mL	5	30	0.0500	
2-Methylphenol	1.2064	1.2485	40.00	41.39	ug/mL	3	30	0.0500	
bis(2-Chloroisopropyl) ether	2.3762	2.4616	40.00	41.44	ug/mL	4	30	0.0500	
4-Methylphenol	1.7720	1.8086	40.00	40.83	ug/mL	2	30	0.0500	
N-Nitroso-di-n-propylamine	0.7871	0.8148	40.00	41.41	ug/mL	4	30	0.0500	
Hexachloroethane	0.5908	0.6110	40.00	41.37	ug/mL	3	30	0.0500	
Nitrobenzene	0.3621	0.3620	40.00	39.99	ug/mL	0	30	0.0500	
Isophorone	0.6969	0.6764	40.00	38.82	ug/mL	-3	30	0.0500	
2-Nitrophenol	0.2199	0.2148	40.00	39.08	ug/mL	-2	20	0.0500	
2,4-Dimethylphenol	0.3361	0.3274	40.00	38.97	ug/mL	-3	30	0.0500	
bis(2-Chloroethoxy)methane	0.4200	0.4152	20.00	19.77	ug/mL	-1	30	0.0500	
Benzoic acid	0.2484	0.2004	90.00	72.58	ug/mL	-19	40	0.0500	
2,4-Dichlorophenol	0.2881	0.2901	40.00	40.28	ug/mL	1	20	0.0500	
1,2,4-Trichlorobenzene	0.2933	0.2993	40.00	40.82	ug/mL	2	30	0.0500	
Naphthalene	1.1157	1.1404	20.00	20.44	ug/mL	2	30	0.0500	
4-Chloroaniline	0.4373	0.4522	40.00	39.74	ug/mL	-1	30	0.0500	
Hexachlorobutadiene	0.1424	0.1465	40.00	41.15	ug/mL	3	20	0.0500	
4-Chloro-3-methylphenol	0.3026	0.3021	40.00	39.94	ug/mL	0	20	0.0500	
2-Methylnaphthalene	0.7189	0.7215	20.00	20.07	ug/mL	0	30	0.0500	
Hexachlorocyclopentadiene	0.3260	0.3252	40.00	39.90	ug/mL	0	40	0.0500	
2,4,6-Trichlorophenol	0.3961	0.3970	40.00	40.09	ug/mL	0	20	0.0500	
2,4,5-Trichlorophenol	0.4169	0.4322	40.00	41.46	ug/mL	4	30	0.0500	
2-Chloronaphthalene	1.2668	1.2933	20.00	20.42	ug/mL	2	30	0.0500	
2-Nitroaniline	0.4058	0.4105	40.00	40.46	ug/mL	1	30	0.0500	
Dimethylphthalate	1.4385	1.5006	40.00	41.73	ug/mL	4	30	0.0500	
2,6-Dinitrotoluene	0.3656	0.3744	40.00	40.97	ug/mL	2	30	0.0500	
Acenaphthylene	2.1713	2.2013	20.00	20.28	ug/mL	1	30	0.0500	
3-Nitroaniline	0.4134	0.4312	40.00	41.72	ug/mL	4	30	0.0500	
Acenaphthene	1.3004	1.2989	20.00	19.98	ug/mL	0	20	0.0500	
2,4-Dinitrophenol	0.2172	0.1819	40.00	33.49	ug/mL	-16	40	0.0500	
4-Nitrophenol	0.1429	0.1491	40.00	41.73	ug/mL	4	40	0.0500	
Dibenzofuran	1.7710	1.8546	20.00	20.94	ug/mL	5	30	0.0500	
2,4-Dinitrotoluene	0.4618	0.4841	40.00	41.93	ug/mL	5	30	0.0500	
Diethylphthalate	1.4518	1.5432	20.00	21.26	ug/mL	6	30	0.0500	
Fluorene	1.5073	1.5756	20.00	20.91	ug/mL	5	30	0.0500	
4-Chlorophenyl-phenylether	0.6724	0.7018	20.00	20.87	ug/mL	4	40	0.0500	
4-Nitroaniline	0.3954	0.4137	40.00	41.85	ug/mL	5	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1624	0.1528	40.00	37.65	ug/mL	-6	30	0.0500	
N-Nitrosodiphenylamine	0.6323	0.6416	20.00	20.29	ug/mL	1	20	0.0500	
Azobenzene	0.8406	0.8286	20.00	19.71	ug/mL	-1	30	0.0500	
4-Bromophenyl-phenylether	0.2204	0.2143	20.00	19.44	ug/mL	-3	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2217	0.2173	40.00	39.20	ug/mL	-2	30	0.0500	
Pentachlorophenol	0.1486	0.1421	40.00	38.23	ug/mL	-4	20	0.0500	
Phenanthrene	1.1592	1.1795	20.00	20.35	ug/mL	2	30	0.0500	
Anthracene	1.1665	1.2011	20.00	20.59	ug/mL	3	30	0.0500	
Di-n-butylphthalate	1.4477	1.4655	20.00	20.25	ug/mL	1	30	0.0500	
Fluoranthene	1.2523	1.2598	20.00	20.12	ug/mL	1	20	0.0500	
Pyrene	1.4458	1.4464	20.00	20.01	ug/mL	0	30	0.0500	
Butylbenzylphthalate	0.6965	0.6873	20.00	19.74	ug/mL	-1	30	0.0500	
3,3'-Dichlorobenzidine	0.4260	0.4222	40.00	39.64	ug/mL	-1	40	0.0500	
Benzo(a)anthracene	1.2483	1.2295	20.00	19.70	ug/mL	-2	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.9380	0.9946	20.00	21.21	ug/mL	6	30	0.0500	
Chrysene	1.1492	1.1749	20.00	20.45	ug/mL	2	30	0.0500	
Di-n-octylphthalate	1.7929	1.8176	20.00	20.28	ug/mL	1	20	0.0500	
Benzo(b)fluoranthene	1.2601	1.2193	20.00	19.35	ug/mL	-3	30	0.0500	
Benzo(k)fluoranthene	1.1437	1.1711	20.00	20.48	ug/mL	2	30	0.0500	
Benzo(a)pyrene	1.1798	1.1863	20.00	20.11	ug/mL	1	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2879	1.2941	20.00	20.10	ug/mL	0	30	0.0500	
Dibenz(a,h)anthracene	1.1103	1.1287	20.00	20.33	ug/mL	2	30	0.0500	
Benzo(g,h,i)perylene	1.0498	1.0671	20.00	20.33	ug/mL	2	30	0.0500	
2-Fluorophenol	1.4919	1.4793	20.00	19.83	ug/mL	-1	30	0.0500	
Phenol-d5	1.8320	1.8369	20.00	20.05	ug/mL	0	30	0.0500	
Nitrobenzene-d5	0.4029	0.4072	20.00	20.21	ug/mL	1	30	0.0500	
2-Fluorobiphenyl	1.6449	1.6554	20.00	20.13	ug/mL	1	30	0.0500	
2,4,6-Tribromophenol	0.1704	0.1638	20.00	19.22	ug/mL	-4	30	0.0500	
Terphenyl-d14	1.0607	1.0583	20.00	19.95	ug/mL	0	30	0.0500	

KMH 05/05/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 05/05/15 Reviewer: LW Date: 05/06/15

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 555182096

Date : 05/06/15
Sequence : MSBNA06 ye6

Reference : ye603
Analyzed : 05/06/15 11:47

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	447781	6.07	1453835	7.57	886708	9.72	1923461	11.57	1898776	14.98	2012590	17.87
		LOWER LIMIT	223891	5.57	726918	7.07	443354	9.22	961731	11.07	949388	14.48	1006295	17.37
		UPPER LIMIT	895562	6.57	2907670	8.07	1773416	10.22	3846922	12.07	3797552	15.48	4025180	18.37
003	CCV		447781	6.07	1453835	7.57	886708	9.72	1923461	11.57	1898776	14.98	2012590	17.87
004	MS	QC786535	393751	6.08	1361636	7.57	844344	9.72	1796176	11.58	1769472	14.98	1727299	17.88
005	MSD	QC786536	414258	6.08	1369177	7.57	869175	9.72	1836978	11.58	1725905	14.98	1832227	17.87
006	SAMPLE	266501-001	512456	6.07	1763468	7.56	991406	9.72	1982704	11.57	2085421	14.97	2199656	17.87
007	SAMPLE	266501-002	510098	6.07	1731511	7.56	979683	9.72	2018853	11.57	2127878	14.97	2176597	17.87
008	SAMPLE	266511-021	481999	6.08	1722989	7.56	981412	9.72	1913357	11.57	1891626	14.97	1739372	17.88
009	SAMPLE	266525-015	412036	6.07	1410485	7.56	1001584	9.72	1972181	11.57	1623475	14.99	1720272	17.87
010	SAMPLE	266525-017	621255	6.07	1244895	7.58	1031852	9.72	2191929	11.57	1754751	14.98	1895221	17.87
011	SAMPLE	266525-018	548412	6.07	1348235	7.57	1058058	9.72	2231702	11.57	1801116	14.98	2018728	17.87
012	SAMPLE	266507-005	590395	6.07	1814315	7.56	961054	9.72	1867223	11.57	1866431	14.98	1878544	17.87
013	SAMPLE	266525-029	452159	6.07	1523854	7.56	1014373	9.72	2091526	11.57	2159226	14.97	2058965	17.87
014	SAMPLE	266525-011	600667	6.07	1911553	7.56	1064891	9.72	2080590	11.57	2083089	14.97	1895706	17.87
015	SAMPLE	266525-010	596230	6.07	1805530	7.56	1042048	9.72	2071319	11.57	1890263	14.97	1759217	17.87
016	SAMPLE	266511-005	551629	6.07	1867421	7.56	1046550	9.72	1990052	11.58	2076259	14.98	1944692	17.88
017	SAMPLE	266511-008	517364	6.07	1798214	7.56	974123	9.72	1888080	11.58	2006705	14.98	1876503	17.88
018	SAMPLE	266511-009	532250	6.07	1804399	7.56	975381	9.72	1910479	11.58	1970303	14.98	1854425	17.88
019	SAMPLE	266578-001	432732	6.07	1336152	7.56	808939	9.72	1838149	11.58	2038118	14.97	1775650	17.87
020	SAMPLE	266525-017	584759	6.07	1477009	7.56	1016185	9.72	2087056	11.57	1829612	14.97	1866809	17.87
021	SAMPLE	266525-018	555288	6.07	1497483	7.56	1004260	9.72	2081586	11.57	1787663	14.97	1842468	17.87

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 565180636

Date : 05/05/15
Sequence : MSBNA07 ze5

Reference : ze503
Analyzed : 05/05/15 11:26

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	308343	6.02	1255582	7.51	601977	9.67	1088545	11.52	1035015	14.90	952479	17.75
		LOWER LIMIT	154172	5.52	627791	7.01	300989	9.17	544273	11.02	517508	14.40	476240	17.25
		UPPER LIMIT	616686	6.52	2511164	8.01	1203954	10.17	2177090	12.02	2070030	15.40	1904958	18.25
003	CCV		308343	6.02	1255582	7.51	601977	9.67	1088545	11.52	1035015	14.90	952479	17.75
004	BLANK	QC786533	297432	6.02	1193666	7.51	532073	9.66	980850	11.51	951333	14.89	902107	17.74
005	LCS	QC786534	306781	6.02	1224560	7.51	589990	9.67	1045470	11.51	999157	14.90	948883	17.75
006	MSS	266525-020	310412	6.02	1237609	7.51	560415	9.66	1055673	11.51	1005706	14.89	965666	17.75
007	MS	QC786535	319401	6.02	1250291	7.51	612463	9.67	1088617	11.52	1014112	14.90	945835	17.77
008	MSD	QC786536	306419	6.03	1206821	7.51	585032	9.67	1034530	11.52	941820	14.91	921219	17.77
009	SAMPLE	266525-012	316449	6.02	1264186	7.51	582748	9.66	1067053	11.51	1017864	14.89	986834	17.75
010	SAMPLE	266525-014	312069	6.02	1260503	7.51	573339	9.66	1056720	11.51	1009232	14.89	984893	17.75
011	SAMPLE	266525-021	320627	6.02	1262805	7.51	590140	9.66	1092938	11.51	1011926	14.90	966388	17.77
012	SAMPLE	266525-015	305084	6.03	1218155	7.51	580372	9.66	1062080	11.51	560676	14.97	802283	17.82
013	SAMPLE	266525-013	301312	6.02	1200837	7.51	552395	9.67	1001332	11.51	955275	14.90	907292	17.76
014	SAMPLE	266525-016	297603	6.02	1193954	7.51	543246	9.67	998115	11.51	940864	14.90	889965	17.76
015	SAMPLE	266525-017	290966	6.02	628398	7.70	449020	9.67	376713 *	11.51	9875 *	14.95	665504	17.81
016	SAMPLE	266525-018	228916	6.04	903885	7.56	515885	9.67	937843	11.51	412536 *	14.98	712006	17.82
017	SAMPLE	266525-019	289447	6.02	1150525	7.51	539542	9.66	960668	11.51	902017	14.90	821402	17.76
018	SAMPLE	266507-002	289964	6.02	1165489	7.51	543881	9.67	981627	11.52	892180	14.90	840152	17.77
019	SAMPLE	266507-003	335401	6.02	1306952	7.51	593628	9.68	1007663	11.53	1002303	14.90	986522	17.77
020	SAMPLE	266507-004	296251	6.02	1175807	7.51	551761	9.67	988694	11.52	902575	14.90	852609	17.77
021	SAMPLE	266507-005	295852	6.02	1180155	7.51	544733	9.67	985388	11.51	923905	14.91	864840	17.77
022	SAMPLE	266525-010	309302	6.02	1227441	7.51	564893	9.67	1031720	11.51	993503	14.90	926159	17.76

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555120229

Instrument : MSBNA06 Begun : 03/24/15 11:49
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yco01	IB	IB			03/24/15 11:49	1.0		?t
002	yco02	TUN	DFTPP			03/24/15 12:18	1.0	1	
003	yco03	CCV				03/24/15 12:38	1.0	2	cc+
004	yco04	TUN	DFTPP			03/24/15 13:15	1.0	1	t
005	yco05	TUN	DFTPP			03/24/15 13:30	1.0	1	
006	yco06	CCV				03/24/15 13:51	1.0	2	cc+
007	yco07	TUN	DFTPP			03/24/15 14:39	1.0	1	
008	yco08	CCV				03/24/15 14:57	1.0	2	cc+
009	yco09	TUN	DFTPP			03/24/15 15:50	1.0	1	
010	yco10	CCV				03/24/15 16:12	1.0	2	cc+
011	yco11	ICAL	ICAL			03/24/15 16:49	1.0	3	
012	yco12	ICAL	ICAL			03/24/15 17:25	1.0	4	
013	yco13	ICAL	ICAL			03/24/15 18:01	1.0	5	
014	yco14	ICAL	ICAL			03/24/15 18:37	1.0	6	
015	yco15	ICAL	ICAL			03/24/15 19:14	1.0	2	
016	yco16	ICAL	ICAL			03/24/15 19:50	1.0	7	
017	yco17	ICAL	ICAL			03/24/15 20:28	1.0	8	
018	yco18	ICAL	ICAL			03/24/15 21:07	1.0	9	
019	yco19	ICAL	ICAL			03/24/15 21:45	1.0	10	
020	yco20	ICV	ICV			03/24/15 22:23	1.0	11	

KMH 03/24/15 : tune adjusted after runs 3, 4 & 6. maint done after run 8

NPM 03/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S26170 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: +=high bias ?t=missing tune cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 555182096

Instrument : MSBNA06 Begun : 05/06/15 10:56
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ye601	IB	IB			05/06/15 10:56	1.0		?t
002	ye602	TUN	DFTPP			05/06/15 11:25	1.0	1	
003	ye603	CCV				05/06/15 11:47	1.0	2	
004	ye604	MS	QC786535	Soil	222836	05/06/15 12:28	2.0	3	
005	ye605	MSD	QC786536	Soil	222836	05/06/15 13:05	2.0	3	
006	ye606	SAMPLE	266501-001	Water	222841	05/06/15 13:44	1.0	3	
007	ye607	SAMPLE	266501-002	Water	222841	05/06/15 14:21	1.0	3	
008	ye608	SAMPLE	266511-021	Soil	222828	05/06/15 15:00	1.0	3	
009	ye609	SAMPLE	266525-015	Soil	222836	05/06/15 15:37	10.0	3	
010	ye610	SAMPLE	266525-017	Soil	222836	05/06/15 16:14	200.0	3	high NT, 1:TCB124=480
011	ye611	SAMPLE	266525-018	Soil	222836	05/06/15 16:52	200.0	3	1:TCB124=220
012	ye612	SAMPLE	266507-005	Soil	222836	05/06/15 17:30	50.0	3	
013	ye613	SAMPLE	266525-029	Water	222841	05/06/15 18:07	10.0	3	
014	ye614	SAMPLE	266525-011	Soil	222836	05/06/15 18:44	50.0	3	
015	ye615	SAMPLE	266525-010	Soil	222836	05/06/15 19:22	100.0	3	
016	ye616	SAMPLE	266511-005	Water	222841	05/06/15 20:00	1.0	3	
017	ye617	SAMPLE	266511-008	Water	222841	05/06/15 20:37	1.0	3	
018	ye618	SAMPLE	266511-009	Water	222841	05/06/15 21:17	1.0	3	
019	ye619	SAMPLE	266578-001	Water	222893	05/06/15 21:54	150.0	3	high NT
020	ye620	SAMPLE	266525-017	Soil	222836	05/06/15 22:33	2000	3	
021	ye621	SAMPLE	266525-018	Soil	222836	05/06/15 23:13	1000	3	

KMH 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Standards used: 1=S26814 2=S26477 3=S26738

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 565140315

Instrument : MSBNA07 Begun : 04/07/15 10:35
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	zd701	IB	IB			04/07/15 10:35	1.0		?t
002	zd702	TUN	DFTPP/PEM			04/07/15 11:04	1.0	1	
003	zd703	CCV				04/07/15 11:26	1.0	2	
004	zd704	TUN	DFTPP/PEM			04/07/15 12:07	1.0	1	
005	zd705	ICAL	ICAL			04/07/15 12:33	1.0	3	
006	zd706	ICAL	ICAL			04/07/15 13:11	1.0	4	
007	zd707	ICAL	ICAL			04/07/15 13:48	1.0	5	
008	zd708	ICAL	ICAL			04/07/15 14:26	1.0	6	
009	zd709	ICAL	ICAL			04/07/15 15:02	1.0	2	
010	zd710	ICAL	ICAL			04/07/15 15:39	1.0	7	
011	zd711	ICAL	ICAL			04/07/15 16:16	1.0	8	
012	zd712	ICAL	ICAL			04/07/15 16:54	1.0	9	
013	zd713	ICAL	ICAL			04/07/15 17:32	1.0	10	
014	zd714	ICV	ICV			04/07/15 18:10	1.0	11	

KMH 04/08/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

Standards used: 1=S26814 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: ?t=missing tune
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 565180636

Instrument : MSBNA07 Begun : 05/05/15 10:36
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ze501	IB	IB			05/05/15 10:36	1.0		?t
002	ze502	TUN	DFTPP/PEM			05/05/15 11:06	1.0	1	
003	ze503	CCV				05/05/15 11:26	1.0	2	
004	ze504	BLANK	QC786533	Soil	222836	05/05/15 12:03	1.0	3	
005	ze505	LCS	QC786534	Soil	222836	05/05/15 12:40	1.0	3	
006	ze506	MSS	266525-020	Soil	222836	05/05/15 13:15	1.0	3	
007	ze507	MS	QC786535	Soil	222836	05/05/15 13:51	1.0	3	2:DCBZ13=130
008	ze508	MSD	QC786536	Soil	222836	05/05/15 14:28	1.0	3	2:13BZDIOL=83
009	ze509	SAMPLE	266525-012	Soil	222836	05/05/15 15:04	1.0	3	
010	ze510	SAMPLE	266525-014	Soil	222836	05/05/15 15:41	1.0	3	
011	ze511	SAMPLE	266525-021	Soil	222836	05/05/15 16:18	1.0	3	
012	ze512	SAMPLE	266525-015	Soil	222836	05/05/15 16:57	2.0	3	3:DCBZ14=350
013	ze513	SAMPLE	266525-013	Soil	222836	05/05/15 17:34	50.0	3	
014	ze514	SAMPLE	266525-016	Soil	222836	05/05/15 18:11	5.0	3	
015	ze515	SAMPLE	266525-017	Soil	222836	05/05/15 18:50	5.0	3	6:TCB124=2700
016	ze516	SAMPLE	266525-018	Soil	222836	05/05/15 19:29	10.0	3	3:TCB124=1500
017	ze517	SAMPLE	266525-019	Soil	222836	05/05/15 20:06	16.67	3	
018	ze518	SAMPLE	266507-002	Soil	222836	05/05/15 20:44	50.0	3	
019	ze519	SAMPLE	266507-003	Soil	222836	05/05/15 21:24	50.0	3	
020	ze520	SAMPLE	266507-004	Soil	222836	05/05/15 22:04	50.0	3	
021	ze521	SAMPLE	266507-005	Soil	222836	05/05/15 22:43	25.0	3	2:PYR=78
022	ze522	SAMPLE	266525-010	Soil	222836	05/05/15 23:24	100.0	3	<<t

KMH 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S26814 2=S26478 3=S26738
Flags used: <<t=out of clock ?t=missing tune
Page 1 of 1

SAMPLE PREPARATION SUMMARY

Batch # : 222836
Started By : ARW
Method : 3550B
Spike #1 ID : S26606
Prep Date : 04-MAY-2015 13:40
SOP Version : 8270_3550_rv15
Spike #2 ID : S27020
Analysis : 8270
Finished By : ARW
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266507-002		Soil	29.67	1	1	0.0337		.4				8270	
266507-003		Soil	29.77	2	1	0.06718		.4				8270	
266507-004		Soil	30.28	2	1	0.06605		.4				8270	
266507-005		Soil	29.63	1	1	0.03375		.4				8270	
266525-010		Soil	29.76	1	1	0.0336		.4				8270	
266525-011		Soil	29.78	2	1	0.06716		.4				8270	
266525-012		Soil	30.12	1	1	0.0332		.4				8270	
266525-013		Soil	30.06	1	1	0.03327		.4				8270	
266525-014		Soil	29.75	1	1	0.03361		.4				8270	
266525-015		Soil	29.95	1	1	0.03339		.4				8270	
266525-016		Soil	30.04	1	1	0.03329		.4				8270	
266525-017		Soil	30.03	1	1	0.0333		.4				8270	
266525-018		Soil	29.54	1	1	0.03385		.4				8270	
266525-019		Soil	29.66	1	1	0.03372		.4				8270	
266525-020		Soil	29.88	1	1	0.03347		.4				8270	
266525-021		Soil	29.66	1	1	0.03372		.4				8270	
QC786533	BLANK	Soil	29.66	1	1	0.03372		.4				8270	
QC786534	LCS	Soil	29.75	1	1	0.03361		.4	1			8270	
QC786535	MS	Soil	30.01	1	1	0.03332		.4	1			8270	
QC786536	MSD	Soil	29.94	1	1	0.0334		.4	1			8270	

Analyst: KMH Date: 05/06/15 Reviewer: LW Date: 05/06/15

BNA Soil Prep Log

Curtis & Tompkins, Ltd.

Page: 66 **BK 3666**

LIMS Batch No: 226836
LIMS Analysis 8270
Date Extracted: 5/4/15 MT

Extraction Method:
☑ EPA 3550b Sonication
☐ Other _____

Cleanup Method (if necessary):
☐ EPA 3640a GPC
☐ Other _____

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	226507-002	E	29.69	☑ 1.0 ☐		
	3		29.77	☐ 1.0 ☑ 2.0		
	4		30.28	☐ 1.0 ☑ 2.0		
	5		29.63	☑ 1.0 ☐		
5	226525-01U	D	29.70	☑ 1.0 ☐		
	11		29.78	☐ 1.0 ☑ 2.0		
	12		30.12	☑ 1.0 ☐		
	13		30.06	☑ 1.0 ☐		
	14		29.75	☑ 1.0 ☐		
10	15		29.75	☑ 1.0 ☐		
	16		30.04	☑ 1.0 ☐		
	17		30.03	☑ 1.0 ☐		
	18		29.54	☑ 1.0 ☐		
	19		29.66	☑ 1.0 ☐		
15	20		29.88	☑ 1.0 ☐		MS
	21		29.66	☑ 1.0 ☐		
	MB QC786533	NA	29.66	☑ 1.0 ☐		
	LCS 4		29.75	☑ 1.0 ☐		
	MS 5		30.04	☑ 1.0 ☐		
20	MSD 6		29.94	☑ 1.0 ☐		
				☑ 1.0 ☐		
				☐ 1.0 ☐		
				☐ 1.0 ☐		
				☐ 1.0 ☐		
				☐ 1.0 ☐		AR 5.5.15

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, CH_2Cl_2-rinsed granular Na_2SO_4 used for QC & to dry samples	EM1477	AR 5/4/15 MT
0.1 mL of surrogate solution was added to all samples	826666	
1.0 mL of matrix spiking solution was added to all spikes	829020C	
≥100mL 1:1 CH_2Cl_2:Acetone was added to all: CH_2Cl_2	EM34277	
Acetone	EM34278	
Solvent was added at (time)	1340	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM16M1509	
Concentrated to final volume at temperature (degrees C)	71	
Relinquished to BNA department		

Continued from page _____
Continued on page _____

Extraction Chemist / Date

5.5.15
Reviewed by / Date

BK 909 - 144
BOOK PAGE

TITLE Soil Aliquot **PROJECT** **DA**

Continued from page

Sample	ID	Weight(g)	Analysis	Batch #	Scale Used	Comments
266462-003	E	49.91	TEH/M		Dish 1	
4		50.39				
5		49.80				
6		49.89				
7		50.07				
8		50.22				
9		50.37				
10		50.37				
11		49.99				
266490-001	B	50.12				Homogenized
2		49.91				MSS
266513-001	A	50.15				
266515-001	B	49.70				
2		49.98				
3		50.08				
266524-001	A	50.30				
MB	N/A	49.89				EMXF27F
LCS		49.95				
MS		50.26				266513-001A
MSD		50.00				
				KKL 5/1/15		
266507-002	E	29.67	8270	122836	Wetchem	
3		29.77				
4		30.28				
5		29.63				
266525-010	D	29.74				
11		29.78				
12		30.12				
13		30.06				
14		29.75				
15		29.75				
16		30.04				
17		30.03				
18		29.54				
19		29.66				
20		29.88				
21		29.64				
MB	W4	29.66				MSS
LCS		29.75				EMXF27F
MS		30.01				266525-020
MSD		29.74				

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

Laboratory Job Number 266525

ANALYTICAL REPORT

Metals

Matrix: Soil

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-14(2)	Basis:	dry
Lab ID:	266525-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 7%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	9.6	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	110	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.34	0.10	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	20	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	9.6	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	42	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	11	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.38	0.017	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	0.72	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	18	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	52	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	120	1.0	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-14(4.5)	Basis:	dry
Lab ID:	266525-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 12%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	5.9	0.56	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	3.0	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	110	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.21	0.11	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	0.63	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	54	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	6.9	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	39	0.29	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	360	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.30	0.018	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	ND	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	41	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.56	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	0.43	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.56	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	32	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	290	1.1	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-14(8.4)	Basis:	dry
Lab ID:	266525-003	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg		

Moisture: 13%

Analyte	Result	RL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1	0.57	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	2.5	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	23	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	ND	0.11	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	0.44	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	23	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	2.7	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	29	0.30	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	63	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.058	0.020	1.000	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	ND	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	15	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.57	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.57	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	17	0.29	1.000	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	660	110	100.0	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-13(2)	Basis:	dry
Lab ID:	266525-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 5%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	25	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	4.6	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	99	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.34	0.099	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	26	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	8.2	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	33	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	350	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.16	0.017	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	0.49	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	31	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.50	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	40	0.25	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	66	0.99	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-13(4.5)	Basis:	dry
Lab ID:	266525-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 9%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	7.1	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	95	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.30	0.11	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	0.34	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	32	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	10	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	45	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	33	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.91	0.019	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	0.80	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	36	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	0.28	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	40	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	120	1.1	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-13(8)	Basis:	dry
Lab ID:	266525-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 13%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.59	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	1.7	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	39	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	ND	0.12	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	23	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	3.6	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	3.7	0.31	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	1.8	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	ND	0.018	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	ND	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	18	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.59	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.59	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	16	0.30	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	17	1.2	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-20(1.5)	Basis:	dry
Lab ID:	266525-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 7%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	5.8	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	100	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.35	0.10	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	25	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	7.4	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	27	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	37	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.34	0.018	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	0.39	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	28	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	34	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	81	1.0	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-20(4.5)	Basis:	dry
Lab ID:	266525-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 6%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	6.2	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	77	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.45	0.11	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	0.67	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	7.1	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	13	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	16	0.28	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	14	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	0.13	0.017	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	0.43	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	7.6	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	0.33	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.54	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	67	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	160	1.1	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	266525	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland
Field ID:	APLB-20(8.5)	Basis:	dry
Lab ID:	266525-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/01/15
Units:	mg/Kg	Received:	05/01/15

Moisture: 9%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Arsenic	1.2	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Barium	25	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Beryllium	0.10	0.10	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cadmium	ND	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Chromium	24	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Cobalt	2.5	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Copper	3.6	0.27	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Lead	2.0	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Mercury	ND	0.017	222913	05/06/15	05/07/15	METHOD	EPA 7471A
Molybdenum	ND	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Nickel	13	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Selenium	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Silver	ND	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Thallium	ND	0.52	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Vanadium	14	0.26	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B
Zinc	9.3	1.0	222877	05/05/15	05/06/15	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786697	Batch#:	222877
Matrix:	Soil	Prepared:	05/05/15
Units:	mg/Kg	Analyzed:	05/06/15

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	222877
Units:	mg/Kg	Prepared:	05/05/15
Diln Fac:	5.000	Analyzed:	05/06/15

Type: BS Lab ID: QC786698

Analyte	Spiked	Result	%REC	Limits
Antimony	50.00	50.60	101	80-120
Arsenic	50.00	51.14	102	80-120
Barium	50.00	50.67	101	80-120
Beryllium	50.00	48.95	98	80-120
Cadmium	50.00	52.89	106	80-120
Chromium	50.00	49.76	100	80-120
Cobalt	50.00	48.32	97	80-120
Copper	50.00	47.95	96	80-120
Lead	50.00	48.87	98	80-120
Molybdenum	50.00	50.66	101	80-120
Nickel	50.00	49.95	100	80-120
Selenium	50.00	50.36	101	80-120
Silver	50.00	49.01	98	80-120
Thallium	50.00	48.52	97	80-120
Vanadium	50.00	52.44	105	80-120
Zinc	50.00	51.78	104	80-120

Type: BSD Lab ID: QC786699

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.00	49.72	99	80-120	2	20
Arsenic	50.00	51.38	103	80-120	0	20
Barium	50.00	50.33	101	80-120	1	20
Beryllium	50.00	48.06	96	80-120	2	20
Cadmium	50.00	52.73	105	80-120	0	20
Chromium	50.00	50.27	101	80-120	1	20
Cobalt	50.00	48.02	96	80-120	1	20
Copper	50.00	47.71	95	80-120	0	20
Lead	50.00	48.77	98	80-120	0	20
Molybdenum	50.00	50.38	101	80-120	1	20
Nickel	50.00	49.79	100	80-120	0	20
Selenium	50.00	50.12	100	80-120	0	20
Silver	50.00	49.01	98	80-120	0	20
Thallium	50.00	48.86	98	80-120	1	20
Vanadium	50.00	52.21	104	80-120	0	20
Zinc	50.00	51.32	103	80-120	1	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-20(8.5)	Batch#:	222877
MSS Lab ID:	266525-009	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg	Prepared:	05/05/15
Basis:	dry	Analyzed:	05/06/15
Diln Fac:	5.000		

Type: MS Moisture: 9%
Lab ID: QC786700

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.1666	57.23	29.45	51	15-120
Arsenic	1.250	57.23	56.01	96	69-120
Barium	24.96	57.23	78.43	93	35-154
Beryllium	0.1043	57.23	53.63	94	75-120
Cadmium	<0.01657	57.23	57.60	101	71-120
Chromium	24.36	57.23	78.25	94	57-133
Cobalt	2.545	57.23	54.47	91	56-125
Copper	3.576	57.23	60.51	99	54-144
Lead	1.986	57.23	55.25	93	53-125
Molybdenum	0.1879	57.23	53.84	94	66-120
Nickel	12.95	57.23	67.61	96	44-141
Selenium	<0.1516	57.23	53.41	93	61-120
Silver	0.08295	57.23	52.99	92	69-120
Thallium	<0.1690	57.23	52.33	91	59-120
Vanadium	14.04	57.23	70.71	99	52-144
Zinc	9.349	57.23	64.97	97	45-145

Type: MSD Moisture: 9%
Lab ID: QC786701

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.41	23.46	46	15-120	10	41
Arsenic	50.41	51.29	99	69-120	4	35
Barium	50.41	72.93	95	35-154	1	36
Beryllium	50.41	47.59	94	75-120	1	20
Cadmium	50.41	51.42	102	71-120	1	25
Chromium	50.41	72.99	96	57-133	2	33
Cobalt	50.41	49.23	93	56-125	2	36
Copper	50.41	53.35	99	54-144	1	38
Lead	50.41	49.71	95	53-125	2	42
Molybdenum	50.41	47.91	95	66-120	1	20
Nickel	50.41	62.28	98	44-141	2	39
Selenium	50.41	47.44	94	61-120	1	33
Silver	50.41	47.40	94	69-120	2	22
Thallium	50.41	47.64	95	59-120	3	27
Vanadium	50.41	64.62	100	52-144	1	29
Zinc	50.41	59.69	100	45-145	2	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-20(8.5)	Basis:	dry
Type:	Serial Dilution	Diln Fac:	5.000
MSS Lab ID:	266525-009	Batch#:	222877
Lab ID:	QC786702	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg	Analyzed:	05/06/15

Moisture: 9%

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	0.1666	0.5183	ND	2.592	NC	10
Arsenic	1.250	0.2592	1.587	1.296	NC	10
Barium	24.96	0.2592	24.39	1.296	2	10
Beryllium	0.1043	0.1037	0.1136 J	0.5183	NC	10
Cadmium	ND	0.2592	ND	1.296	NC	10
Chromium	24.36	0.2592	24.04	1.296	1	10
Cobalt	2.545	0.2592	2.635	1.296	4	10
Copper	3.576	0.2688	2.436	1.344	NC	10
Lead	1.986	0.2592	1.942	1.296	NC	10
Molybdenum	0.1879	0.2592	ND	1.296	NC	10
Nickel	12.95	0.2592	12.99	1.296	0	10
Selenium	ND	0.5183	ND	2.592	NC	10
Silver	0.08295	0.2592	ND	1.296	NC	10
Thallium	ND	0.5183	ND	2.592	NC	10
Vanadium	14.04	0.2592	13.49	1.296	4	10
Zinc	9.349	1.037	9.086	5.183	3	10

J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3050B
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-20(8.5)	Basis:	dry
Type:	Post Digest Spike	Diln Fac:	1.000
MSS Lab ID:	266525-009	Batch#:	222877
Lab ID:	QC786703	Sampled:	05/01/15
Matrix:	Soil	Received:	05/01/15
Units:	mg/Kg	Analyzed:	05/06/15

Moisture: 9%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.1666	5.183	5.009	93	75-125
Arsenic	1.250	5.183	6.077	93	75-125
Barium	24.96	5.183	29.10	80 NM	75-125
Beryllium	0.1043	5.183	4.901	93	75-125
Cadmium	<0.01657	5.183	5.105	98	75-125
Chromium	24.36	5.183	28.52	80 NM	75-125
Cobalt	2.545	5.183	7.230	90	75-125
Copper	3.576	5.183	8.854	102	75-125
Lead	1.986	5.183	6.770	92	75-125
Molybdenum	0.1879	5.183	5.252	98	75-125
Nickel	12.95	5.183	17.26	83	75-125
Selenium	<0.1516	5.183	4.771	92	75-125
Silver	0.08295	5.183	4.929	93	75-125
Thallium	<0.1690	2.592	2.196	85	75-125
Vanadium	14.04	5.183	18.71	90	75-125
Zinc	9.349	5.183	14.16	93	75-125

NM= Not Meaningful: Sample concentration > 4X spike concentration

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222913
Lab ID:	QC786839	Prepared:	05/06/15
Matrix:	Soil	Analyzed:	05/07/15
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	222913
Matrix:	Soil	Prepared:	05/06/15
Units:	mg/Kg	Analyzed:	05/07/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786840	0.2083	0.2074	100	80-120		
BSD	QC786841	0.2083	0.2039	98	80-120	2	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	222913
MSS Lab ID:	266576-001	Sampled:	05/04/15
Matrix:	Soil	Received:	05/05/15
Units:	mg/Kg	Prepared:	05/06/15
Basis:	as received	Analyzed:	05/07/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC786842	0.04151	0.2083	0.2344	93	69-142		
MSD	QC786843		0.2119	0.2499	98	69-142	5	36

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	as received
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	222913
MSS Lab ID:	266576-001	Sampled:	05/04/15
Lab ID:	QC786844	Received:	05/05/15
Matrix:	Soil	Analyzed:	05/07/15
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	% Diff	Lim
0.04151	0.01724	0.03638 J	0.08621	NC	10

J= Estimated value
NC= Not Calculated
RL= Reporting Limit

REPORTING SUMMARY FOR 266525 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
266525-001	MET08	05/06/15 13:05	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-001	MET54	05/07/15 11:40	1.0										+							
266525-002	MET08	05/06/15 13:08	1.0	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+
266525-002	MET08	05/06/15 14:21	1.0											+						
266525-002	MET54	05/07/15 11:41	1.0										+							
266525-003	MET08	05/06/15 13:27	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	
266525-003	MET08	05/06/15 14:27	100.0																	+
266525-003	MET08	05/06/15 15:10	1.0																	
266525-003	MET54	05/07/15 11:42	1.0										+							
266525-004	MET08	05/06/15 13:34	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-004	MET54	05/07/15 11:46	1.0										+							
266525-005	MET08	05/06/15 13:41	1.0		+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-005	MET08	05/06/15 15:17	1.0	+																
266525-005	MET54	05/07/15 11:47	1.0										+							
266525-006	MET08	05/06/15 13:44	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-006	MET54	05/07/15 11:48	1.0										+							
266525-007	MET08	05/06/15 13:48	1.0		+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-007	MET08	05/06/15 15:20	1.0	+																
266525-007	MET54	05/07/15 11:49	1.0										+							
266525-008	MET08	05/06/15 13:51	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-008	MET08	05/06/15 15:24	1.0																	
266525-008	MET54	05/07/15 11:50	1.0										+							
266525-009	MET08	05/06/15 12:00	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-009	MET54	05/07/15 11:51	1.0										+							
QC786697	MET08	05/06/15 11:44	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786698	MET08	05/06/15 11:49	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786699	MET08	05/06/15 11:54	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786700	MET08	05/06/15 12:04	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786701	MET08	05/06/15 12:08	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786702	MET08	05/06/15 12:12	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786703	MET08	05/06/15 12:16	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786839	MET54	05/07/15 11:17	1.0																	
QC786839	MET54	05/07/15 11:32	1.0										+							
QC786840	MET54	05/07/15 11:18	1.0																	
QC786840	MET54	05/07/15 11:33	1.0										+							

REPORTING SUMMARY FOR 266525 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN	
QC786841	MET54	05/07/15 11:19	1.0																		
QC786841	MET54	05/07/15 11:34	1.0										+								
QC786842	MET54	05/07/15 11:37	1.0										+								
QC786843	MET54	05/07/15 11:38	1.0										+								
QC786844	MET54	05/07/15 11:39	5.0										+								

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met08_sn_6010	ICALBLK				05/06/15 05:27	1.0		
002	met08_sn_6010	ICAL	L1			05/06/15 05:32	1.0	1	
003	met08_sn_6010	ICAL	L2			05/06/15 05:37	1.0	2	
004	met08_sn_6010	ICAL	L3			05/06/15 05:42	1.0	3	
005	met08_sn_6010	ICAL	L4			05/06/15 05:47	1.0	4	
006	met08_sn_6010	ICAL	L5			05/06/15 05:54	1.0	5	
007	met08_sn_6010	ICV				05/06/15 06:00	1.0	6	
008	met08_sn_6010	CRI				05/06/15 06:07	1.0	7	
009	met08_sn_6010	ICB				05/06/15 06:12	1.0		
010	met08_sn_6010	ICSA				05/06/15 06:17	1.0	8	10:AL=500000
011	met08_sn_6010	ICSAB				05/06/15 07:20	1.0	9	5:AL=480000
012	met08_sn_6010	BLANK	QC786776	TCLP Leachate	222895	05/06/15 08:30	10.0		1:NA=160000
013	met08_sn_6010	BS	QC786777	TCLP Leachate	222895	05/06/15 08:35	1.0		
014	met08_sn_6010	BSD	QC786778	TCLP Leachate	222895	05/06/15 08:41	1.0		
015	met08_sn_6010	MSS	266530-001	TCLP Leachate	222895	05/06/15 08:45	10.0		1:NA=150000
016	met08_sn_6010	MS	QC786779	TCLP Leachate	222895	05/06/15 08:50	10.0		
017	met08_sn_6010	MSD	QC786780	TCLP Leachate	222895	05/06/15 08:55	10.0		
018	met08_sn_6010	SAMPLE	266530-002	TCLP Leachate	222895	05/06/15 09:00	10.0		1:NA=150000
019	met08_sn_6010	SAMPLE	266530-003	TCLP Leachate	222895	05/06/15 09:05	10.0		1:NA=160000
020	met08_sn_6010	SAMPLE	266541-001	TCLP Leachate	222895	05/06/15 09:10	10.0		2:NA=160000
021	met08_sn_6010	SAMPLE	266541-002	TCLP Leachate	222895	05/06/15 09:19	10.0		1:NA=160000
022	met08_sn_6010	CCV				05/06/15 09:24	1.0	10	
023	met08_sn_6010	CCB				05/06/15 09:31	1.0		
024	met08_sn_6010	BLANK	QC786754	Filtrate	222890	05/06/15 09:48	1.0		
025	met08_sn_6010	BS	QC786755	Filtrate	222890	05/06/15 09:53	1.0		
026	met08_sn_6010	BSD	QC786756	Filtrate	222890	05/06/15 09:57	1.0		
027	met08_sn_6010	MSS	266525-022	Filtrate	222890	05/06/15 10:01	1.0		2:MG=180000
028	met08_sn_6010	MS	QC786757	Filtrate	222890	05/06/15 10:09	1.0		2:MG=180000
029	met08_sn_6010	MSD	QC786758	Filtrate	222890	05/06/15 10:16	1.0		2:MG=180000
030	met08_sn_6010	SER	QC786759	Filtrate	222890	05/06/15 10:24	5.0		
031	met08_sn_6010	PDS	QC786760	Filtrate	222890	05/06/15 10:29	1.0	11	
032	met08_sn_6010	SAMPLE	266502-001	Filtrate	222890	05/06/15 10:37	1.0		2:CA=490000
033	met08_sn_6010	SAMPLE	266511-010	Filtrate	222890	05/06/15 10:45	1.0		2:MG=260000
034	met08_sn_6010	CCV				05/06/15 10:54	1.0	10	
035	met08_sn_6010	CCB				05/06/15 11:01	1.0		
036	met08_sn_6010	SAMPLE	266525-023	Filtrate	222890	05/06/15 11:06	1.0		3:MG=240000
037	met08_sn_6010	SAMPLE	266525-024	Filtrate	222890	05/06/15 11:15	1.0		2:MG=210000
038	met08_sn_6010	X	RINSE			05/06/15 11:23	1.0		
039	met08_sn_6010	X	RINSE			05/06/15 11:28	1.0		
040	met08_sn_6010	CCV				05/06/15 11:33	1.0	10	
041	met08_sn_6010	CCB				05/06/15 11:39	1.0		
042	met08_sn_6010	BLANK	QC786697	Soil	222877	05/06/15 11:44	1.0		
043	met08_sn_6010	BS	QC786698	Soil	222877	05/06/15 11:49	5.0		
044	met08_sn_6010	BSD	QC786699	Soil	222877	05/06/15 11:54	5.0		
045	met08_sn_6010	MSS	266525-009	Soil	222877	05/06/15 12:00	1.0		
046	met08_sn_6010	MS	QC786700	Soil	222877	05/06/15 12:04	5.0		
047	met08_sn_6010	MSD	QC786701	Soil	222877	05/06/15 12:08	5.0		
048	met08_sn_6010	SER	QC786702	Soil	222877	05/06/15 12:12	5.0		
049	met08_sn_6010	PDS	QC786703	Soil	222877	05/06/15 12:16	1.0	11 12 13	1:FE=100000
050	met08_sn_6010	SAMPLE	266518-001	Soil	222877	05/06/15 12:20	1.0		5:FE=380000
051	met08_sn_6010	SAMPLE	266518-002	Soil	222877	05/06/15 12:24	1.0		4:FE=450000
052	met08_sn_6010	CCV				05/06/15 12:27	1.0	10	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met08_sn_6010	CCB				05/06/15 12:34	1.0		
054	met08_sn_6010	SAMPLE	266518-003	Soil	222877	05/06/15 12:39	1.0		5:FE=400000
055	met08_sn_6010	SAMPLE	266518-004	Soil	222877	05/06/15 12:42	1.0		4:FE=440000
056	met08_sn_6010	SAMPLE	266518-005	Soil	222877	05/06/15 12:45	1.0		3:FE=340000
057	met08_sn_6010	SAMPLE	266518-006	Soil	222877	05/06/15 12:49	1.0		4:FE=380000
058	met08_sn_6010	SAMPLE	266518-007	Soil	222877	05/06/15 12:52	1.0		4:FE=410000
059	met08_sn_6010	SAMPLE	266518-008	Soil	222877	05/06/15 12:55	1.0		4:FE=490000
060	met08_sn_6010	SAMPLE	266518-009	Soil	222877	05/06/15 12:58	1.0		3:FE=380000
061	met08_sn_6010	SAMPLE	266518-010	Soil	222877	05/06/15 13:02	1.0		4:FE=380000
062	met08_sn_6010	SAMPLE	266525-001	Soil	222877	05/06/15 13:05	1.0		4:FE=600000
063	met08_sn_6010	SAMPLE	266525-002	Soil	222877	05/06/15 13:08	1.0		3:FE=280000
064	met08_sn_6010	CCV				05/06/15 13:15	1.0	10	
065	met08_sn_6010	CCB				05/06/15 13:22	1.0		
066	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 13:27	1.0		2:FE=240000
067	met08_sn_6010	SAMPLE	266525-004	Soil	222877	05/06/15 13:34	1.0		5:FE=370000
068	met08_sn_6010	SAMPLE	266525-005	Soil	222877	05/06/15 13:41	1.0		2:FE=490000
069	met08_sn_6010	SAMPLE	266525-006	Soil	222877	05/06/15 13:44	1.0		1:FE=100000
070	met08_sn_6010	SAMPLE	266525-007	Soil	222877	05/06/15 13:48	1.0		4:FE=360000
071	met08_sn_6010	SAMPLE	266525-008	Soil	222877	05/06/15 13:51	1.0		3:FE=800000
072	met08_sn_6010	CCV				05/06/15 13:58	1.0	10	
073	met08_sn_6010	CCB				05/06/15 14:05	1.0		
074	met08_sn_6010	SAMPLE	266518-007	Soil	222877	05/06/15 14:14	1.0		4:FE=410000
075	met08_sn_6010	SAMPLE	266518-009	Soil	222877	05/06/15 14:17	1.0		3:FE=370000
076	met08_sn_6010	SAMPLE	266525-002	Soil	222877	05/06/15 14:21	1.0		3:FE=280000
077	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 14:27	100.0		
078	met08_sn_6010	CCV				05/06/15 14:33	1.0	10	
079	met08_sn_6010	CCB				05/06/15 14:39	1.0		
080	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 15:10	1.0		2:FE=240000
081	met08_sn_6010	SAMPLE	266525-005	Soil	222877	05/06/15 15:17	1.0		2:FE=480000
082	met08_sn_6010	SAMPLE	266525-007	Soil	222877	05/06/15 15:20	1.0		4:FE=350000
083	met08_sn_6010	SAMPLE	266525-008	Soil	222877	05/06/15 15:24	1.0		3:FE=810000
084	met08_sn_6010	CCV				05/06/15 15:30	1.0	10	
085	met08_sn_6010	CCB				05/06/15 15:37	1.0		
086	met08_sn_6010	BLANK	QC786802	Wipe	222903	05/06/15 16:00	1.0		
087	met08_sn_6010	BS	QC786803	Wipe	222903	05/06/15 16:05	5.0		
088	met08_sn_6010	BSD	QC786804	Wipe	222903	05/06/15 16:10	5.0		
089	met08_sn_6010	SAMPLE	266559-001	Wipe	222903	05/06/15 16:15	1.0		
090	met08_sn_6010	SAMPLE	266559-002	Wipe	222903	05/06/15 16:20	1.0		
091	met08_sn_6010	SAMPLE	266559-003	Wipe	222903	05/06/15 16:25	1.0		
092	met08_sn_6010	SAMPLE	266559-004	Wipe	222903	05/06/15 16:29	1.0		
093	met08_sn_6010	SAMPLE	266559-005	Wipe	222903	05/06/15 16:33	1.0		
094	met08_sn_6010	SAMPLE	266559-006	Wipe	222903	05/06/15 16:37	1.0		
095	met08_sn_6010	SAMPLE	266559-007	Wipe	222903	05/06/15 16:41	1.0		
096	met08_sn_6010	CCV				05/06/15 16:47	1.0	10	
097	met08_sn_6010	CCB				05/06/15 16:53	1.0		
098	met08_sn_6010	SAMPLE	266559-008	Wipe	222903	05/06/15 16:59	1.0		
099	met08_sn_6010	CCV				05/06/15 17:04	1.0	10	
100	met08_sn_6010	CCB				05/06/15 17:11	1.0		
101	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 19:32	100.0		
102	met08_sn_6010	CCV				05/06/15 19:37	1.0	10	
103	met08_sn_6010	CCB				05/06/15 19:43	1.0		
104	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 19:49	100.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 20:08	100.0		
106	met08_sn_6010	X	RINSE			05/06/15 20:13	1.0		
107	met08_sn_6010	CCV				05/06/15 20:18	1.0	10	
108	met08_sn_6010	CCB				05/06/15 20:25	1.0		

NCD 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 85.

CRT 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 86 through 108.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85181767

Date : 05/06/15 Reference : met08_sn_6010
Sequence : MET08 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
		ICAL STD	2422897
		LOWER LIMIT	726869
		UPPER LIMIT	4845794
009	ICB		2457443
010	ICSA		2183114
011	ICSAB		2322626
012	BLANK	QC786776	2493732
013	BS	QC786777	2730074
014	BSD	QC786778	2672672
015	MSS	266530-001	2531467
016	MS	QC786779	2485186
017	MSD	QC786780	2473197
018	SAMPLE	266530-002	2488889
019	SAMPLE	266530-003	2469406
020	SAMPLE	266541-001	2509218
021	SAMPLE	266541-002	2469909
022	CCV		2733200
023	CCB		2709764
024	BLANK	QC786754	2702632
025	BS	QC786755	2764402
026	BSD	QC786756	2724111
027	MSS	266525-022	2327399
028	MS	QC786757	2310990
029	MSD	QC786758	2355366
030	SER	QC786759	2450864
031	PDS	QC786760	2332645
032	SAMPLE	266502-001	2210369
033	SAMPLE	266511-010	2172982
034	CCV		2762149
035	CCB		2691017
036	SAMPLE	266525-023	2228615
037	SAMPLE	266525-024	2184640
040	CCV		2808678
041	CCB		2751637
042	BLANK	QC786697	2743134
043	BS	QC786698	2631385
044	BSD	QC786699	2643987
045	MSS	266525-009	2789740
046	MS	QC786700	2731986
047	MSD	QC786701	2672344
048	SER	QC786702	2773437
049	PDS	QC786703	2749869
050	SAMPLE	266518-001	2754217
051	SAMPLE	266518-002	2756338
052	CCV		2796919
053	CCB		2753488
054	SAMPLE	266518-003	2402658
055	SAMPLE	266518-004	2710750
056	SAMPLE	266518-005	2711316
057	SAMPLE	266518-006	2723274
058	SAMPLE	266518-007	2688866

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85181767

Date : 05/06/15 Reference : met08_sn_6010
Sequence : MET08 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
059	SAMPLE	266518-008	2756204
060	SAMPLE	266518-009	2815941
061	SAMPLE	266518-010	2664205
062	SAMPLE	266525-001	2718414
063	SAMPLE	266525-002	2720944
064	CCV		2771562
065	CCB		2643539
066	SAMPLE	266525-003	2762045
067	SAMPLE	266525-004	2727651
068	SAMPLE	266525-005	2768700
069	SAMPLE	266525-006	2671457
070	SAMPLE	266525-007	2718356
071	SAMPLE	266525-008	2797740
072	CCV		2681757
073	CCB		2715547
074	SAMPLE	266518-007	2726499
075	SAMPLE	266518-009	2755031
076	SAMPLE	266525-002	2829608
077	SAMPLE	266525-003	2858329
078	CCV		2739635
079	CCB		2650706
080	SAMPLE	266525-003	2893058
081	SAMPLE	266525-005	2798680
082	SAMPLE	266525-007	2624693
083	SAMPLE	266525-008	2764214
084	CCV		2760260
085	CCB		2650358
086	BLANK	QC786802	2646326
087	BS	QC786803	2652440
088	BSD	QC786804	2620593
089	SAMPLE	266559-001	2673389
090	SAMPLE	266559-002	2721333
091	SAMPLE	266559-003	2667837
092	SAMPLE	266559-004	2641086
093	SAMPLE	266559-005	2681220
094	SAMPLE	266559-006	2715180
095	SAMPLE	266559-007	2587837
096	CCV		2729679
097	CCB		2682806
098	SAMPLE	266559-008	2597192
099	CCV		2745699
100	CCB		2791998
101	SAMPLE	266412-003	2719324
102	CCV		2702553
103	CCB		2622642
104	SAMPLE	266412-003	4465366
105	SAMPLE	266412-003	2703331
107	CCV		2718522
108	CCB		2746159

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 METALS Soil: EPA 6010B

Inst : MET08
Calnum : 85181767001
Units : ug/L

Reviewer : ---
Date : 06-MAY-2015 05:27
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met08_sn_6010	85181767002	L1	06-MAY-2015 05:32	S27129
L2	met08_sn_6010	85181767003	L2	06-MAY-2015 05:37	S27130
L3	met08_sn_6010	85181767004	L3	06-MAY-2015 05:42	S27131
L4	met08_sn_6010	85181767005	L4	06-MAY-2015 05:47	S27132
L5	met08_sn_6010	85181767006	L5	06-MAY-2015 05:54	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	24.250	19.881	20.345	20.333		LOR0	0.00000	0.04918		21.202	1.000	0.995	
Arsenic	A	18.600	15.234	15.391	15.594		LOR0	0.00000	0.06413		16.205	1.000	0.995	
Barium	A	391.90	367.56	376.63	355.64		LOR0	0.00000	0.00281		372.93	1.000	0.995	
Beryllium	A	4170.0	3952.3	4137.4			LOR0	0.00000	2.42E-4		4086.5	1.000	0.995	
Cadmium	A	174.00	165.07	167.88	161.95		LOR0	0.00000	0.00617		167.23	1.000	0.995	
Chromium	A	79.300	77.596	79.471	76.339		LOR0	0.00000	0.01309		78.177	1.000	0.995	
Cobalt	A	117.76	110.00	118.12	112.67		LOR0	0.00000	0.00887		114.64	1.000	0.995	
Copper	A	65.460	59.869	58.740	67.319		LOR0	0.00000	0.01487		62.847	1.000	0.995	
Lead	A	40.720	42.027	43.555	42.379		LOR0	0.00000	0.02359		42.170	1.000	0.995	
Molybdenum	A	30.720	28.050	28.744	28.045		LOR0	0.00000	0.03565		28.890	1.000	0.995	
Nickel	A	43.040	39.041	41.631	40.673		LOR0	0.00000	0.02458		41.096	1.000	0.995	
Selenium	A	21.850	24.325	25.270	24.577		LOR0	0.00000	0.04068		24.005	1.000	0.995	
Silver	A	605.38	585.36	596.70	585.96		LOR0	0.00000	0.00171		593.35	1.000	0.995	
Thallium	A	14.450	14.244	14.776	14.135		LOR0	0.00000	0.07072		14.401	1.000	0.995	
Vanadium	A	131.64	130.31	132.73	131.17		LOR0	0.00000	0.00762		131.46	1.000	0.995	
Zinc	A	61.835	58.327	60.249	58.244		LOR0	0.00000	0.01716		59.664	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	19	100.00	-2	1000.0	0	10000	0		
Arsenic	A	5.0000	19	100.00	-2	1000.0	-1	10000	0		
Barium	A	5.0000	10	100.00	3	1000.0	6	10000	0		
Beryllium	A	2.0000	1	100.00	-4	1000.0	0				
Cadmium	A	5.0000	7	100.00	2	1000.0	4	10000	0		
Chromium	A	5.0000	4	100.00	2	1000.0	4	10000	0		
Cobalt	A	5.0000	4	100.00	-2	1000.0	5	10000	0		
Copper	A	5.0000	-3	100.00	-11	1000.0	-13	10000	0		
Lead	A	5.0000	-4	100.00	-1	1000.0	3	10000	0		
Molybdenum	A	5.0000	10	100.00	0	1000.0	2	10000	0		
Nickel	A	5.0000	6	100.00	-4	1000.0	2	10000	0		
Selenium	A	10.000	-11	100.00	-1	1000.0	3	10000	0		
Silver	A	5.0000	3	20.000	0	200.00	2	2000.0	0		
Thallium	A	10.000	2	100.00	1	1000.0	4	10000	0		
Vanadium	A	5.0000	0	100.00	-1	1000.0	1	10000	0		
Zinc	A	20.000	6	100.00	0	1000.0	3	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

85181767001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 METALS Soil
EPA 6010B

Inst : MET08
Calnum : 85181767001 Cal Date : 06-MAY-2015

ICV 85181767007 (06-MAY-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4904	ug/L	-2	10	
Arsenic	A	5000	4890	ug/L	-2	10	
Barium	A	5000	4873	ug/L	-3	10	
Beryllium	A	500.0	477.7	ug/L	-4	10	
Cadmium	A	5000	5067	ug/L	1	10	
Chromium	A	5000	4857	ug/L	-3	10	
Cobalt	A	5000	4794	ug/L	-4	10	
Copper	A	5000	5045	ug/L	1	10	
Lead	A	5000	4762	ug/L	-5	10	
Molybdenum	A	5000	4953	ug/L	-1	10	
Nickel	A	5000	4836	ug/L	-3	10	
Selenium	A	5000	4831	ug/L	-3	10	
Silver	A	1000	964.1	ug/L	-4	10	
Thallium	A	5000	4796	ug/L	-4	10	
Vanadium	A	5000	4966	ug/L	-1	10	
Zinc	A	5000	4910	ug/L	-2	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767009 File : met08_sn_6010 Time : 06-MAY-2015 06:12
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[5.444]	10.00	2.500	ug/L	!ICB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2457443	1.43

!=warning ICB=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767010 File : met08_sn_6010 Time : 06-MAY-2015 06:17
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-3.880]	10.00	ug/L	
Arsenic	A	[-2.125]	5.000	ug/L	
Barium	A	[2.446]	5.000	ug/L	
Beryllium	A	[0.7957]	2.000	ug/L	
Cadmium	A	[0.7069]	5.000	ug/L	
Cobalt	A	[3.325]	5.000	ug/L	
Lead	A	[2.691]	5.000	ug/L	
Molybdenum	A	[-0.1933]	5.000	ug/L	
Selenium	A	[1.930]	10.00	ug/L	
Silver	A	[3.691]	5.000	ug/L	
Thallium	A	[-6.371]	10.00	ug/L	
Zinc	A	[1.344]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19360	ug/L	97
Copper	A	20000	21790	ug/L	109
Manganese	A	20000	18320	ug/L	92
Nickel	A	20000	18050	ug/L	90
Vanadium	A	20000	20250	ug/L	101
Aluminum	R	500000	499600	ug/L	100
Calcium	R	500000	482600	ug/L	97
Iron	R	200000	188700	ug/L	94
Magnesium	R	500000	498500	ug/L	100
Titanium	R	20000	21030	ug/L	105

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2183114	-9.90

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767011 File : met08_sn_6010 Time : 06-MAY-2015 07:20
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	499.5	ug/L	0	20	
Arsenic	A	500.0	494.9	ug/L	-1	20	
Barium	A	500.0	496.7	ug/L	-1	20	
Beryllium	A	500.0	480.6	ug/L	-4	20	
Cadmium	A	1000	972.9	ug/L	-3	20	
Chromium	A	500.0	481.1	ug/L	-4	20	
Cobalt	A	500.0	433.0	ug/L	-13	20	
Copper	A	500.0	554.7	ug/L	11	20	
Lead	A	1000	926.9	ug/L	-7	20	
Molybdenum	A	500.0	487.8	ug/L	-2	20	
Nickel	A	1000	878.8	ug/L	-12	20	
Selenium	A	500.0	475.5	ug/L	-5	20	
Silver	A	1000	1053	ug/L	5	20	
Thallium	A	500.0	433.7	ug/L	-13	20	
Vanadium	A	500.0	524.4	ug/L	5	20	
Zinc	A	1000	931.0	ug/L	-7	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2322626	-4.14

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767040 File : met08_sn_6010 Time : 06-MAY-2015 11:33
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.171	5000	4960	ug/L	-1	10	
Arsenic	A	16.205	15.800	5000	5067	ug/L	1	10	
Barium	A	372.93	336.79	5000	4732	ug/L	-5	10	
Beryllium	A	4086.5	3804.8	500.0	460.0	ug/L	-8	10	
Cadmium	A	167.23	164.90	5000	5089	ug/L	2	10	
Chromium	A	78.177	72.603	5000	4753	ug/L	-5	10	
Cobalt	A	114.64	105.37	5000	4665	ug/L	-7	10	
Copper	A	62.847	71.245	5000	5298	ug/L	6	10	
Lead	A	42.170	40.565	5000	4785	ug/L	-4	10	
Molybdenum	A	28.890	27.247	5000	4857	ug/L	-3	10	
Nickel	A	41.096	39.213	5000	4819	ug/L	-4	10	
Selenium	A	24.005	23.653	5000	4811	ug/L	-4	10	
Silver	A	593.35	553.33	1000	944.1	ug/L	-6	10	
Thallium	A	14.401	13.433	5000	4750	ug/L	-5	10	
Vanadium	A	131.46	128.15	5000	4884	ug/L	-2	10	
Zinc	A	59.664	56.631	5000	4860	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2808678	15.92

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767041 File : met08_sn_6010 Time : 06-MAY-2015 11:39
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[2.939]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2751637	13.57

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767052 File : met08_sn_6010 Time : 06-MAY-2015 12:27
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.270	5000	4985	ug/L	0	10	
Arsenic	A	16.205	15.791	5000	5064	ug/L	1	10	
Barium	A	372.93	341.41	5000	4797	ug/L	-4	10	
Beryllium	A	4086.5	3864.9	500.0	467.3	ug/L	-7	10	
Cadmium	A	167.23	167.97	5000	5184	ug/L	4	10	
Chromium	A	78.177	73.404	5000	4806	ug/L	-4	10	
Cobalt	A	114.64	107.06	5000	4740	ug/L	-5	10	
Copper	A	62.847	72.781	5000	5413	ug/L	8	10	
Lead	A	42.170	41.209	5000	4861	ug/L	-3	10	
Molybdenum	A	28.890	27.640	5000	4926	ug/L	-1	10	
Nickel	A	41.096	39.752	5000	4886	ug/L	-2	10	
Selenium	A	24.005	23.748	5000	4830	ug/L	-3	10	
Silver	A	593.35	560.50	1000	956.4	ug/L	-4	10	
Thallium	A	14.401	13.398	5000	4737	ug/L	-5	10	
Vanadium	A	131.46	129.81	5000	4947	ug/L	-1	10	
Zinc	A	59.664	57.533	5000	4937	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2796919	15.44

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767053 File : met08_sn_6010 Time : 06-MAY-2015 12:34
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[3.335]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2753488	13.64

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767064 File : met08_sn_6010 Time : 06-MAY-2015 13:15
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.741	5000	5100	ug/L	2	10	
Arsenic	A	16.205	16.240	5000	5208	ug/L	4	10	
Barium	A	372.93	350.15	5000	4920	ug/L	-2	10	
Beryllium	A	4086.5	3958.9	500.0	478.6	ug/L	-4	10	
Cadmium	A	167.23	170.49	5000	5262	ug/L	5	10	
Chromium	A	78.177	75.038	5000	4913	ug/L	-2	10	
Cobalt	A	114.64	109.97	5000	4869	ug/L	-3	10	
Copper	A	62.847	71.372	5000	5308	ug/L	6	10	
Lead	A	42.170	41.961	5000	4949	ug/L	-1	10	
Molybdenum	A	28.890	28.210	5000	5028	ug/L	1	10	
Nickel	A	41.096	40.433	5000	4969	ug/L	-1	10	
Selenium	A	24.005	24.622	5000	5008	ug/L	0	10	
Silver	A	593.35	571.34	1000	974.9	ug/L	-3	10	
Thallium	A	14.401	13.904	5000	4916	ug/L	-2	10	
Vanadium	A	131.46	132.03	5000	5032	ug/L	1	10	
Zinc	A	59.664	58.963	5000	5060	ug/L	1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2771562	14.39

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767065 File : met08_sn_6010 Time : 06-MAY-2015 13:22
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[3.232]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2643539	9.11

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767072 File : met08_sn_6010 Time : 06-MAY-2015 13:58
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.090	5000	4940	ug/L	-1	10	
Arsenic	A	16.205	15.565	5000	4991	ug/L	0	10	
Barium	A	372.93	349.81	5000	4915	ug/L	-2	10	
Beryllium	A	4086.5	3955.4	500.0	478.2	ug/L	-4	10	
Cadmium	A	167.23	167.53	5000	5170	ug/L	3	10	
Chromium	A	78.177	75.033	5000	4912	ug/L	-2	10	
Cobalt	A	114.64	108.60	5000	4808	ug/L	-4	10	
Copper	A	62.847	72.070	5000	5360	ug/L	7	10	
Lead	A	42.170	41.373	5000	4880	ug/L	-2	10	
Molybdenum	A	28.890	28.086	5000	5006	ug/L	0	10	
Nickel	A	41.096	40.042	5000	4921	ug/L	-2	10	
Selenium	A	24.005	23.428	5000	4765	ug/L	-5	10	
Silver	A	593.35	570.54	1000	973.5	ug/L	-3	10	
Thallium	A	14.401	13.554	5000	4792	ug/L	-4	10	
Vanadium	A	131.46	132.83	5000	5063	ug/L	1	10	
Zinc	A	59.664	57.584	5000	4942	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2681757	10.68

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767073 File : met08_sn_6010 Time : 06-MAY-2015 14:05
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[3.049]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2715547	12.08

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767078 File : met08_sn_6010 Time : 06-MAY-2015 14:33
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.450	5000	5029	ug/L	1	10	
Arsenic	A	16.205	15.934	5000	5110	ug/L	2	10	
Barium	A	372.93	353.92	5000	4973	ug/L	-1	10	
Beryllium	A	4086.5	4014.8	500.0	485.4	ug/L	-3	10	
Cadmium	A	167.23	173.57	5000	5357	ug/L	7	10	
Chromium	A	78.177	76.006	5000	4976	ug/L	0	10	
Cobalt	A	114.64	110.48	5000	4892	ug/L	-2	10	
Copper	A	62.847	73.857	5000	5493	ug/L	10	10	
Lead	A	42.170	42.615	5000	5026	ug/L	1	10	
Molybdenum	A	28.890	28.561	5000	5091	ug/L	2	10	
Nickel	A	41.096	41.099	5000	5051	ug/L	1	10	
Selenium	A	24.005	24.172	5000	4916	ug/L	-2	10	
Silver	A	593.35	576.01	1000	982.8	ug/L	-2	10	
Thallium	A	14.401	13.653	5000	4827	ug/L	-3	10	
Vanadium	A	131.46	134.45	5000	5124	ug/L	2	10	
Zinc	A	59.664	59.604	5000	5115	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2739635	13.07

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767079 File : met08_sn_6010 Time : 06-MAY-2015 14:39
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[4.028]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2650706	9.40

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767084 File : met08_sn_6010 Time : 06-MAY-2015 15:30
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.044	5000	4929	ug/L	-1	10	
Arsenic	A	16.205	15.420	5000	4945	ug/L	-1	10	
Barium	A	372.93	344.62	5000	4842	ug/L	-3	10	
Beryllium	A	4086.5	3880.9	500.0	469.2	ug/L	-6	10	
Cadmium	A	167.23	163.81	5000	5056	ug/L	1	10	
Chromium	A	78.177	73.827	5000	4833	ug/L	-3	10	
Cobalt	A	114.64	106.39	5000	4710	ug/L	-6	10	
Copper	A	62.847	70.694	5000	5257	ug/L	5	10	
Lead	A	42.170	40.556	5000	4784	ug/L	-4	10	
Molybdenum	A	28.890	27.634	5000	4925	ug/L	-1	10	
Nickel	A	41.096	39.307	5000	4831	ug/L	-3	10	
Selenium	A	24.005	23.178	5000	4714	ug/L	-6	10	
Silver	A	593.35	563.81	1000	962.0	ug/L	-4	10	
Thallium	A	14.401	13.393	5000	4736	ug/L	-5	10	
Vanadium	A	131.46	131.01	5000	4993	ug/L	0	10	
Zinc	A	59.664	56.273	5000	4829	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2760260	13.92

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767085 File : met08_sn_6010 Time : 06-MAY-2015 15:37
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[3.055]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2650358	9.39

!=warning CCB=instrument blank

SAMPLE PREPARATION SUMMARY

Batch # : 222877
Started By : RFC
Prep Date : 05-MAY-2015 12:30
Method : 3050B
Spike #1 ID : S25213
Spike #2 ID : S25214
Analysis : ICP
Finished By : RFC
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266518-001		Soil	.98	50	1	51.02						6010	
266518-002		Soil	1.05	50	1	47.62						6010	
266518-003		Soil	1.02	50	1	49.02						6010	
266518-004		Soil	1.01	50	1	49.50						6010	
266518-005		Soil	.96	50	1	52.08						6010	
266518-006		Soil	.94	50	1	53.19						6010	
266518-007		Soil	1.1	50	1	45.45						6010	
266518-008		Soil	1.09	50	1	45.87						6010	
266518-009		Soil	1	50	1	50.0						6010	
266518-010		Soil	.91	50	1	54.95						6010	
266525-001		Soil	1.07	50	1	46.73						6010	
266525-002		Soil	1.02	50	1	49.02						6010	
266525-003		Soil	1	50	1	50.0						6010	
266525-004		Soil	1.06	50	1	47.17						6010	
266525-005		Soil	1.02	50	1	49.02						6010	
266525-006		Soil	.97	50	1	51.55						6010	
266525-007		Soil	1.03	50	1	48.54						6010	
266525-008		Soil	.98	50	1	51.02						6010	
266525-009		Soil	1.06	50	1	47.17						6010	
QC786697	BLANK	Soil	1	50	1	50.0							
QC786698	BS	Soil	1	50	1	50.0		.5	.5				
QC786699	BSD	Soil	1	50	1	50.0		.5	.5				
QC786700	MS	Soil	.96	50	1	52.08		.5	.5				
QC786701	MSD	Soil	1.09	50	1	45.87		.5	.5				
QC786702	SER	Soil	1.06	50	1	47.17							
QC786703	PDS	Soil	1.06	50	1	47.17							

Analyst: NCD Date: 05/06/15 Reviewer: PRW Date: 05/07/15

Soil Digestion for ICP & ICP-MS Curtis & Tompkins, Ltd.

LIMS Batch #: 222877 Scale Used Digestion Method **BK3675**
Date Digested: 5-5-15 ☒ Metals Prep ☒ EPA 3050b Page 69
Digested by: VV ☐ _____ ☐ _____

Vl.	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
	BLK		Ø	50	Y	✓	QC786697
	BS		Ø	50		✓	-698
	BSD		Ø	50		✓	-699
	266525-009 MS		0.96	50		✓	-700
5	-009 MSD		1.09	50		✓	-701
III	266518-001	B	0.98	50		✓	
	-002		1.05	50		✓	
	-003		1.02	50		✓	
	-004		1.01	50		✓	
10	-005		0.96	50		✓	
	-006		0.94	50		✓	
	-007		1.10	50		✓	
	-008		1.09	50		✓	
	-009		1.00	50		✓	
15	-010		0.91	50		✓	
II	266525-001	A	1.07	50		✓	
	-002		1.02	50		✓	
	-003		1.00	50		✓	
	-004		1.06	50		✓	
20	-005		1.02	50		✓	
	-006		0.97	50		✓	
	-007		1.03	50		✓	
	-008		0.98	50		✓	
	-009		1.06	50		✓	MSS
				50			

/ Date

	Reagent ID or LIMS #	Initials / Date
Digestion tubes, lot#	SCP - 1935 5-5-15 VV 193154	RFC 5/5/15
0.50 mL of spike solution (Std1) was added to all spikes	525213	
0.50 mL of spike solution (Std2) was added to all spikes	525214	
Digestion Temperature (°C), Block and Probe Location	95° C15	
Digestion begun at (time)	12:30	
1:1 HNO3	JTB 88969	
concentrated HNO3	JTB 102053	
3mL 30% hydrogen peroxide	JTB97854	
concentrated HCl	JTB97264	
Digestion ended at (time)	15:10	
☑ filtered	HAT9620951	
Relinquished to ICP group	ICP	

5-5-15
Digestion Chemist / Date

Continued from page Ø
Continued on page _____

Reviewed Online / See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075183563

Instrument : MET54 Begun : 05/07/15 11:23
Method : EPA 7470A SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	met54	ICALBLK				05/07/15 11:23	1.0	
002	met54	ICAL	ICAL1			05/07/15 11:24	1.0	1
003	met54	ICAL	ICAL2			05/07/15 11:25	1.0	1
004	met54	ICAL	ICAL3			05/07/15 11:26	1.0	1
005	met54	ICAL	ICAL4			05/07/15 11:28	1.0	1
006	met54	ICAL	ICAL5			05/07/15 11:29	1.0	1
007	met54	ICV				05/07/15 11:30	1.0	2
008	met54	ICB				05/07/15 11:31	1.0	
009	met54	BLANK	QC786839	Soil	222913	05/07/15 11:32	1.0	
010	met54	BS	QC786840	Soil	222913	05/07/15 11:33	1.0	
011	met54	BSD	QC786841	Soil	222913	05/07/15 11:34	1.0	
012	met54	MSS	266576-001	Soil	222913	05/07/15 11:36	1.0	
013	met54	MS	QC786842	Soil	222913	05/07/15 11:37	1.0	
014	met54	MSD	QC786843	Soil	222913	05/07/15 11:38	1.0	
015	met54	SER	QC786844	Soil	222913	05/07/15 11:39	5.0	
016	met54	SAMPLE	266525-001	Soil	222913	05/07/15 11:40	1.0	
017	met54	SAMPLE	266525-002	Soil	222913	05/07/15 11:41	1.0	
018	met54	SAMPLE	266525-003	Soil	222913	05/07/15 11:42	1.0	
019	met54	CCV				05/07/15 11:43	1.0	3
020	met54	CCB				05/07/15 11:45	1.0	
021	met54	SAMPLE	266525-004	Soil	222913	05/07/15 11:46	1.0	
022	met54	SAMPLE	266525-005	Soil	222913	05/07/15 11:47	1.0	
023	met54	SAMPLE	266525-006	Soil	222913	05/07/15 11:48	1.0	
024	met54	SAMPLE	266525-007	Soil	222913	05/07/15 11:49	1.0	
025	met54	SAMPLE	266525-008	Soil	222913	05/07/15 11:50	1.0	
026	met54	SAMPLE	266525-009	Soil	222913	05/07/15 11:51	1.0	
027	met54	SAMPLE	266550-001	Miscell.	222913	05/07/15 11:52	1.0	
028	met54	SAMPLE	266550-002	Miscell.	222913	05/07/15 11:54	1.0	
029	met54	SAMPLE	266550-003	Miscell.	222913	05/07/15 11:55	1.0	
030	met54	SAMPLE	266550-004	Miscell.	222913	05/07/15 11:56	1.0	
031	met54	CCV				05/07/15 11:57	1.0	3
032	met54	CCB				05/07/15 11:58	1.0	
033	met54	SAMPLE	266558-001	Miscell.	222913	05/07/15 11:59	1.0	
034	met54	SAMPLE	266562-001	Soil	222913	05/07/15 12:00	1.0	
035	met54	CCV				05/07/15 12:01	1.0	3
036	met54	CCB				05/07/15 12:03	1.0	

ARD 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 36.

Standards used: 1=S27208 2=S27210 3=S27211

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 METALS Soil: EPA 7470A

Inst : MET54
Calnum : 1075183563001
Units : ug/L

Date : 07-MAY-2015 11:23
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met54	1075183563002	ICAL1	07-MAY-2015 11:24	S27208 (500X)
L2	met54	1075183563003	ICAL2	07-MAY-2015 11:25	S27208 (200X)
L3	met54	1075183563004	ICAL3	07-MAY-2015 11:26	S27208 (50X)
L4	met54	1075183563005	ICAL4	07-MAY-2015 11:28	S27208 (20X)
L5	met54	1075183563006	ICAL5	07-MAY-2015 11:29	S27208 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0100	0.0100	0.0102	0.0099	0.0096	LIN0	-0.0515	104.521		0.0099	1.000	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	**-21**	0.5000	-6	2.0000	4	5.0000	2	10.000	-1

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 METALS Soil
EPA 7470A

Inst : MET54
Calnum : 1075183563001 Cal Date : 07-MAY-2015

ICV 1075183563007 (07-MAY-2015) stds: S27210

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	5.028	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075183563008 File : met54 Time : 07-MAY-2015 11:31
Cal : 1075183563001 Caldate : 07-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075183563019 File : met54 Time : 07-MAY-2015 11:43
Cal : 1075183563001 Caldate : 07-MAY-2015
Standards: S27211

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0099	0.0097	5.000	5.007	ug/L	0	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075183563020 File : met54 Time : 07-MAY-2015 11:45
Cal : 1075183563001 Caldate : 07-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075183563031 File : met54 Time : 07-MAY-2015 11:57
Cal : 1075183563001 Caldate : 07-MAY-2015
Standards: S27211

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0099	0.0097	5.000	5.039	ug/L	1	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Soil
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075183563032 File : met54 Time : 07-MAY-2015 11:58
Cal : 1075183563001 Caldate : 07-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 222913
Started By : ARD
Method : METHOD
Spike #1 ID : S27208

Prep Date : 06-MAY-2015 12:15

Analysis : HG
Finished By : ARD
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266525-001		Soil	.65	50	1	76.92						T22/HG	
266525-002		Soil	.62	50	1	80.65						T22/HG	
266525-003		Soil	.58	50	1	86.21						T22/HG	
266525-004		Soil	.62	50	1	80.65						T22/HG	
266525-005		Soil	.58	50	1	86.21						T22/HG	
266525-006		Soil	.63	50	1	79.37						T22/HG	
266525-007		Soil	.6	50	1	83.33						T22/HG	
266525-008		Soil	.63	50	1	79.37						T22/HG	
266525-009		Soil	.66	50	1	75.76						T22/HG	
266550-001		Miscell.	.6	50	1	83.33						T22/HG	
266550-002		Miscell.	.58	50	1	86.21						T22/HG	
266550-003		Miscell.	.66	50	1	75.76						T22/HG	
266550-004		Miscell.	.64	50	1	78.13						T22/HG	
266558-001		Miscell.	.61	50	1	81.97						T22/HG	
266562-001		Soil	.62	50	1	80.65						T22/HG	
266576-001		Soil	.58	50	1	86.21						T22/HG	
QC786839	BLANK	Soil	.6	50	1	83.33							
QC786840	BS	Soil	.6	50	1	83.33		1.25					
QC786841	BSD	Soil	.6	50	1	83.33		1.25					
QC786842	MS	Soil	.6	50	1	83.33		1.25					
QC786843	MSD	Soil	.59	50	1	84.75		1.25					
QC786844	SER	Soil	.58	50	1	86.21							

Analyst: ARD Date: 05/07/15 Reviewer: PRW Date: 05/07/15

Soil Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 222913
Date Digested: 05.06.15

Scale Used: ☒ Metals Prep ☐ _____
Digestion Method: ☒ EPA 7471A ☐ _____

BK 3672
Page 46

	Sample #	container ID	Sample Weight (g)	Final Volume (mL)	Filtered? (y/n)	Comments
	Blank		Ø	☑50 ☐___	Y	QC 786839
	BS *		Ø	☑50 ☐___	↓	840
	BSD *		Ø	☑50 ☐___	↓	841
	MSS 266576-001	B	0.58	☑50 ☐___	↓	
5	MS *	↓	0.60	☑50 ☐___	↓	
	MSD *	↓	0.59	☑50 ☐___	↓	
	266525-001	A	0.65	☑50 ☐___	↓	
	-002	↓	0.62	☑50 ☐___	↓	
	-003	↓	0.58	☑50 ☐___	↓	
10	-004	↓	0.62	☑50 ☐___	↓	
	-005	↓	0.58	☑50 ☐___	↓	
	-006	↓	0.63	☑50 ☐___	↓	
	-007	↓	0.60	☑50 ☐___	↓	
	-008	↓	0.63	☑50 ☐___	↓	
15	-009	↓	0.66	☑50 ☐___	↓	
	266550-001	A	0.60	☑50 ☐___	↓	
	-002	↓	0.58	☑50 ☐___	↓	
	-003	↓	0.66	☑50 ☐___	↓	
	-004	↓	0.64	☑50 ☐___	↓	
20	266558-001	B	0.61	☑50 ☐___	↓	
	266562-001	B	0.62	☑50 ☐___	↓	
	~~ARD 5.6.15 266563~~			☐ 50 ☐___		
				☐ 50 ☐___		
				☐ 50 ☐___		
				☐ 50 ☐___		

Reagent ID/ LIMS# / Time		Initials / Date
Digestion Tubes, Lot #	EK-140812	ARD 5.6.15
1.25 mL of spike standard was added to all spikes	S27208	↓
☒ CAL digested with this batch — ICAL Source LIMS S#	S27209	↓
ICV / CCV LIMS S#	S27210 / S27211	↓
Digestion Temperature (°C), Block and Probe Location	96° A48	↓
Digestion Started at (time)	12:15	↓
Aqua Regia Acids (HNO3+ HCl)	JTB-050615	↓
5% $KMnO_4$	~~ARD 5.6.15~~ FS-042615	↓
NaCl.hydroxylamine hydrochloride	FS-050615	↓
Stannous Chloride	FS-050115	↓
Digestion Completd at (time)	12:45	↓
☒ filtered thru' 0.45 um syringe filter (lot #)	4322504	↓

5/6/15
Prep Chemist / Date

Continued from page Ø
Continued on page _____

Reviewed Online / See LIMS

Laboratory Job Number 266525

ANALYTICAL REPORT

Metals

Matrix: Filtrate

Curtis & Tompkins, Ltd.

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB-14(GW)	Diln Fac:	1.000
Lab ID:	266525-022	Sampled:	05/01/15
Matrix:	Filtrate	Received:	05/01/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Arsenic	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Barium	770	5.0	222890	05/05/15	05/06/15	EPA 6010B
Beryllium	ND	2.0	222890	05/05/15	05/06/15	EPA 6010B
Cadmium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Chromium	5.9	5.0	222890	05/05/15	05/06/15	EPA 6010B
Cobalt	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Copper	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Lead	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Mercury	ND	0.20	222838	05/04/15	05/05/15	EPA 7470A
Molybdenum	5.3	5.0	222890	05/05/15	05/06/15	EPA 6010B
Nickel	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Selenium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Silver	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Thallium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Vanadium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Zinc	ND	20	222890	05/05/15	05/06/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB-13(GW)	Diln Fac:	1.000
Lab ID:	266525-023	Sampled:	05/01/15
Matrix:	Filtrate	Received:	05/01/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Arsenic	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Barium	190	5.0	222890	05/05/15	05/06/15	EPA 6010B
Beryllium	ND	2.0	222890	05/05/15	05/06/15	EPA 6010B
Cadmium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Chromium	16	5.0	222890	05/05/15	05/06/15	EPA 6010B
Cobalt	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Copper	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Lead	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Mercury	ND	0.20	222838	05/04/15	05/05/15	EPA 7470A
Molybdenum	7.6	5.0	222890	05/05/15	05/06/15	EPA 6010B
Nickel	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Selenium	52	10	222890	05/05/15	05/06/15	EPA 6010B
Silver	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Thallium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Vanadium	11	5.0	222890	05/05/15	05/06/15	EPA 6010B
Zinc	ND	20	222890	05/05/15	05/06/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03		
Field ID:	APLB-20(GW)	Diln Fac:	1.000
Lab ID:	266525-024	Sampled:	05/01/15
Matrix:	Filtrate	Received:	05/01/15
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Arsenic	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Barium	590	5.0	222890	05/05/15	05/06/15	EPA 6010B
Beryllium	ND	2.0	222890	05/05/15	05/06/15	EPA 6010B
Cadmium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Chromium	6.2	5.0	222890	05/05/15	05/06/15	EPA 6010B
Cobalt	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Copper	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Lead	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Mercury	ND	0.20	222838	05/04/15	05/05/15	EPA 7470A
Molybdenum	5.1	5.0	222890	05/05/15	05/06/15	EPA 6010B
Nickel	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Selenium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Silver	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Thallium	ND	10	222890	05/05/15	05/06/15	EPA 6010B
Vanadium	ND	5.0	222890	05/05/15	05/06/15	EPA 6010B
Zinc	ND	20	222890	05/05/15	05/06/15	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	222838
Lab ID:	QC786543	Prepared:	05/04/15
Matrix:	Water	Analyzed:	05/05/15
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222838
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC786544	2.500	2.495	100	80-120		
BSD	QC786545	2.500	2.484	99	80-120	0	24

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	222838
Field ID:	ZZZZZZZZZZ	Sampled:	05/01/15
MSS Lab ID:	266535-001	Received:	05/01/15
Matrix:	Water	Prepared:	05/04/15
Units:	ug/L	Analyzed:	05/05/15
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC786546	<0.02080	2.500	2.440	98	60-130		
MSD	QC786547		2.500	2.517	101	60-130	3	34

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Units:	ug/L
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	222838
MSS Lab ID:	266535-001	Sampled:	05/01/15
Lab ID:	QC786548	Received:	05/01/15
Matrix:	Water	Analyzed:	05/05/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
ND	0.2000	ND	1.000	NC	10

NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC786754	Batch#:	222890
Matrix:	Filtrate	Prepared:	05/05/15
Units:	ug/L	Analyzed:	05/06/15

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	5.0
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Filtrate	Batch#:	222890
Units:	ug/L	Prepared:	05/05/15
Diln Fac:	1.000	Analyzed:	05/06/15

Type: BS Lab ID: QC786755

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	114.2	114	79-120
Arsenic	100.0	111.6	112	80-120
Barium	100.0	103.4	103	80-120
Beryllium	100.0	105.8	106	80-120
Cadmium	100.0	111.0	111	80-120
Chromium	100.0	102.1	102	80-120
Cobalt	100.0	101.2	101	80-120
Copper	100.0	100.7	101	80-120
Lead	100.0	98.80	99	80-120
Molybdenum	100.0	101.3	101	80-120
Nickel	100.0	102.2	102	80-120
Selenium	100.0	109.9	110	80-120
Silver	100.0	108.0	108	77-120
Thallium	50.00	52.16	104	80-121
Vanadium	100.0	103.4	103	80-120
Zinc	100.0	106.0	106	80-120

Type: BSD Lab ID: QC786756

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	111.2	111	79-120	3	20
Arsenic	100.0	109.1	109	80-120	2	20
Barium	100.0	103.3	103	80-120	0	20
Beryllium	100.0	106.1	106	80-120	0	20
Cadmium	100.0	109.7	110	80-120	1	20
Chromium	100.0	101.8	102	80-120	0	20
Cobalt	100.0	100.9	101	80-120	0	20
Copper	100.0	101.1	101	80-120	0	20
Lead	100.0	98.22	98	80-120	1	20
Molybdenum	100.0	99.87	100	80-120	1	20
Nickel	100.0	101.2	101	80-120	1	20
Selenium	100.0	110.8	111	80-120	1	20
Silver	100.0	107.3	107	77-120	1	20
Thallium	50.00	52.75	106	80-121	1	20
Vanadium	100.0	102.9	103	80-120	0	20
Zinc	100.0	106.3	106	80-120	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-14(GW)	Batch#:	222890
MSS Lab ID:	266525-022	Sampled:	05/01/15
Matrix:	Filtrate	Received:	05/01/15
Units:	ug/L	Prepared:	05/05/15
Diln Fac:	1.000	Analyzed:	05/06/15

Type: MS Lab ID: QC786757

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.893	100.0	103.5	103	74-120
Arsenic	<1.538	100.0	108.4	108	80-127
Barium	766.1	100.0	854.6	89 NM	80-120
Beryllium	0.5013	100.0	105.8	105	80-120
Cadmium	<0.2919	100.0	99.18	99	80-120
Chromium	5.864	100.0	104.8	99	80-120
Cobalt	0.9768	100.0	94.67	94	80-120
Copper	<1.452	100.0	107.0	107	80-120
Lead	<1.190	100.0	89.01	89	67-120
Molybdenum	5.276	100.0	105.8	101	80-120
Nickel	1.370	100.0	93.56	92	80-120
Selenium	<3.146	100.0	138.5	138 *	73-132
Silver	<0.6588	100.0	117.3	117	67-120
Thallium	<0.9604	50.00	47.77	96	76-121
Vanadium	3.196	100.0	109.4	106	80-120
Zinc	6.967	100.0	106.8	100	80-122

Type: MSD Lab ID: QC786758

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	102.1	102	74-120	1	24
Arsenic	100.0	102.6	103	80-127	6	25
Barium	100.0	821.3	55 NM	80-120	4	20
Beryllium	100.0	102.5	102	80-120	3	20
Cadmium	100.0	94.90	95	80-120	4	20
Chromium	100.0	99.91	94	80-120	5	20
Cobalt	100.0	90.75	90	80-120	4	20
Copper	100.0	101.2	101	80-120	6	20
Lead	100.0	85.91	86	67-120	4	23
Molybdenum	100.0	101.5	96	80-120	4	20
Nickel	100.0	89.09	88	80-120	5	20
Selenium	100.0	141.2	141 *	73-132	2	30
Silver	100.0	108.1	108	67-120	8	22
Thallium	50.00	45.53	91	76-121	5	20
Vanadium	100.0	104.1	101	80-120	5	20
Zinc	100.0	104.4	97	80-122	2	20

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-14(GW)	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	222890
MSS Lab ID:	266525-022	Sampled:	05/01/15
Lab ID:	QC786759	Received:	05/01/15
Matrix:	Filtrate	Analyzed:	05/06/15
Units:	ug/L		

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	ND	10.00	ND	50.00	NC	10
Arsenic	ND	5.000	ND	25.00	NC	10
Barium	766.1	5.000	774.1	25.00	1	10
Beryllium	0.5013	2.000	0.6937 J	10.00	NC	10
Cadmium	ND	5.000	ND	25.00	NC	10
Chromium	5.864	5.000	6.739 J	25.00	NC	10
Cobalt	0.9768	5.000	ND	25.00	NC	10
Copper	ND	5.000	ND	25.00	NC	10
Lead	ND	5.000	ND	25.00	NC	10
Molybdenum	5.276	5.000	5.866 J	25.00	NC	10
Nickel	1.370	5.000	ND	25.00	NC	10
Selenium	ND	10.00	ND	50.00	NC	10
Silver	ND	5.000	ND	25.00	NC	10
Thallium	ND	10.00	ND	50.00	NC	10
Vanadium	3.196	5.000	3.936 J	25.00	NC	10
Zinc	6.967	20.00	24.34 J	100.0	NC	10

J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	266525	Location:	Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	APLB-14(GW)	Diln Fac:	1.000
Type:	Post Digest Spike	Batch#:	222890
MSS Lab ID:	266525-022	Sampled:	05/01/15
Lab ID:	QC786760	Received:	05/01/15
Matrix:	Filtrate	Analyzed:	05/06/15
Units:	ug/L		

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.893	100.0	107.3	107	75-125
Arsenic	<1.538	100.0	115.0	115	75-125
Barium	766.1	100.0	836.2	70 NM	75-125
Beryllium	0.5013	100.0	112.2	112	75-125
Cadmium	<0.2919	100.0	103.2	103	75-125
Chromium	5.864	100.0	110.7	105	75-125
Cobalt	0.9768	100.0	98.11	97	75-125
Copper	<1.452	100.0	111.0	111	75-125
Lead	<1.190	100.0	92.14	92	75-125
Molybdenum	5.276	100.0	111.5	106	75-125
Nickel	1.370	100.0	96.85	95	75-125
Selenium	<3.146	100.0	149.0	149 *	75-125
Silver	<0.6588	100.0	119.0	119	75-125
Thallium	<0.9604	50.00	49.23	98	75-125
Vanadium	3.196	100.0	114.8	112	75-125
Zinc	6.967	100.0	110.8	104	75-125

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration

REPORTING SUMMARY FOR 266525 METALS Filtrate
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
266525-022	MET54	05/05/15 12:03	1.0										+							
266525-022	MET08	05/06/15 10:01	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
266525-022	MET08	05/07/15 12:47	100.0																	
266525-022	MET08	05/07/15 13:29	10.0																	
266525-023	MET54	05/05/15 12:04	1.0										+							
266525-023	MET08	05/06/15 11:06	1.0	+	+	+	+	+	+	+	+	+		+	+		+	+	+	+
266525-023	MET09	05/06/15 15:20	1.0													+				
266525-024	MET54	05/05/15 12:05	1.0										+							
266525-024	MET08	05/06/15 11:15	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786543	MET54	05/05/15 11:47	1.0										+							
QC786544	MET54	05/05/15 11:48	1.0										+							
QC786545	MET54	05/05/15 11:49	1.0										+							
QC786546	MET54	05/05/15 11:51	1.0										+							
QC786547	MET54	05/05/15 11:53	1.0										+							
QC786548	MET54	05/05/15 11:54	5.0										+							
QC786714	MET44	05/05/15 21:48	1.0										+							
QC786754	MET08	05/06/15 09:48	1.0																	
QC786754	MET09	05/06/15 13:11	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786755	MET08	05/06/15 09:53	1.0																	
QC786755	MET09	05/06/15 13:16	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786756	MET08	05/06/15 09:57	1.0																	
QC786756	MET09	05/06/15 13:20	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786757	MET08	05/06/15 10:09	1.0																	
QC786757	MET09	05/06/15 13:44	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786757	MET08	05/07/15 15:15	100.0																	
QC786758	MET08	05/06/15 10:16	1.0																	
QC786758	MET09	05/06/15 13:59	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786758	MET08	05/07/15 15:31	100.0																	
QC786759	MET08	05/06/15 10:24	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC786759	MET09	05/06/15 14:37	5.0																	
QC786760	MET08	05/06/15 10:29	1.0																	
QC786760	MET09	05/06/15 14:51	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met08_sn_6010	ICALBLK				05/06/15 05:27	1.0		
002	met08_sn_6010	ICAL	L1			05/06/15 05:32	1.0	1	
003	met08_sn_6010	ICAL	L2			05/06/15 05:37	1.0	2	
004	met08_sn_6010	ICAL	L3			05/06/15 05:42	1.0	3	
005	met08_sn_6010	ICAL	L4			05/06/15 05:47	1.0	4	
006	met08_sn_6010	ICAL	L5			05/06/15 05:54	1.0	5	
007	met08_sn_6010	ICV				05/06/15 06:00	1.0	6	
008	met08_sn_6010	CRI				05/06/15 06:07	1.0	7	
009	met08_sn_6010	ICB				05/06/15 06:12	1.0		
010	met08_sn_6010	ICSA				05/06/15 06:17	1.0	8	10:AL=500000
011	met08_sn_6010	ICSAB				05/06/15 07:20	1.0	9	5:AL=480000
012	met08_sn_6010	BLANK	QC786776	TCLP Leachate	222895	05/06/15 08:30	10.0		1:NA=160000
013	met08_sn_6010	BS	QC786777	TCLP Leachate	222895	05/06/15 08:35	1.0		
014	met08_sn_6010	BSD	QC786778	TCLP Leachate	222895	05/06/15 08:41	1.0		
015	met08_sn_6010	MSS	266530-001	TCLP Leachate	222895	05/06/15 08:45	10.0		1:NA=150000
016	met08_sn_6010	MS	QC786779	TCLP Leachate	222895	05/06/15 08:50	10.0		
017	met08_sn_6010	MSD	QC786780	TCLP Leachate	222895	05/06/15 08:55	10.0		
018	met08_sn_6010	SAMPLE	266530-002	TCLP Leachate	222895	05/06/15 09:00	10.0		1:NA=150000
019	met08_sn_6010	SAMPLE	266530-003	TCLP Leachate	222895	05/06/15 09:05	10.0		1:NA=160000
020	met08_sn_6010	SAMPLE	266541-001	TCLP Leachate	222895	05/06/15 09:10	10.0		2:NA=160000
021	met08_sn_6010	SAMPLE	266541-002	TCLP Leachate	222895	05/06/15 09:19	10.0		1:NA=160000
022	met08_sn_6010	CCV				05/06/15 09:24	1.0	10	
023	met08_sn_6010	CCB				05/06/15 09:31	1.0		
024	met08_sn_6010	BLANK	QC786754	Filtrate	222890	05/06/15 09:48	1.0		
025	met08_sn_6010	BS	QC786755	Filtrate	222890	05/06/15 09:53	1.0		
026	met08_sn_6010	BSD	QC786756	Filtrate	222890	05/06/15 09:57	1.0		
027	met08_sn_6010	MSS	266525-022	Filtrate	222890	05/06/15 10:01	1.0		2:MG=180000
028	met08_sn_6010	MS	QC786757	Filtrate	222890	05/06/15 10:09	1.0		2:MG=180000
029	met08_sn_6010	MSD	QC786758	Filtrate	222890	05/06/15 10:16	1.0		2:MG=180000
030	met08_sn_6010	SER	QC786759	Filtrate	222890	05/06/15 10:24	5.0		1:NA=310000
031	met08_sn_6010	PDS	QC786760	Filtrate	222890	05/06/15 10:29	1.0	11	2:MG=190000
032	met08_sn_6010	SAMPLE	266502-001	Filtrate	222890	05/06/15 10:37	1.0		2:CA=490000
033	met08_sn_6010	SAMPLE	266511-010	Filtrate	222890	05/06/15 10:45	1.0		2:MG=260000
034	met08_sn_6010	CCV				05/06/15 10:54	1.0	10	
035	met08_sn_6010	CCB				05/06/15 11:01	1.0		
036	met08_sn_6010	SAMPLE	266525-023	Filtrate	222890	05/06/15 11:06	1.0		3:MG=240000
037	met08_sn_6010	SAMPLE	266525-024	Filtrate	222890	05/06/15 11:15	1.0		2:MG=210000
038	met08_sn_6010	X	RINSE			05/06/15 11:23	1.0		
039	met08_sn_6010	X	RINSE			05/06/15 11:28	1.0		
040	met08_sn_6010	CCV				05/06/15 11:33	1.0	10	
041	met08_sn_6010	CCB				05/06/15 11:39	1.0		
042	met08_sn_6010	BLANK	QC786697	Soil	222877	05/06/15 11:44	1.0		
043	met08_sn_6010	BS	QC786698	Soil	222877	05/06/15 11:49	5.0		
044	met08_sn_6010	BSD	QC786699	Soil	222877	05/06/15 11:54	5.0		
045	met08_sn_6010	MSS	266525-009	Soil	222877	05/06/15 12:00	1.0		
046	met08_sn_6010	MS	QC786700	Soil	222877	05/06/15 12:04	5.0		
047	met08_sn_6010	MSD	QC786701	Soil	222877	05/06/15 12:08	5.0		
048	met08_sn_6010	SER	QC786702	Soil	222877	05/06/15 12:12	5.0		
049	met08_sn_6010	PDS	QC786703	Soil	222877	05/06/15 12:16	1.0	11 12 13	1:FE=100000
050	met08_sn_6010	SAMPLE	266518-001	Soil	222877	05/06/15 12:20	1.0		5:FE=380000
051	met08_sn_6010	SAMPLE	266518-002	Soil	222877	05/06/15 12:24	1.0		4:FE=450000
052	met08_sn_6010	CCV				05/06/15 12:27	1.0	10	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met08_sn_6010	CCB				05/06/15 12:34	1.0		
054	met08_sn_6010	SAMPLE	266518-003	Soil	222877	05/06/15 12:39	1.0		5:FE=400000
055	met08_sn_6010	SAMPLE	266518-004	Soil	222877	05/06/15 12:42	1.0		4:FE=440000
056	met08_sn_6010	SAMPLE	266518-005	Soil	222877	05/06/15 12:45	1.0		3:FE=340000
057	met08_sn_6010	SAMPLE	266518-006	Soil	222877	05/06/15 12:49	1.0		4:FE=380000
058	met08_sn_6010	SAMPLE	266518-007	Soil	222877	05/06/15 12:52	1.0		4:FE=410000
059	met08_sn_6010	SAMPLE	266518-008	Soil	222877	05/06/15 12:55	1.0		4:FE=490000
060	met08_sn_6010	SAMPLE	266518-009	Soil	222877	05/06/15 12:58	1.0		3:FE=380000
061	met08_sn_6010	SAMPLE	266518-010	Soil	222877	05/06/15 13:02	1.0		4:FE=380000
062	met08_sn_6010	SAMPLE	266525-001	Soil	222877	05/06/15 13:05	1.0		4:FE=600000
063	met08_sn_6010	SAMPLE	266525-002	Soil	222877	05/06/15 13:08	1.0		3:FE=280000
064	met08_sn_6010	CCV				05/06/15 13:15	1.0	10	
065	met08_sn_6010	CCB				05/06/15 13:22	1.0		
066	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 13:27	1.0		2:FE=240000
067	met08_sn_6010	SAMPLE	266525-004	Soil	222877	05/06/15 13:34	1.0		5:FE=370000
068	met08_sn_6010	SAMPLE	266525-005	Soil	222877	05/06/15 13:41	1.0		2:FE=490000
069	met08_sn_6010	SAMPLE	266525-006	Soil	222877	05/06/15 13:44	1.0		1:FE=100000
070	met08_sn_6010	SAMPLE	266525-007	Soil	222877	05/06/15 13:48	1.0		4:FE=360000
071	met08_sn_6010	SAMPLE	266525-008	Soil	222877	05/06/15 13:51	1.0		3:FE=800000
072	met08_sn_6010	CCV				05/06/15 13:58	1.0	10	
073	met08_sn_6010	CCB				05/06/15 14:05	1.0		
074	met08_sn_6010	SAMPLE	266518-007	Soil	222877	05/06/15 14:14	1.0		4:FE=410000
075	met08_sn_6010	SAMPLE	266518-009	Soil	222877	05/06/15 14:17	1.0		3:FE=370000
076	met08_sn_6010	SAMPLE	266525-002	Soil	222877	05/06/15 14:21	1.0		3:FE=280000
077	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 14:27	100.0		
078	met08_sn_6010	CCV				05/06/15 14:33	1.0	10	
079	met08_sn_6010	CCB				05/06/15 14:39	1.0		
080	met08_sn_6010	SAMPLE	266525-003	Soil	222877	05/06/15 15:10	1.0		2:FE=240000
081	met08_sn_6010	SAMPLE	266525-005	Soil	222877	05/06/15 15:17	1.0		2:FE=480000
082	met08_sn_6010	SAMPLE	266525-007	Soil	222877	05/06/15 15:20	1.0		4:FE=350000
083	met08_sn_6010	SAMPLE	266525-008	Soil	222877	05/06/15 15:24	1.0		3:FE=810000
084	met08_sn_6010	CCV				05/06/15 15:30	1.0	10	
085	met08_sn_6010	CCB				05/06/15 15:37	1.0		
086	met08_sn_6010	BLANK	QC786802	Wipe	222903	05/06/15 16:00	1.0		
087	met08_sn_6010	BS	QC786803	Wipe	222903	05/06/15 16:05	5.0		
088	met08_sn_6010	BSD	QC786804	Wipe	222903	05/06/15 16:10	5.0		
089	met08_sn_6010	SAMPLE	266559-001	Wipe	222903	05/06/15 16:15	1.0		
090	met08_sn_6010	SAMPLE	266559-002	Wipe	222903	05/06/15 16:20	1.0		
091	met08_sn_6010	SAMPLE	266559-003	Wipe	222903	05/06/15 16:25	1.0		
092	met08_sn_6010	SAMPLE	266559-004	Wipe	222903	05/06/15 16:29	1.0		
093	met08_sn_6010	SAMPLE	266559-005	Wipe	222903	05/06/15 16:33	1.0		
094	met08_sn_6010	SAMPLE	266559-006	Wipe	222903	05/06/15 16:37	1.0		
095	met08_sn_6010	SAMPLE	266559-007	Wipe	222903	05/06/15 16:41	1.0		
096	met08_sn_6010	CCV				05/06/15 16:47	1.0	10	
097	met08_sn_6010	CCB				05/06/15 16:53	1.0		
098	met08_sn_6010	SAMPLE	266559-008	Wipe	222903	05/06/15 16:59	1.0		
099	met08_sn_6010	CCV				05/06/15 17:04	1.0	10	
100	met08_sn_6010	CCB				05/06/15 17:11	1.0		
101	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 19:32	100.0		
102	met08_sn_6010	CCV				05/06/15 19:37	1.0	10	
103	met08_sn_6010	CCB				05/06/15 19:43	1.0		
104	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 19:49	100.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85181767

Instrument : MET08 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met08_sn_6010	SAMPLE	266412-003	Wipe	222865	05/06/15 20:08	100.0		
106	met08_sn_6010	X	RINSE			05/06/15 20:13	1.0		
107	met08_sn_6010	CCV				05/06/15 20:18	1.0	10	
108	met08_sn_6010	CCB				05/06/15 20:25	1.0		

NCD 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 85.

CRT 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 86 through 108.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85181767

Date : 05/06/15 Reference : met08_sn_6010
Sequence : MET08 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
		ICAL STD	2422897
		LOWER LIMIT	726869
		UPPER LIMIT	4845794
009	ICB		2457443
010	ICSA		2183114
011	ICSAB		2322626
012	BLANK	QC786776	2493732
013	BS	QC786777	2730074
014	BSD	QC786778	2672672
015	MSS	266530-001	2531467
016	MS	QC786779	2485186
017	MSD	QC786780	2473197
018	SAMPLE	266530-002	2488889
019	SAMPLE	266530-003	2469406
020	SAMPLE	266541-001	2509218
021	SAMPLE	266541-002	2469909
022	CCV		2733200
023	CCB		2709764
024	BLANK	QC786754	2702632
025	BS	QC786755	2764402
026	BSD	QC786756	2724111
027	MSS	266525-022	2327399
028	MS	QC786757	2310990
029	MSD	QC786758	2355366
030	SER	QC786759	2450864
031	PDS	QC786760	2332645
032	SAMPLE	266502-001	2210369
033	SAMPLE	266511-010	2172982
034	CCV		2762149
035	CCB		2691017
036	SAMPLE	266525-023	2228615
037	SAMPLE	266525-024	2184640
040	CCV		2808678
041	CCB		2751637
042	BLANK	QC786697	2743134
043	BS	QC786698	2631385
044	BSD	QC786699	2643987
045	MSS	266525-009	2789740
046	MS	QC786700	2731986
047	MSD	QC786701	2672344
048	SER	QC786702	2773437
049	PDS	QC786703	2749869
050	SAMPLE	266518-001	2754217
051	SAMPLE	266518-002	2756338
052	CCV		2796919
053	CCB		2753488
054	SAMPLE	266518-003	2402658
055	SAMPLE	266518-004	2710750
056	SAMPLE	266518-005	2711316
057	SAMPLE	266518-006	2723274
058	SAMPLE	266518-007	2688866

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85181767

Date : 05/06/15 Reference : met08_sn_6010
Sequence : MET08 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
059	SAMPLE	266518-008	2756204
060	SAMPLE	266518-009	2815941
061	SAMPLE	266518-010	2664205
062	SAMPLE	266525-001	2718414
063	SAMPLE	266525-002	2720944
064	CCV		2771562
065	CCB		2643539
066	SAMPLE	266525-003	2762045
067	SAMPLE	266525-004	2727651
068	SAMPLE	266525-005	2768700
069	SAMPLE	266525-006	2671457
070	SAMPLE	266525-007	2718356
071	SAMPLE	266525-008	2797740
072	CCV		2681757
073	CCB		2715547
074	SAMPLE	266518-007	2726499
075	SAMPLE	266518-009	2755031
076	SAMPLE	266525-002	2829608
077	SAMPLE	266525-003	2858329
078	CCV		2739635
079	CCB		2650706
080	SAMPLE	266525-003	2893058
081	SAMPLE	266525-005	2798680
082	SAMPLE	266525-007	2624693
083	SAMPLE	266525-008	2764214
084	CCV		2760260
085	CCB		2650358
086	BLANK	QC786802	2646326
087	BS	QC786803	2652440
088	BSD	QC786804	2620593
089	SAMPLE	266559-001	2673389
090	SAMPLE	266559-002	2721333
091	SAMPLE	266559-003	2667837
092	SAMPLE	266559-004	2641086
093	SAMPLE	266559-005	2681220
094	SAMPLE	266559-006	2715180
095	SAMPLE	266559-007	2587837
096	CCV		2729679
097	CCB		2682806
098	SAMPLE	266559-008	2597192
099	CCV		2745699
100	CCB		2791998
101	SAMPLE	266412-003	2719324
102	CCV		2702553
103	CCB		2622642
104	SAMPLE	266412-003	4465366
105	SAMPLE	266412-003	2703331
107	CCV		2718522
108	CCB		2746159

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 METALS Filtrate: EPA 6010B

Inst : MET08
Calnum : 85181767001
Units : ug/L

Reviewer : ---
Date : 06-MAY-2015 05:27
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met08_sn_6010	85181767002	L1	06-MAY-2015 05:32	S27129
L2	met08_sn_6010	85181767003	L2	06-MAY-2015 05:37	S27130
L3	met08_sn_6010	85181767004	L3	06-MAY-2015 05:42	S27131
L4	met08_sn_6010	85181767005	L4	06-MAY-2015 05:47	S27132
L5	met08_sn_6010	85181767006	L5	06-MAY-2015 05:54	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	24.250	19.881	20.345	20.333		LOR0	0.00000	0.04918		21.202	1.000	0.995	
Arsenic	A	18.600	15.234	15.391	15.594		LOR0	0.00000	0.06413		16.205	1.000	0.995	
Barium	A	391.90	367.56	376.63	355.64		LOR0	0.00000	0.00281		372.93	1.000	0.995	
Beryllium	A	4170.0	3952.3	4137.4			LOR0	0.00000	2.42E-4		4086.5	1.000	0.995	
Cadmium	A	174.00	165.07	167.88	161.95		LOR0	0.00000	0.00617		167.23	1.000	0.995	
Chromium	A	79.300	77.596	79.471	76.339		LOR0	0.00000	0.01309		78.177	1.000	0.995	
Cobalt	A	117.76	110.00	118.12	112.67		LOR0	0.00000	0.00887		114.64	1.000	0.995	
Copper	A	65.460	59.869	58.740	67.319		LOR0	0.00000	0.01487		62.847	1.000	0.995	
Lead	A	40.720	42.027	43.555	42.379		LOR0	0.00000	0.02359		42.170	1.000	0.995	
Molybdenum	A	30.720	28.050	28.744	28.045		LOR0	0.00000	0.03565		28.890	1.000	0.995	
Nickel	A	43.040	39.041	41.631	40.673		LOR0	0.00000	0.02458		41.096	1.000	0.995	
Selenium	A	21.850	24.325	25.270	24.577		LOR0	0.00000	0.04068		24.005	1.000	0.995	
Silver	A	605.38	585.36	596.70	585.96		LOR0	0.00000	0.00171		593.35	1.000	0.995	
Thallium	A	14.450	14.244	14.776	14.135		LOR0	0.00000	0.07072		14.401	1.000	0.995	
Vanadium	A	131.64	130.31	132.73	131.17		LOR0	0.00000	0.00762		131.46	1.000	0.995	
Zinc	A	61.835	58.327	60.249	58.244		LOR0	0.00000	0.01716		59.664	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	19	100.00	-2	1000.0	0	10000	0		
Arsenic	A	5.0000	19	100.00	-2	1000.0	-1	10000	0		
Barium	A	5.0000	10	100.00	3	1000.0	6	10000	0		
Beryllium	A	2.0000	1	100.00	-4	1000.0	0				
Cadmium	A	5.0000	7	100.00	2	1000.0	4	10000	0		
Chromium	A	5.0000	4	100.00	2	1000.0	4	10000	0		
Cobalt	A	5.0000	4	100.00	-2	1000.0	5	10000	0		
Copper	A	5.0000	-3	100.00	-11	1000.0	-13	10000	0		
Lead	A	5.0000	-4	100.00	-1	1000.0	3	10000	0		
Molybdenum	A	5.0000	10	100.00	0	1000.0	2	10000	0		
Nickel	A	5.0000	6	100.00	-4	1000.0	2	10000	0		
Selenium	A	10.000	-11	100.00	-1	1000.0	3	10000	0		
Silver	A	5.0000	3	20.000	0	200.00	2	2000.0	0		
Thallium	A	10.000	2	100.00	1	1000.0	4	10000	0		
Vanadium	A	5.0000	0	100.00	-1	1000.0	1	10000	0		
Zinc	A	20.000	6	100.00	0	1000.0	3	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

85181767001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08
Calnum : 85181767001 Cal Date : 06-MAY-2015

ICV 85181767007 (06-MAY-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4904	ug/L	-2	10	
Arsenic	A	5000	4890	ug/L	-2	10	
Barium	A	5000	4873	ug/L	-3	10	
Beryllium	A	500.0	477.7	ug/L	-4	10	
Cadmium	A	5000	5067	ug/L	1	10	
Chromium	A	5000	4857	ug/L	-3	10	
Cobalt	A	5000	4794	ug/L	-4	10	
Copper	A	5000	5045	ug/L	1	10	
Lead	A	5000	4762	ug/L	-5	10	
Molybdenum	A	5000	4953	ug/L	-1	10	
Nickel	A	5000	4836	ug/L	-3	10	
Selenium	A	5000	4831	ug/L	-3	10	
Silver	A	1000	964.1	ug/L	-4	10	
Thallium	A	5000	4796	ug/L	-4	10	
Vanadium	A	5000	4966	ug/L	-1	10	
Zinc	A	5000	4910	ug/L	-2	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767009 File : met08_sn_6010 Time : 06-MAY-2015 06:12
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[5.444]	10.00	2.500	ug/L	!ICB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2457443	1.43

!=warning ICB=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767010 File : met08_sn_6010 Time : 06-MAY-2015 06:17
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-3.880]	10.00	ug/L	
Arsenic	A	[-2.125]	5.000	ug/L	
Barium	A	[2.446]	5.000	ug/L	
Beryllium	A	[0.7957]	2.000	ug/L	
Cadmium	A	[0.7069]	5.000	ug/L	
Cobalt	A	[3.325]	5.000	ug/L	
Lead	A	[2.691]	5.000	ug/L	
Molybdenum	A	[-0.1933]	5.000	ug/L	
Selenium	A	[1.930]	10.00	ug/L	
Silver	A	[3.691]	5.000	ug/L	
Thallium	A	[-6.371]	10.00	ug/L	
Zinc	A	[1.344]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19360	ug/L	97
Copper	A	20000	21790	ug/L	109
Manganese	A	20000	18320	ug/L	92
Nickel	A	20000	18050	ug/L	90
Vanadium	A	20000	20250	ug/L	101
Aluminum	R	500000	499600	ug/L	100
Calcium	R	500000	482600	ug/L	97
Iron	R	200000	188700	ug/L	94
Magnesium	R	500000	498500	ug/L	100
Titanium	R	20000	21030	ug/L	105

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2183114	-9.90

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767011 File : met08_sn_6010 Time : 06-MAY-2015 07:20
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	499.5	ug/L	0	20	
Arsenic	A	500.0	494.9	ug/L	-1	20	
Barium	A	500.0	496.7	ug/L	-1	20	
Beryllium	A	500.0	480.6	ug/L	-4	20	
Cadmium	A	1000	972.9	ug/L	-3	20	
Chromium	A	500.0	481.1	ug/L	-4	20	
Cobalt	A	500.0	433.0	ug/L	-13	20	
Copper	A	500.0	554.7	ug/L	11	20	
Lead	A	1000	926.9	ug/L	-7	20	
Molybdenum	A	500.0	487.8	ug/L	-2	20	
Nickel	A	1000	878.8	ug/L	-12	20	
Selenium	A	500.0	475.5	ug/L	-5	20	
Silver	A	1000	1053	ug/L	5	20	
Thallium	A	500.0	433.7	ug/L	-13	20	
Vanadium	A	500.0	524.4	ug/L	5	20	
Zinc	A	1000	931.0	ug/L	-7	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2322626	-4.14

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767022 File : met08_sn_6010 Time : 06-MAY-2015 09:24
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	19.802	5000	4869	ug/L	-3	10	
Arsenic	A	16.205	15.406	5000	4940	ug/L	-1	10	
Barium	A	372.93	339.20	5000	4766	ug/L	-5	10	
Beryllium	A	4086.5	3845.0	500.0	464.9	ug/L	-7	10	
Cadmium	A	167.23	165.57	5000	5110	ug/L	2	10	
Chromium	A	78.177	73.107	5000	4786	ug/L	-4	10	
Cobalt	A	114.64	106.00	5000	4693	ug/L	-6	10	
Copper	A	62.847	72.530	5000	5394	ug/L	8	10	
Lead	A	42.170	40.724	5000	4803	ug/L	-4	10	
Molybdenum	A	28.890	27.471	5000	4896	ug/L	-2	10	
Nickel	A	41.096	39.324	5000	4833	ug/L	-3	10	
Selenium	A	24.005	23.178	5000	4714	ug/L	-6	10	
Silver	A	593.35	558.96	1000	953.7	ug/L	-5	10	
Thallium	A	14.401	13.223	5000	4675	ug/L	-6	10	
Vanadium	A	131.46	129.28	5000	4927	ug/L	-1	10	
Zinc	A	59.664	56.732	5000	4869	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2733200	12.81

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767023 File : met08_sn_6010 Time : 06-MAY-2015 09:31
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[4.159]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2709764	11.84

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767034 File : met08_sn_6010 Time : 06-MAY-2015 10:54
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.196	5000	4966	ug/L	-1	10	
Arsenic	A	16.205	15.777	5000	5059	ug/L	1	10	
Barium	A	372.93	347.00	5000	4876	ug/L	-2	10	
Beryllium	A	4086.5	3953.9	500.0	478.0	ug/L	-4	10	
Cadmium	A	167.23	171.36	5000	5289	ug/L	6	10	
Chromium	A	78.177	74.430	5000	4873	ug/L	-3	10	
Cobalt	A	114.64	108.56	5000	4807	ug/L	-4	10	
Copper	A	62.847	75.055	5000	5582	ug/L	**12**	10	c+ ***
Lead	A	42.170	42.028	5000	4957	ug/L	-1	10	
Molybdenum	A	28.890	28.100	5000	5009	ug/L	0	10	
Nickel	A	41.096	40.390	5000	4964	ug/L	-1	10	
Selenium	A	24.005	23.739	5000	4828	ug/L	-3	10	
Silver	A	593.35	569.23	1000	971.3	ug/L	-3	10	
Thallium	A	14.401	13.425	5000	4747	ug/L	-5	10	
Vanadium	A	131.46	132.52	5000	5051	ug/L	1	10	
Zinc	A	59.664	58.607	5000	5029	ug/L	1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2762149	14.00

+=high bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767035 File : met08_sn_6010 Time : 06-MAY-2015 11:01
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[2.758]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2691017	11.07

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767040 File : met08_sn_6010 Time : 06-MAY-2015 11:33
Cal : 85181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	21.202	20.171	5000	4960	ug/L	-1	10	
Arsenic	A	16.205	15.800	5000	5067	ug/L	1	10	
Barium	A	372.93	336.79	5000	4732	ug/L	-5	10	
Beryllium	A	4086.5	3804.8	500.0	460.0	ug/L	-8	10	
Cadmium	A	167.23	164.90	5000	5089	ug/L	2	10	
Chromium	A	78.177	72.603	5000	4753	ug/L	-5	10	
Cobalt	A	114.64	105.37	5000	4665	ug/L	-7	10	
Copper	A	62.847	71.245	5000	5298	ug/L	6	10	
Lead	A	42.170	40.565	5000	4785	ug/L	-4	10	
Molybdenum	A	28.890	27.247	5000	4857	ug/L	-3	10	
Nickel	A	41.096	39.213	5000	4819	ug/L	-4	10	
Selenium	A	24.005	23.653	5000	4811	ug/L	-4	10	
Silver	A	593.35	553.33	1000	944.1	ug/L	-6	10	
Thallium	A	14.401	13.433	5000	4750	ug/L	-5	10	
Vanadium	A	131.46	128.15	5000	4884	ug/L	-2	10	
Zinc	A	59.664	56.631	5000	4860	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2808678	15.92

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85181767041 File : met08_sn_6010 Time : 06-MAY-2015 11:39
Cal : 85181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[2.939]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	2422897	2751637	13.57

!=warning CCB=instrument blank

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95181767

Instrument : MET09 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				05/06/15 05:27	1.0		
002	met09_sn_	ICAL	L1			05/06/15 05:32	1.0	1	
003	met09_sn_	ICAL	L2			05/06/15 05:37	1.0	2	
004	met09_sn_	ICAL	L3			05/06/15 05:42	1.0	3	
005	met09_sn_	ICAL	L4			05/06/15 05:46	1.0	4	
006	met09_sn_	ICAL	L5			05/06/15 05:53	1.0	5	
007	met09_sn_	ICV				05/06/15 06:00	1.0	6	
008	met09_sn_	XCRI				05/06/15 06:11	1.0	7	
009	met09_sn_	CRI				05/06/15 06:29	1.0	7	
010	met09_sn_	ICB				05/06/15 06:37	1.0		
011	met09_sn_	ICSA				05/06/15 06:43	1.0	8	10:AL=500000
012	met09_sn_	ICSAB				05/06/15 07:15	1.0	9	5:AL=500000
013	met09_sn_	SAMPLE	266412-002	Wipe	222865	05/06/15 09:36	10.0		1:PB=29000
014	met09_sn_	SAMPLE	266412-003	Wipe	222865	05/06/15 09:43	10.0		1:PB=15000
015	met09_sn_	SAMPLE	266412-004	Wipe	222865	05/06/15 09:51	10.0		
016	met09_sn_	SAMPLE	266412-005	Wipe	222865	05/06/15 09:59	10000		
017	met09_sn_	X	RINSE			05/06/15 10:04	1.0		
018	met09_sn_	SAMPLE	266482-011	Soil	222876	05/06/15 10:09	100.0		
019	met09_sn_	SAMPLE	266491-001	Soil	222876	05/06/15 10:13	100.0		
020	met09_sn_	MSS	266551-002	Soil	222876	05/06/15 10:18	100.0		
021	met09_sn_	SAMPLE	266482-013	Soil	222876	05/06/15 10:22	1.0		3:FE=530000
022	met09_sn_	SAMPLE	266485-001	Soil	222876	05/06/15 10:30	1.0		4:FE=420000
023	met09_sn_	CCV				05/06/15 10:38	1.0	10	
024	met09_sn_	CCB				05/06/15 10:45	1.0		
025	met09_sn_	SAMPLE	266485-002	Soil	222876	05/06/15 10:51	1.0		4:FE=400000
026	met09_sn_	SAMPLE	266485-003	Soil	222876	05/06/15 10:59	1.0		4:FE=340000
027	met09_sn_	SAMPLE	266491-001	Soil	222876	05/06/15 11:06	1.0		8:FE=880000
028	met09_sn_	SAMPLE	266511-029	Soil	222876	05/06/15 11:14	1.0		4:FE=380000
029	met09_sn_	SAMPLE	266511-030	Soil	222876	05/06/15 11:22	1.0		5:FE=630000
030	met09_sn_	SAMPLE	266511-031	Soil	222876	05/06/15 11:30	1.0		1:FE=140000
031	met09_sn_	SAMPLE	266516-001	Soil	222876	05/06/15 11:38	1.0		4:FE=320000
032	met09_sn_	SAMPLE	266551-001	Soil	222876	05/06/15 11:46	1.0		5:MG=470000
033	met09_sn_	MSS	266551-002	Soil	222876	05/06/15 11:54	1.0		5:MG=640000
034	met09_sn_	X	RINSE			05/06/15 12:02	1.0		
035	met09_sn_	CCV				05/06/15 12:07	1.0	10	
036	met09_sn_	CCB				05/06/15 12:15	1.0		
037	met09_sn_	SAMPLE	266412-002	Wipe	222865	05/06/15 12:20	10000		
038	met09_sn_	SAMPLE	266412-003	Wipe	222865	05/06/15 12:25	100.0		
039	met09_sn_	SAMPLE	266412-004	Wipe	222865	05/06/15 12:30	10.0		
040	met09_sn_	CCV				05/06/15 12:38	1.0	10	
041	met09_sn_	CCB				05/06/15 12:45	1.0		
042	met09_sn_	SAMPLE	266511-029	Soil	222876	05/06/15 12:51	1.0		4:FE=380000
043	met09_sn_	CCV				05/06/15 12:58	1.0	10	
044	met09_sn_	CCB				05/06/15 13:06	1.0		
045	met09_sn_	BLANK	QC786754	Filtrate	222890	05/06/15 13:11	1.0		
046	met09_sn_	BS	QC786755	Filtrate	222890	05/06/15 13:16	1.0		
047	met09_sn_	BSD	QC786756	Filtrate	222890	05/06/15 13:20	1.0		
048	met09_sn_	CCV				05/06/15 13:25	1.0	10	
049	met09_sn_	XCCB				05/06/15 13:32	1.0		
050	met09_sn_	CCB				05/06/15 13:36	1.0		
051	met09_sn_	MS	QC786757	Filtrate	222890	05/06/15 13:44	1.0		3:MG=190000
052	met09_sn_	X	RINSE			05/06/15 13:49	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95181767

Instrument : MET09 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	X	RINSE			05/06/15 13:54	1.0		
054	met09_sn_	MSD	QC786758	Filtrate	222890	05/06/15 13:59	1.0		3:MG=190000
055	met09_sn_	X	RINSE			05/06/15 14:07	1.0		
056	met09_sn_	X	RINSE			05/06/15 14:12	1.0		
057	met09_sn_	CCV				05/06/15 14:17	1.0	10	
058	met09_sn_	CCB				05/06/15 14:25	1.0		
059	met09_sn_	SER	QC786759	Filtrate	222890	05/06/15 14:37	5.0		1:NA=280000
060	met09_sn_	X	RINSE			05/06/15 14:41	1.0		
061	met09_sn_	X	RINSE			05/06/15 14:46	1.0		
062	met09_sn_	PDS	QC786760	Filtrate	222890	05/06/15 14:51	1.0	11 12 13	3:MG=190000
063	met09_sn_	X	RINSE			05/06/15 14:59	1.0		
064	met09_sn_	X	RINSE			05/06/15 15:04	1.0		
065	met09_sn_	SAMPLE	266502-001	Filtrate	222890	05/06/15 15:09	10000		
066	met09_sn_	X	RINSE			05/06/15 15:14	1.0		
067	met09_sn_	SAMPLE	266525-023	Filtrate	222890	05/06/15 15:20	1.0		4:MG=250000
068	met09_sn_	X	RINSE			05/06/15 15:27	1.0		
069	met09_sn_	CCV				05/06/15 15:33	1.0	10	
070	met09_sn_	XCCB				05/06/15 15:40	1.0		
071	met09_sn_	CCB				05/06/15 15:45	1.0		
072	met09_sn_	X	RINSE			05/06/15 16:07	1.0		
073	met09_sn_	X	RINSE			05/06/15 16:12	1.0		
074	met09_sn_	CCV				05/06/15 16:17	1.0	10	
075	met09_sn_	CCB				05/06/15 16:25	1.0		
076	met09_sn_	SAMPLE	266502-001	Filtrate	222890	05/06/15 16:30	1000		
077	met09_sn_	X	RINSE			05/06/15 16:35	1.0		
078	met09_sn_	X	RINSE			05/06/15 16:40	1.0		
079	met09_sn_	X	RINSE			05/06/15 16:45	1.0		
080	met09_sn_	SAMPLE	266502-001	Filtrate	222890	05/06/15 16:50	10.0		1:NA=130000
081	met09_sn_	X	RINSE			05/06/15 16:55	1.0		
082	met09_sn_	X	RINSE			05/06/15 17:00	1.0		
083	met09_sn_	X	RINSE			05/06/15 17:06	1.0		
084	met09_sn_	X	RINSE			05/06/15 17:11	1.0		
085	met09_sn_	CCV				05/06/15 17:16	1.0	10	
086	met09_sn_	XCCB				05/06/15 17:24	1.0		
087	met09_sn_	CCB				05/06/15 17:28	1.0		
088	met09_sn_	BLANK	QC786788	Water	222899	05/06/15 17:34	1.0		
089	met09_sn_	BS	QC786789	Water	222899	05/06/15 17:39	1.0		
090	met09_sn_	BSD	QC786790	Water	222899	05/06/15 17:43	1.0		
091	met09_sn_	MSS	266563-001	Water	222899	05/06/15 17:48	1.0		1:K=320000
092	met09_sn_	MS	QC786791	Water	222899	05/06/15 17:55	1.0		
093	met09_sn_	MSD	QC786792	Water	222899	05/06/15 18:03	1.0		
094	met09_sn_	SAMPLE	266564-001	Water	222899	05/06/15 18:11	1.0		1:K=320000
095	met09_sn_	X	RINSE			05/06/15 18:19	1.0		
096	met09_sn_	BLANK	QC786867	Wipe	222919	05/06/15 18:24	1.0		
097	met09_sn_	BS	QC786868	Wipe	222919	05/06/15 18:29	1.0		5:NA=110000
098	met09_sn_	CCV				05/06/15 18:37	1.0	10	
099	met09_sn_	XCCB				05/06/15 18:45	1.0		
100	met09_sn_	CCB				05/06/15 18:49	1.0		
101	met09_sn_	BSD	QC786869	Wipe	222919	05/06/15 18:54	1.0		5:FE=110000
102	met09_sn_	SAMPLE	266423-001	Wipe	222919	05/06/15 19:02	1.0		
103	met09_sn_	SAMPLE	266429-001	Wipe	222919	05/06/15 19:08	1.0		
104	met09_sn_	SAMPLE	266431-001	Wipe	222919	05/06/15 19:13	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95181767

Instrument : MET09 Begun : 05/06/15 05:27
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_	SAMPLE	266434-001	Wipe	222919	05/06/15 19:18	1.0		
106	met09_sn_	SAMPLE	266436-001	Wipe	222919	05/06/15 19:23	1.0		
107	met09_sn_	SAMPLE	266438-001	Wipe	222919	05/06/15 19:29	1.0		
108	met09_sn_	SAMPLE	266442-001	Wipe	222919	05/06/15 19:34	1.0		
109	met09_sn_	SAMPLE	266443-001	Wipe	222919	05/06/15 19:39	1.0		
110	met09_sn_	SAMPLE	266444-001	Wipe	222919	05/06/15 19:44	1.0		
111	met09_sn_	CCV				05/06/15 19:50	1.0	10	
112	met09_sn_	XCCB				05/06/15 19:58	1.0		
113	met09_sn_	CCB				05/06/15 20:02	1.0		
114	met09_sn_	SAMPLE	266447-001	Wipe	222919	05/06/15 20:07	1.0		
115	met09_sn_	SAMPLE	266448-001	Wipe	222919	05/06/15 20:12	1.0		
116	met09_sn_	CCV				05/06/15 20:17	1.0	10	
117	met09_sn_	XCCB				05/06/15 20:25	1.0		
118	met09_sn_	CCB				05/06/15 20:29	1.0		

NCD 05/07/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 118.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95181767

Date : 05/06/15 Reference : met09_sn_
Sequence : MET09 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
		ICAL STD	4404969
		LOWER LIMIT	1321491
		UPPER LIMIT	8809939
010	ICB		4422839
011	ICSA		3774995
012	ICSAB		3735790
013	SAMPLE	266412-002	4348170
014	SAMPLE	266412-003	4377527
015	SAMPLE	266412-004	4338734
016	SAMPLE	266412-005	4406384
018	SAMPLE	266482-011	4348143
019	SAMPLE	266491-001	4362646
020	MSS	266551-002	4390410
021	SAMPLE	266482-013	4332521
022	SAMPLE	266485-001	4199028
023	CCV		4209052
024	CCB		4328535
025	SAMPLE	266485-002	4140541
026	SAMPLE	266485-003	4273052
027	SAMPLE	266491-001	4057499
028	SAMPLE	266511-029	4281655
029	SAMPLE	266511-030	4661663
030	SAMPLE	266511-031	4279512
031	SAMPLE	266516-001	4161866
032	SAMPLE	266551-001	4093869
033	MSS	266551-002	4111367
035	CCV		4210440
036	CCB		4363451
037	SAMPLE	266412-002	4391354
038	SAMPLE	266412-003	4367930
039	SAMPLE	266412-004	4401340
040	CCV		4257528
041	CCB		4397892
042	SAMPLE	266511-029	4332020
043	CCV		4269911
044	CCB		4360763
045	BLANK	QC786754	4362609
046	BS	QC786755	4237980
047	BSD	QC786756	4361616
048	CCV		4263864
050	CCB		4326654
051	MS	QC786757	3755075
054	MSD	QC786758	3789490
057	CCV		4188068
058	CCB		4266828
059	SER	QC786759	3990016
062	PDS	QC786760	3717068
065	SAMPLE	266502-001	4342959
067	SAMPLE	266525-023	3563415
069	CCV		4224001
071	CCB		4223357

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95181767

Date : 05/06/15 Reference : met09_sn_
Sequence : MET09 05/06/15 Analyzed : 05/06/15 05:32

#	Type	Sample ID	Y A
074	CCV		4179384
075	CCB		4383196
076	SAMPLE	266502-001	4338901
080	SAMPLE	266502-001	4085158
085	CCV		4188580
087	CCB		4291792
088	BLANK	QC786788	4350142
089	BS	QC786789	4207409
090	BSD	QC786790	4205870
091	MSS	266563-001	3448518
092	MS	QC786791	3401071
093	MSD	QC786792	3438577
094	SAMPLE	266564-001	3385209
096	BLANK	QC786867	4238760
097	BS	QC786868	3948689
098	CCV		4065211
100	CCB		4221849
101	BSD	QC786869	3908923
102	SAMPLE	266423-001	4152533
103	SAMPLE	266429-001	4185116
104	SAMPLE	266431-001	4268184
105	SAMPLE	266434-001	4259467
106	SAMPLE	266436-001	4305776
107	SAMPLE	266438-001	4318755
108	SAMPLE	266442-001	4208026
109	SAMPLE	266443-001	4279144
110	SAMPLE	266444-001	4260333
111	CCV		4145433
113	CCB		4152697
114	SAMPLE	266447-001	4270752
115	SAMPLE	266448-001	4204829
116	CCV		4060398
118	CCB		4155979

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 METALS Filtrate: EPA 6010B

Inst : MET09
Calnum : 95181767001
Units : ug/L

Reviewer : ---
Date : 06-MAY-2015 05:27
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95181767002	L1	06-MAY-2015 05:32	S27129
L2	met09_sn_	95181767003	L2	06-MAY-2015 05:37	S27130
L3	met09_sn_	95181767004	L3	06-MAY-2015 05:42	S27131
L4	met09_sn_	95181767005	L4	06-MAY-2015 05:46	S27132
L5	met09_sn_	95181767006	L5	06-MAY-2015 05:53	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	5.2500	5.8990	5.8002	5.8217		LOR0	0.00000	0.17178		5.6927	1.000	0.995	
Arsenic	A	4.4000	2.6410	2.6343	2.6243		LOR0	0.00000	0.38105		3.0749	1.000	0.995	
Barium	A	70.400	71.231	69.776	67.440		LOR0	0.00000	0.01482		69.712	1.000	0.995	
Beryllium	A	6046.2	5955.2	5847.9			LOR0	0.00000	1.71E-4		5949.8	1.000	0.995	
Cadmium	A	80.620	81.195	79.971	76.057		LOR0	0.00000	0.01314		79.461	1.000	0.995	
Chromium	A	151.82	156.19	153.35	151.42		LOR0	0.00000	0.00660		153.19	1.000	0.995	
Cobalt	A	44.460	43.676	45.369	44.195		LOR0	0.00000	0.02262		44.425	1.000	0.995	
Copper	A	418.76	404.44	407.06	408.43		LOR0	0.00000	0.00245		409.67	1.000	0.995	
Lead	A	23.240	23.267	23.006	23.117		LOR0	0.00000	0.04326		23.158	1.000	0.995	
Molybdenum	A	23.460	23.375	23.197	22.702		LOR0	0.00000	0.04404		23.184	1.000	0.995	
Nickel	A	61.400	62.044	63.192	61.912		LOR0	0.00000	0.01615		62.137	1.000	0.995	
Selenium	A	5.5900	6.1390	6.2183	6.2909		LOR0	0.00000	0.15898		6.0596	1.000	0.995	
Silver	A	188.38	223.52	225.98	227.80		LOR0	0.00000	0.00439		216.42	1.000	0.995	
Thallium	A	3.1500	3.2530	3.1842	3.0491		LOR0	0.00000	0.32782		3.1591	1.000	0.995	
Vanadium	A	216.18	230.56	227.24	228.83		LOR0	0.00000	0.00437		225.70	1.000	0.995	
Zinc	A	32.905	32.904	32.634	32.079		LOR0	0.00000	0.03117		32.630	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-10	100.00	1	1000.0	0	10000	0		
Arsenic	A	5.0000	**68**	100.00	1	1000.0	0	10000	0		
Barium	A	5.0000	4	100.00	6	1000.0	3	10000	0		
Beryllium	A	2.0000	3	100.00	2	1000.0	0				
Cadmium	A	5.0000	6	100.00	7	1000.0	5	10000	0		
Chromium	A	5.0000	0	100.00	3	1000.0	1	10000	0		
Cobalt	A	5.0000	1	100.00	-1	1000.0	3	10000	0		
Copper	A	5.0000	3	100.00	-1	1000.0	0	10000	0		
Lead	A	5.0000	1	100.00	1	1000.0	0	10000	0		
Molybdenum	A	5.0000	3	100.00	3	1000.0	2	10000	0		
Nickel	A	5.0000	-1	100.00	0	1000.0	2	10000	0		
Selenium	A	10.000	-11	100.00	-2	1000.0	-1	10000	0		
Silver	A	5.0000	-17	20.000	-2	200.00	-1	2000.0	0		
Thallium	A	10.000	3	100.00	7	1000.0	4	10000	0		
Vanadium	A	5.0000	-6	100.00	1	1000.0	-1	10000	0		
Zinc	A	20.000	3	100.00	3	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

95181767001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09
Calnum : 95181767001 Cal Date : 06-MAY-2015

ICV 95181767007 (06-MAY-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4979	ug/L	0	10	
Arsenic	A	5000	5011	ug/L	0	10	
Barium	A	5000	4956	ug/L	-1	10	
Beryllium	A	500.0	507.0	ug/L	1	10	
Cadmium	A	5000	5100	ug/L	2	10	
Chromium	A	5000	4937	ug/L	-1	10	
Cobalt	A	5000	4889	ug/L	-2	10	
Copper	A	5000	4886	ug/L	-2	10	
Lead	A	5000	4736	ug/L	-5	10	
Molybdenum	A	5000	5004	ug/L	0	10	
Nickel	A	5000	4911	ug/L	-2	10	
Selenium	A	5000	4985	ug/L	0	10	
Silver	A	1000	979.2	ug/L	-2	10	
Thallium	A	5000	4895	ug/L	-2	10	
Vanadium	A	5000	4957	ug/L	-1	10	
Zinc	A	5000	5012	ug/L	0	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767010 File : met09_sn_ Time : 06-MAY-2015 06:37
Cal : 95181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4422839	0.41

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767011 File : met09_sn_ Time : 06-MAY-2015 06:43
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-1.720]	10.00	ug/L	
Arsenic	A	[-3.332]	5.000	ug/L	
Barium	A	[0.2577]	5.000	ug/L	
Beryllium	A	[-0.2995]	2.000	ug/L	
Cadmium	A	[-0.1017]	5.000	ug/L	
Cobalt	A	[0.4399]	5.000	ug/L	
Lead	A	[3.641]	5.000	ug/L	
Molybdenum	A	[2.063]	5.000	ug/L	
Selenium	A	[-5.027]	10.00	ug/L	
Silver	A	[-4.259]	5.000	ug/L	
Thallium	A	[-1.995]	10.00	ug/L	
Zinc	A	[16.77]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18560	ug/L	93
Copper	A	20000	20020	ug/L	100
Manganese	A	20000	17480	ug/L	87
Nickel	A	20000	16610	ug/L	83
Vanadium	A	20000	19540	ug/L	98
Aluminum	R	500000	496400	ug/L	99
Calcium	R	500000	463600	ug/L	93
Iron	R	200000	180100	ug/L	90
Magnesium	R	500000	477000	ug/L	95
Titanium	R	20000	20520	ug/L	103

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	3774995	-14.30

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767012 File : met09_sn_ Time : 06-MAY-2015 07:15
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	521.5	ug/L	4	20	
Arsenic	A	500.0	537.6	ug/L	8	20	
Barium	A	500.0	502.1	ug/L	0	20	
Beryllium	A	500.0	498.0	ug/L	0	20	
Cadmium	A	1000	945.7	ug/L	-5	20	
Chromium	A	500.0	483.5	ug/L	-3	20	
Cobalt	A	500.0	431.3	ug/L	-14	20	
Copper	A	500.0	503.1	ug/L	1	20	
Lead	A	1000	843.8	ug/L	-16	20	
Molybdenum	A	500.0	485.7	ug/L	-3	20	
Nickel	A	1000	868.2	ug/L	-13	20	
Selenium	A	500.0	530.4	ug/L	6	20	
Silver	A	1000	1101	ug/L	10	20	
Thallium	A	500.0	430.6	ug/L	-14	20	
Vanadium	A	500.0	514.6	ug/L	3	20	
Zinc	A	1000	914.0	ug/L	-9	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	3735790	-15.19

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767043 File : met09_sn_ Time : 06-MAY-2015 12:58
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.6927	5.8113	5000	4991	ug/L	0	10	
Arsenic	A	3.0749	2.7644	5000	5267	ug/L	5	10	
Barium	A	69.712	66.547	5000	4932	ug/L	-1	10	
Beryllium	A	5949.8	5889.7	500.0	503.5	ug/L	1	10	
Cadmium	A	79.461	77.159	5000	5070	ug/L	1	10	
Chromium	A	153.19	150.27	5000	4961	ug/L	-1	10	
Cobalt	A	44.425	43.764	5000	4941	ug/L	-1	10	
Copper	A	409.67	400.83	5000	4907	ug/L	-2	10	
Lead	A	23.158	22.221	5000	4806	ug/L	-4	10	
Molybdenum	A	23.184	22.643	5000	4986	ug/L	0	10	
Nickel	A	62.137	61.435	5000	4960	ug/L	-1	10	
Selenium	A	6.0596	6.4116	5000	5097	ug/L	2	10	
Silver	A	216.42	224.84	1000	987.1	ug/L	-1	10	
Thallium	A	3.1591	2.9785	5000	4882	ug/L	-2	10	
Vanadium	A	225.70	228.12	5000	4985	ug/L	0	10	
Zinc	A	32.630	32.153	5000	5011	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4269911	-3.07

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767044 File : met09_sn_ Time : 06-MAY-2015 13:06
Cal : 95181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	[4.246]	5.000	4.000	ug/L	!CCB
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.684]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4360763	-1.00

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767048 File : met09_sn_ Time : 06-MAY-2015 13:25
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.6927	5.7865	5000	4970	ug/L	-1	10	
Arsenic	A	3.0749	2.7197	5000	5182	ug/L	4	10	
Barium	A	69.712	66.807	5000	4951	ug/L	-1	10	
Beryllium	A	5949.8	5904.4	500.0	504.7	ug/L	1	10	
Cadmium	A	79.461	77.652	5000	5102	ug/L	2	10	
Chromium	A	153.19	150.67	5000	4975	ug/L	-1	10	
Cobalt	A	44.425	43.617	5000	4924	ug/L	-2	10	
Copper	A	409.67	402.21	5000	4924	ug/L	-2	10	
Lead	A	23.158	21.892	5000	4735	ug/L	-5	10	
Molybdenum	A	23.184	22.547	5000	4965	ug/L	-1	10	
Nickel	A	62.137	61.146	5000	4937	ug/L	-1	10	
Selenium	A	6.0596	6.3468	5000	5045	ug/L	1	10	
Silver	A	216.42	223.98	1000	983.3	ug/L	-2	10	
Thallium	A	3.1591	2.9864	5000	4895	ug/L	-2	10	
Vanadium	A	225.70	228.23	5000	4987	ug/L	0	10	
Zinc	A	32.630	32.017	5000	4989	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4263864	-3.20

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767050 File : met09_sn_ Time : 06-MAY-2015 13:36
Cal : 95181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4326654	-1.78

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767057 File : met09_sn_ Time : 06-MAY-2015 14:17
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.6927	5.8091	5000	4989	ug/L	0	10	
Arsenic	A	3.0749	2.7503	5000	5240	ug/L	5	10	
Barium	A	69.712	66.071	5000	4897	ug/L	-2	10	
Beryllium	A	5949.8	5869.2	500.0	501.7	ug/L	0	10	
Cadmium	A	79.461	76.374	5000	5018	ug/L	0	10	
Chromium	A	153.19	149.65	5000	4941	ug/L	-1	10	
Cobalt	A	44.425	43.425	5000	4902	ug/L	-2	10	
Copper	A	409.67	403.17	5000	4936	ug/L	-1	10	
Lead	A	23.158	22.004	5000	4759	ug/L	-5	10	
Molybdenum	A	23.184	22.496	5000	4953	ug/L	-1	10	
Nickel	A	62.137	60.912	5000	4918	ug/L	-2	10	
Selenium	A	6.0596	6.3529	5000	5050	ug/L	1	10	
Silver	A	216.42	225.01	1000	987.8	ug/L	-1	10	
Thallium	A	3.1591	2.9741	5000	4875	ug/L	-3	10	
Vanadium	A	225.70	229.23	5000	5009	ug/L	0	10	
Zinc	A	32.630	31.826	5000	4960	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4188068	-4.92

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767058 File : met09_sn_ Time : 06-MAY-2015 14:25
Cal : 95181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	[1.722]	5.000	1.250	ug/L	!CCB
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4266828	-3.14

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767069 File : met09_sn_ Time : 06-MAY-2015 15:33
Cal : 95181767001 Caldate : 06-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	5.6927	5.7610	5000	4948	ug/L	-1	10	
Arsenic	A	3.0749	2.7177	5000	5178	ug/L	4	10	
Barium	A	69.712	65.802	5000	4877	ug/L	-2	10	
Beryllium	A	5949.8	5734.6	500.0	490.2	ug/L	-2	10	
Cadmium	A	79.461	75.865	5000	4985	ug/L	0	10	
Chromium	A	153.19	148.80	5000	4913	ug/L	-2	10	
Cobalt	A	44.425	43.088	5000	4865	ug/L	-3	10	
Copper	A	409.67	396.40	5000	4853	ug/L	-3	10	
Lead	A	23.158	21.886	5000	4734	ug/L	-5	10	
Molybdenum	A	23.184	22.354	5000	4922	ug/L	-2	10	
Nickel	A	62.137	60.315	5000	4870	ug/L	-3	10	
Selenium	A	6.0596	6.2411	5000	4961	ug/L	-1	10	
Silver	A	216.42	223.16	1000	979.7	ug/L	-2	10	
Thallium	A	3.1591	2.9461	5000	4829	ug/L	-3	10	
Vanadium	A	225.70	225.80	5000	4934	ug/L	-1	10	
Zinc	A	32.630	31.603	5000	4925	ug/L	-2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4224001	-4.11

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95181767071 File : met09_sn_ Time : 06-MAY-2015 15:45
Cal : 95181767001 Caldate : 06-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4404969	4223357	-4.12

SAMPLE PREPARATION SUMMARY

Batch # : 222890 Analysis : ICP
Started By : RFC Prep Date : 05-MAY-2015 17:15 Finished By : RFC
Method : METHOD Units : mL
Spike #1 ID : S26229 Spike #2 ID : S26230 Spike #3 ID : S26912

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266502-001		Filtrate	50	50	1	1.0						6010	
266511-010		Filtrate	50	50	1	1.0						6010	
266525-022		Filtrate	50	50	1	1.0						6010	
266525-023		Filtrate	50	50	1	1.0						6010	
266525-024		Filtrate	50	50	1	1.0						6010	
QC786754	BLANK	Filtrate	50	50	1	1.0							
QC786755	BS	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786756	BSD	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786757	MS	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786758	MSD	Filtrate	50	50	1	1.0		.5	.5	.5			
QC786759	SER	Filtrate	50	50	1	1.0							
QC786760	PDS	Filtrate	50	50	1	1.0							

Analyst: NCD Date: 05/07/15 Reviewer: PRW Date: 05/07/15

Water Digestion for ICP Curtis & Tompkins, Ltd.

LIMS Batch #: 222890
Digested by: RFC
Date Digested: 5/5/15

Digestion Method **BK3689**
☐ EPA 3010a for ICP Page 7
☐ EPA 200.7
☑ FILTRATE

Lvl.	Sample #	Container ID	Volume Sample(mL)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
	BLANK		☐ 50 ☐	☐ 50 ☐	N	✓	QC786754
	BS		☐ 50 ☐	☐ 50 ☐		✓	-755
	BSD		☐ 50 ☐	☐ 50 ☐		✓	-756
	MS		☐ 50 ☐	☐ 50 ☐		✓	-757
5	MSD		☐ 50 ☐	☐ 50 ☐		✓	-758
II	266502-001	L	☐ 50 ☐	☐ 50 ☐		✓	
↓	266511-010	A	☐ 50 ☐	☐ 50 ☐		✓	VERIFIED pH < 2
III	266525-022	A	☐ 50 ☐	☐ 50 ☐		✓	MSS
↓	-023	A	☐ 50 ☐	☐ 50 ☐		✓	
↓ 10	-024	A	☐ 50 ☐	☐ 50 ☐	↓	✓	↓
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
15			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
20			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			
			☐ 50 ☐	☐ 50 ☐			

	Reagent ID or LIMS # 5/5/15	Initials / Date
Digestion tubes, lot #	ACCUFLOW SCP 199352 RFC	5/5/15
0.50 mL of spike solution (Std1) was added to all spikes	S26229	
0.50 mL of spike solution (Std2) was added to all spikes	S26230	
0.50 mL of spike solution (Std3) was added to all spikes	S26912	
Digestion Temperature (°C), Block and Probe Location		
Digestion begun at (time)		
☑ Conc. HNO3 or ☐ 1:1 HNO3	JTB102053	
☑ Conc. HCl or ☐ 1:1 HCl	JTB97264	
digestion ended at (time)		
☐ filtered thru' Whatman # 541		
Relinquished to ICP group	ICP	

5/5/15
Prep Chemist / Date

Continued from page Ø.
Continued on page _____.

Reviewed Online / See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075180698

Instrument : MET54 Begun : 05/05/15 11:38
Method : EPA 7470A SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met54	ICALBLK				05/05/15 11:38	1.0		
002	met54	ICAL	ICAL1			05/05/15 11:39	1.0	1	
003	met54	ICAL	ICAL2			05/05/15 11:40	1.0	1	
004	met54	ICAL	ICAL3			05/05/15 11:41	1.0	1	
005	met54	ICAL	ICAL4			05/05/15 11:42	1.0	1	
006	met54	ICAL	ICAL5			05/05/15 11:44	1.0	1	
007	met54	ICV				05/05/15 11:45	1.0	2	
008	met54	ICB				05/05/15 11:46	1.0		
009	met54	BLANK	QC786543	Water	222838	05/05/15 11:47	1.0		
010	met54	BS	QC786544	Water	222838	05/05/15 11:48	1.0		
011	met54	BSD	QC786545	Water	222838	05/05/15 11:49	1.0		
012	met54	MSS	266535-001	Water	222838	05/05/15 11:50	1.0		
013	met54	MS	QC786546	Water	222838	05/05/15 11:51	1.0		
014	met54	MSD	QC786547	Water	222838	05/05/15 11:53	1.0		
015	met54	SER	QC786548	Water	222838	05/05/15 11:54	5.0		
016	met54	SAMPLE	266504-002	Water	222838	05/05/15 11:55	1.0		
017	met54	SAMPLE	266514-003	Water	222838	05/05/15 11:56	1.0		
018	met54	SAMPLE	266514-004	Water	222838	05/05/15 11:57	1.0		
019	met54	CCV				05/05/15 11:58	1.0	3	
020	met54	CCB				05/05/15 11:59	1.0		
021	met54	SAMPLE	266514-005	Water	222838	05/05/15 12:01	1.0		
022	met54	SAMPLE	266514-006	Water	222838	05/05/15 12:02	1.0		
023	met54	SAMPLE	266525-022	Filtrate	222838	05/05/15 12:03	1.0		
024	met54	SAMPLE	266525-023	Filtrate	222838	05/05/15 12:04	1.0		
025	met54	SAMPLE	266525-024	Filtrate	222838	05/05/15 12:05	1.0		
026	met54	CCV				05/05/15 12:06	1.0	3	
027	met54	CCB				05/05/15 12:07	1.0		
028	met54	ICB				05/05/15 15:14	1.0		
029	met54	ICB				05/05/15 15:21	1.0		

ARD 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

Standards used: 1=S27187 2=S27189 3=S27190

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266525 METALS Filtrate: EPA 7470A

Inst : MET54
Calnum : 1075180698001
Units : ug/L

Date : 05-MAY-2015 11:38
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met54	1075180698002	ICAL1	05-MAY-2015 11:39	S27187 (500X)
L2	met54	1075180698003	ICAL2	05-MAY-2015 11:40	S27187 (200X)
L3	met54	1075180698004	ICAL3	05-MAY-2015 11:41	S27187 (50X)
L4	met54	1075180698005	ICAL4	05-MAY-2015 11:42	S27187 (20X)
L5	met54	1075180698006	ICAL5	05-MAY-2015 11:44	S27187 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0090	0.0092	0.0092	0.0095	0.0091	LIN0	-0.0279	109.683		0.0092	0.999	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	-15	0.5000	-5	2.0000	-1	5.0000	4	10.000	-1

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

1075180698001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54
Calnum : 1075180698001 Cal Date : 05-MAY-2015

ICV 1075180698007 (05-MAY-2015) stds: S27189

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	5.050	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075180698008 File : met54 Time : 05-MAY-2015 11:46
Cal : 1075180698001 Caldate : 05-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075180698019 File : met54 Time : 05-MAY-2015 11:58
Cal : 1075180698001 Caldate : 05-MAY-2015
Standards: S27190

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0092	0.0093	5.000	5.094	ug/L	2	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075180698020 File : met54 Time : 05-MAY-2015 11:59
Cal : 1075180698001 Caldate : 05-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075180698026 File : met54 Time : 05-MAY-2015 12:06
Cal : 1075180698001 Caldate : 05-MAY-2015
Standards: S27190

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0092	0.0096	5.000	5.237	ug/L	5	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 266525 METALS Filtrate
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075180698027 File : met54 Time : 05-MAY-2015 12:07
Cal : 1075180698001 Caldate : 05-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 222838
Started By : ARD
Method : METHOD
Spike #1 ID : S27187

Prep Date : 04-MAY-2015 14:20

Analysis : HG
Finished By : ARD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266504-002		Water	50	50	1	1.0						245.1-HG	
266511-010		Filtrate	50	50	1	1.0						T22/HG	
266514-003		Water	50	50	1	1.0						TAL/HG	
266514-004		Water	50	50	1	1.0						TAL/HG	
266514-005		Water	50	50	1	1.0						TAL/HG	
266514-006		Water	50	50	1	1.0						TAL/HG	
266525-022		Filtrate	50	50	1	1.0						T22/HG	
266525-023		Filtrate	50	50	1	1.0						T22/HG	
266525-024		Filtrate	50	50	1	1.0						T22/HG	
266530-001		WET Leachate	10	50	1	5.0						T22/HG	
266530-002		WET Leachate	10	50	1	5.0						T22/HG	
266530-003		WET Leachate	10	50	1	5.0						T22/HG	
266535-001		Water	50	50	1	1.0						TAL/HG	
QC786543	BLANK	Water	50	50	1	1.0							
QC786544	BS	Water	50	50	1	1.0		1.25					
QC786545	BSD	Water	50	50	1	1.0		1.25					
QC786546	MS	Water	50	50	1	1.0		1.25					
QC786547	MSD	Water	50	50	1	1.0		1.25					
QC786548	SER	Water	50	50	1	1.0							
QC786714	BLANK	WET Leachate	10	50	1	5.0							

Analyst: ARD Date: 05/05/15 Reviewer: PRW Date: 05/07/15

Water Digestion for Mercury — Curtis & Tompkins, Ltd.

LIMS Batch #: 222838
Date Digested: 5.4.15

Digestion Method: ☒ EPA 7470A/ EPA 245.1 ☐ _____

BK3651
Page 90

	Sample #	container ID	Volume Sample (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
	Blank		☑50 ☐___	☑50 ☐___	N	QC786543
	BS *		☑50 ☐___	☑50 ☐___	↓	↓ 544
	BSD *		☑50 ☐___	☑50 ☐___	↓	↓ 545
	MSS 266535-001	A	☑50 ☐___	☑50 ☐___	↓	
5	MS *	↓	☑50 ☐___	☑50 ☐___	↓	
	MSD *	↓	☑50 ☐___	☑50 ☐___	↓	
	266504-002	A	☑50 ☐___	☑50 ☐___	↓	
	~~266511-010~~	~~A~~	~~☑50 ☐___~~	~~☑50 ☐___~~	↓	ARD 5.4.15
	266514-003	E	☑50 ☐___	☑50 ☐___	↓	
10	-004	K	☑50 ☐___	☑50 ☐___	↓	
	-005	E	☑50 ☐___	☑50 ☐___	↓	
	-006	K	☑50 ☐___	☑50 ☐___	↓	
	266525-022	A	☑50 ☐___	☑50 ☐___	↓	pH < 2
	-023	↓	☑50 ☐___	☑50 ☐___	↓	↓
15	-024	↓	☑50 ☐___	☑50 ☐___	↓	↓
	Blank (Wet 5.4.15)		☐50 ☑10	☑50 ☐___	N	Add @ 14:10 5.5.15, End @ 16:10
	266511-010	A	☑50 ☐___	☑50 ☐___	↓	
	266530-001	B	☐50 ☑10	☑50 ☐___	↓	
	-002	↓	☐50 ☑10	☑50 ☐___	↓	
20	-003	↓	☐50 ☑10	☑50 ☐___	↓	
			~~☐50 ☐___~~	~~☐50 ☐___~~		
			☐50 ☐___	☐50 ☐___		
			☐50 ☐___	☐50 ☐___		
			~~☐50 ☐___~~	☐50 ☐___		
			☐50 ☐___	☐50 ☐___		ARD 5/5/15

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tube Lot #	EK-140812	ARD 5.4.15
1.25 mL of spike solution was added to all spikes	S27187 *	↓
☒ CAL digested with this batch — ICAL Source LIMS S#	~~S27188~~ ARD 5.4.15 S27188	↓
ICV / CCV LIMS S#	S27189 / S27190	↓
Digestion Temperature (°C), Block and Probe Location	95° | A46	↓
Digestion Started at (time)	14:20	↓
concentrated H_2SO_4	BDH-20141202 18	↓
concentrated HNO_3	JTB-102053	↓
5% $KMnO_4$	~~ARD 5/15 FS-148300-042615~~ ~~FS-149037-040915~~	↓
5% $K_2S_2O_8$	FS 149037-030215	↓
NaCl.hydroxylamine hydrochloride	FS-040915	↓
Stannous Chloride	FS-147491-050115	↓
Digestion Completed at (time)	16:20	ARD 5.4.15
☐ filtered thru' 0.45 um syringe filter (lot #)	/	↓

5.4.15
Prep Chemist / Date

Continued from page Ø

Continued on page _____

Reviewed Online / See LIMS

Laboratory Job Number 266525

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Percent Moisture Summary Report

Batch: 223026
Date: 05/09/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266511-031	11.2538	16.6484	16.3969	95	5
266525-001	11.3575	16.9473	16.5357	93	7
266525-002	11.3437	16.6192	16.0098	88	12
266525-003	11.2006	17.5657	16.7404	87	13
266525-004	11.3587	17.4273	17.0992	95	5
266525-005	11.1991	17.1965	16.6734	91	9
266525-006	11.0802	16.8457	16.0786	87	13
266525-007	11.2532	17.8905	17.4161	93	7
266525-008	11.2359	17.4264	17.0678	94	6
266525-009	11.3570	17.3787	16.8357	91	9
266525-010	11.3604	17.4289	17.0310	93	7
266525-011	11.2941	16.7420	16.4370	94	6
266525-012	10.8863	16.9151	15.7421	81	19
266525-013	11.2513	17.2212	16.8097	93	7
266525-014	11.3380	17.2438	17.0412	97	3
266525-015	11.3020	18.0943	17.0309	84	16
266525-016	10.9458	17.0212	16.7388	95	5
266525-017	11.0204	16.5586	16.1331	92	8
266525-018	10.9561	16.9878	16.2220	87	13
266525-019	11.0486	17.9445	17.4580	93	7
QC787367	11.1199	17.1851	16.7604	93	7
of 266525-019			RPD:	0.1%	0.7%

Moisture LOG

Curtis & Tompkins, Ltd.

LIMS Batch #: 223026
Date: 5-9-15

Page: 92
Benchbook#: BK 3643
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	34	11.0233	Ø	11.0237	11.0237 Final wt.
266517-031 A	89	11.2538	16.6484	16.3969	
266525-001	37	11.3575	16.9473	16.5357	
-002	41	11.3437	16.6192	16.0098	
-003	18	11.2006	17.5657	16.7404	
-004	56	11.3587	17.4273	17.0992	
-005	85	11.1991	17.1965	16.6734	
-006	80	11.0802	16.8457	16.0786	
-007	58	11.2532	17.8905	17.4161	
-008	44	11.2359	17.4264	17.0678	
-009 ↓	81	11.3570	17.3787	16.8357	
-010 D	92	11.3604	17.4289	17.0310	
-011	36	11.2941	16.7420	16.4370	
-012	72	10.8863	16.9151	15.7421	
-013	4	11.2513	17.2212	16.8097	
-014	32	11.3380	17.2438	17.0412	
-015	95	11.3020	18.0943	17.0309	
-016	53	10.9458	17.0212	16.7388	
-017	23	11.0204	16.5586	16.1331	
-018	7	10.9561	16.9878	16.2220	
-019	62	11.0486	17.9445	17.4580	
SDUP ↓ -019 ↓	79	11.1199	17.1851	16.7604	
		↓ ↓	5-10-15		

Date/ Time IN: 5-9-15 2000
Temp (C) IN: 105
Date/ Time OUT: 5-10-15 16:00
Temp (C) OUT: 105°C

5-9-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
~~4-05-15~~	~~SL~~			
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.0002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827
4-30-15	SB	0.2000	99.9999	10827
5-1-15	MN	0.2000	99.9999	10827
5-2-15	MN	0.2000	99.9998	10827
5-7-15	MN	0.2000	99.9999	10827
5-8-15	MN	0.2001	100.0001	10827
5-9-15	MN	0.2001	100.0000	10827
5-10-15	VV	0.2000	100.0000	10827

Continued on Page

Read and Understood By

Signed Date Signed Date

Percent Moisture Summary Report

Batch: 223027
Date: 05/09/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266525-020	11.0709	16.8643	16.5448	94	6
266525-021	11.6483	16.6568	14.9946	67	33
266660-001	11.3085	16.5005	15.7360	85	15
266665-001	11.2938	17.4216	16.8916	91	9
266665-003	10.8390	17.0589	15.8243	80	20
266665-004	11.2610	16.3811	15.9380	91	9
266665-006	11.0405	16.7296	15.6184	80	20
QC787368	11.2749	17.6582	17.3205	95	5
of 266525-020			RPD:	0.2%	4.2%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 223027
Date: 5-9-15

Page: 93
Benchbook#: **BK 3643**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	50	11.3420	∅	11.3420	
266525-020 D	46	11.0709	16.8643	16.5448	
-021	15	11.6483	16.6568	14.9946	
SDUP -020	70	11.2749	17.6582	17.3205	-020
266665-001 B	12	11.2938	17.4216	16.8916	
-003	90	10.8390	17.0589	15.8243	
-004	22	11.2610	16.3811	15.9380	
-006	64	11.0405	16.7296	15.6184	
266660-001 B	17	11.3085	16.5005	15.7360	

5-10-15

Date/ Time IN: 5-9-15 2010
Temp (C) IN: 105
Date/ Time OUT: 5-10-15 16:00
Temp (C) OUT: 105°C

Extraction Chemist 5-9-15 Date

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
~~4-05-15~~ SL				
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827
4-30-15	JB	0.2000	99.9999	10827
5-1-15	MN	0.2000	99.9999	10827
5-2-15	MN	0.2000	99.9998	10827
5-7-15	MN	0.2000	99.9999	10827
5-8-15	MN	0.2001	100.0001	10827
5-9-15	MN	0.2001	100.0000	10827
5-10-15	VV	0.2000	100.0000	10827

Continued on Page

Read and Understood By

Signed Date Signed Date


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266803
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Former APC Terminal
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLMW-1(4)	266803-001
APLMW-1(7.5)	266803-002
APLMW-3(4)	266803-003
APLMW-3(7)	266803-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 05/21/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266803**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Former APC Terminal**
Request Date:	**05/14/15**
Samples Received:	**05/14/15**

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 05/14/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
Response exceeding the instrument's linear range was observed for diesel C10-C24 in the MS for batch 223220.

APLMW-3(4) (lab # 266803-003) was diluted due to the dark and viscous nature of the sample extract.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
APLMW-3(4) (lab # 266803-003) was diluted due to the dark and viscous nature of the sample extract.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

Seq. No. 3174

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM 266803

amec

Samplers: Bill Kelly

Job Number: 0014170310.03

Name/Location: Part of Oakland Army Base Terminal 1

Project Manager: Maggie Hassler

Recorder: (Signature Required)

| MATRIX | | | # CONTAINERS | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | |

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 266803 Date Received 5/14/15 Number of coolers 1
Client amec Project 60141708.10.03

Date Opened 5/14 By (print) FJ (sign)
Date Logged in 4/4 By (print) 4 4 (sign) 4 4

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
   Shipping info
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

   ☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
   ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels
7. Temperature documentation: * Notify PM if temperature exceeds 6°C

   Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 3.3°

   ☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

   ☒ Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? (YES) NO
   If YES, what time were they transferred to freezer? 1515
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? (YES) NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? (YES) NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)
21. Was the client contacted concerning this sample delivery? YES (NO)
   If YES, Who was called? By Date:

COMMENTS

Rev 10, 9/12

Curtis & Tompkins, Ltd.

Detections Summary for 266803

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Former APC Terminal

Client Sample ID : APLMW-1(4) Laboratory Sample ID : 266803-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.6	Y	1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	65		5.3	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Moisture, Percent	5		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : APLMW-1(7.5) Laboratory Sample ID : 266803-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	140		12	mg/Kg	Dry	50.00	EPA 8015B	EPA 5035
Toluene	160	C	61	ug/Kg	Dry	50.00	EPA 8021B	EPA 5035
Diesel C10-C24	300		1.1	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	520		5.4	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Fluoranthene	7.1		5.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Pyrene	13		5.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Moisture, Percent	8		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : APLMW-3(4) Laboratory Sample ID : 266803-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	150	Y	11	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	900		56	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
Acenaphthylene	720		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Phenanthrene	710		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Fluoranthene	2,100		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Pyrene	3,400		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Benzo(a)anthracene	910		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Chrysene	1,300		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Benzo(b)fluoranthene	2,600		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Benzo(k)fluoranthene	650		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Benzo(a)pyrene	2,600		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Indeno(1,2,3-cd)pyrene	1,700		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Benzo(g,h,i)perylene	2,400		550	ug/Kg	Dry	100.0	EPA 8270C-SIM	EPA 3550B
Moisture, Percent	10		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : APLMW-3(7) Laboratory Sample ID : 266803-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1.6		0.20	mg/Kg	Dry	1.000	EPA 8015B	EPA 5035
MTBE	7.8		3.9	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
Benzene	4.5	C	0.98	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
Toluene	16		0.98	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
Ethylbenzene	2.5		0.98	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
m,p-Xylenes	3.6	C	0.98	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
o-Xylene	4.1		0.98	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
Diesel C10-C24	460	Y	6.5	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	1,400		32	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Naphthalene	15		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Acenaphthylene	7.3		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Phenanthrene	18		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Anthracene	7.8		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Fluoranthene	53		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Pyrene	80		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(a)anthracene	28		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Chrysene	41		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(b)fluoranthene	66		33	ug/Kg	Dry	5.000	EPA 8270C-SIM	EPA 3550B
Benzo(a)pyrene	51		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Indeno(1,2,3-cd)pyrene	35		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Dibenz(a,h)anthracene	7.0		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(g,h,i)perylene	51		6.5	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Moisture, Percent	23		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

C = Presence confirmed, but RPD between columns exceeds 40%
Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 266803

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03		
Matrix:	Soil	Sampled:	05/14/15
Basis:	dry	Received:	05/14/15

Field ID:	APLMW-1(4)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	223262
Lab ID:	266803-001	Analyzed:	05/18/15
Moisture:	5%		

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.21	mg/Kg	EPA 8015B
MTBE	ND	4.2	ug/Kg	EPA 8021B
Benzene	ND	1.1	ug/Kg	EPA 8021B
Toluene	ND	1.1	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.1	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.1	ug/Kg	EPA 8021B
o-Xylene	ND	1.1	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	108	78-138	EPA 8015B
Bromofluorobenzene (PID)	112	70-137	EPA 8021B

Field ID:	APLMW-1(7.5)	Moisture:	8%
Type:	SAMPLE	Diln Fac:	50.00
Lab ID:	266803-002	Analyzed:	05/20/15

Analyte	Result	RL	Units	Batch#	Analysis
Gasoline C7-C12	140	12	mg/Kg	223362	EPA 8015B
MTBE	ND	250	ug/Kg	223303	EPA 8021B
Benzene	ND	61	ug/Kg	223303	EPA 8021B
Toluene	160 C	61	ug/Kg	223303	EPA 8021B
Ethylbenzene	ND	61	ug/Kg	223303	EPA 8021B
m,p-Xylenes	ND	61	ug/Kg	223303	EPA 8021B
o-Xylene	ND	61	ug/Kg	223303	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Bromofluorobenzene (FID)	128	78-138	223362	EPA 8015B
Bromofluorobenzene (PID)	101	70-137	223303	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03		
Matrix:	Soil	Sampled:	05/14/15
Basis:	dry	Received:	05/14/15

Field ID:	APLMW-3(4)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	223262
Lab ID:	266803-003	Analyzed:	05/18/15
Moisture:	10%		

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.23	mg/Kg	EPA 8015B
MTBE	ND	4.7	ug/Kg	EPA 8021B
Benzene	ND	1.2	ug/Kg	EPA 8021B
Toluene	ND	1.2	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.2	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.2	ug/Kg	EPA 8021B
o-Xylene	ND	1.2	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	105	78-138	EPA 8015B
Bromofluorobenzene (PID)	95	70-137	EPA 8021B

Field ID:	APLMW-3(7)	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	223303
Lab ID:	266803-004	Analyzed:	05/20/15
Moisture:	23%		

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	1.6	0.20	mg/Kg	EPA 8015B
MTBE	7.8	3.9	ug/Kg	EPA 8021B
Benzene	4.5 C	0.98	ug/Kg	EPA 8021B
Toluene	16	0.98	ug/Kg	EPA 8021B
Ethylbenzene	2.5	0.98	ug/Kg	EPA 8021B
m,p-Xylenes	3.6 C	0.98	ug/Kg	EPA 8021B
o-Xylene	4.1	0.98	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	113	78-138	EPA 8015B
Bromofluorobenzene (PID)	78	70-137	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03		
Matrix:	Soil	Sampled:	05/14/15
Basis:	dry	Received:	05/14/15

Type: BLANK
Lab ID: QC788349
Diln Fac: 1.000

Batch#: 223262
Analyzed: 05/18/15

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.20	mg/Kg	EPA 8015B
MTBE	ND	4.0	ug/Kg	EPA 8021B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	109	78-138	EPA 8015B
Bromofluorobenzene (PID)	109	70-137	EPA 8021B

Type: BLANK
Lab ID: QC788497
Diln Fac: 1.000

Batch#: 223303
Analyzed: 05/19/15

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.20	mg/Kg	EPA 8015B
MTBE	ND	4.0	ug/Kg	EPA 8021B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	101	78-138	EPA 8015B
Bromofluorobenzene (PID)	81	70-137	EPA 8021B

Type: BLANK
Lab ID: QC788725
Units: mg/Kg
Diln Fac: 1.000

Batch#: 223362
Analyzed: 05/20/15
Analysis: EPA 8015B

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	Result	%REC	Limits
Bromofluorobenzene (FID)		88	78-138
Bromofluorobenzene (PID)	NA		

C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788350	Batch#:	223262
Matrix:	Soil	Analyzed:	05/18/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.012	101	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8021B
Matrix:	Soil	Batch#:	223262
Units:	ug/Kg	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788351

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.51	105	65-141
Benzene	10.00	8.911	89	80-120
Toluene	10.00	9.929	99	80-120
Ethylbenzene	10.00	8.673	87	80-120
m,p-Xylenes	10.00	8.842	88	80-120
o-Xylene	10.00	8.708	87	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	115	70-137

Type: BSD Lab ID: QC788352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	10.99	110	65-141	4	46
Benzene	10.00	10.27	103	80-120	14	20
Toluene	10.00	10.28	103	80-120	3	20
Ethylbenzene	10.00	10.07	101	80-120	15	20
m,p-Xylenes	10.00	10.25	102	80-120	15	20
o-Xylene	10.00	10.05	100	80-120	14	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	114	70-137

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	266816-001	Batch#:	223262
Matrix:	Soil	Sampled:	05/13/15
Units:	mg/Kg	Received:	05/15/15
Basis:	as received	Analyzed:	05/18/15

Type: MS Lab ID: QC788353

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2487	10.42	9.332	87	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	78-138

Type: MSD Lab ID: QC788354

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.709	9.081	91	50-120	4	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	78-138

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788498	Batch#:	223303
Matrix:	Soil	Analyzed:	05/19/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.002	100	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	78-138

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8021B
Matrix:	Soil	Batch#:	223303
Units:	ug/Kg	Analyzed:	05/19/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788499

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.803	98	65-141
Benzene	10.00	9.428	94	80-120
Toluene	10.00	8.846	88	80-120
Ethylbenzene	10.00	8.886	89	80-120
m,p-Xylenes	10.00	8.922	89	80-120
o-Xylene	10.00	8.744	87	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	88	70-137

Type: BSD Lab ID: QC788500

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	20.25	101	65-141	3	46
Benzene	20.00	19.41	97	80-120	3	20
Toluene	20.00	18.55	93	80-120	5	20
Ethylbenzene	20.00	19.09	95	80-120	7	20
m,p-Xylenes	20.00	19.07	95	80-120	7	20
o-Xylene	20.00	18.78	94	80-120	7	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	94	70-137

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	266871-001	Batch#:	223303
Matrix:	Soil	Sampled:	05/12/15
Units:	mg/Kg	Received:	05/18/15
Basis:	as received	Analyzed:	05/19/15

Type: MS Lab ID: QC788501

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1800	4.630	3.564	73	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	78-138

Type: MSD Lab ID: QC788502

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	5.051	3.593	68	50-120	8	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	78-138

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	223362
Units:	mg/Kg	Analyzed:	05/20/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788727

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.027	103	80-121

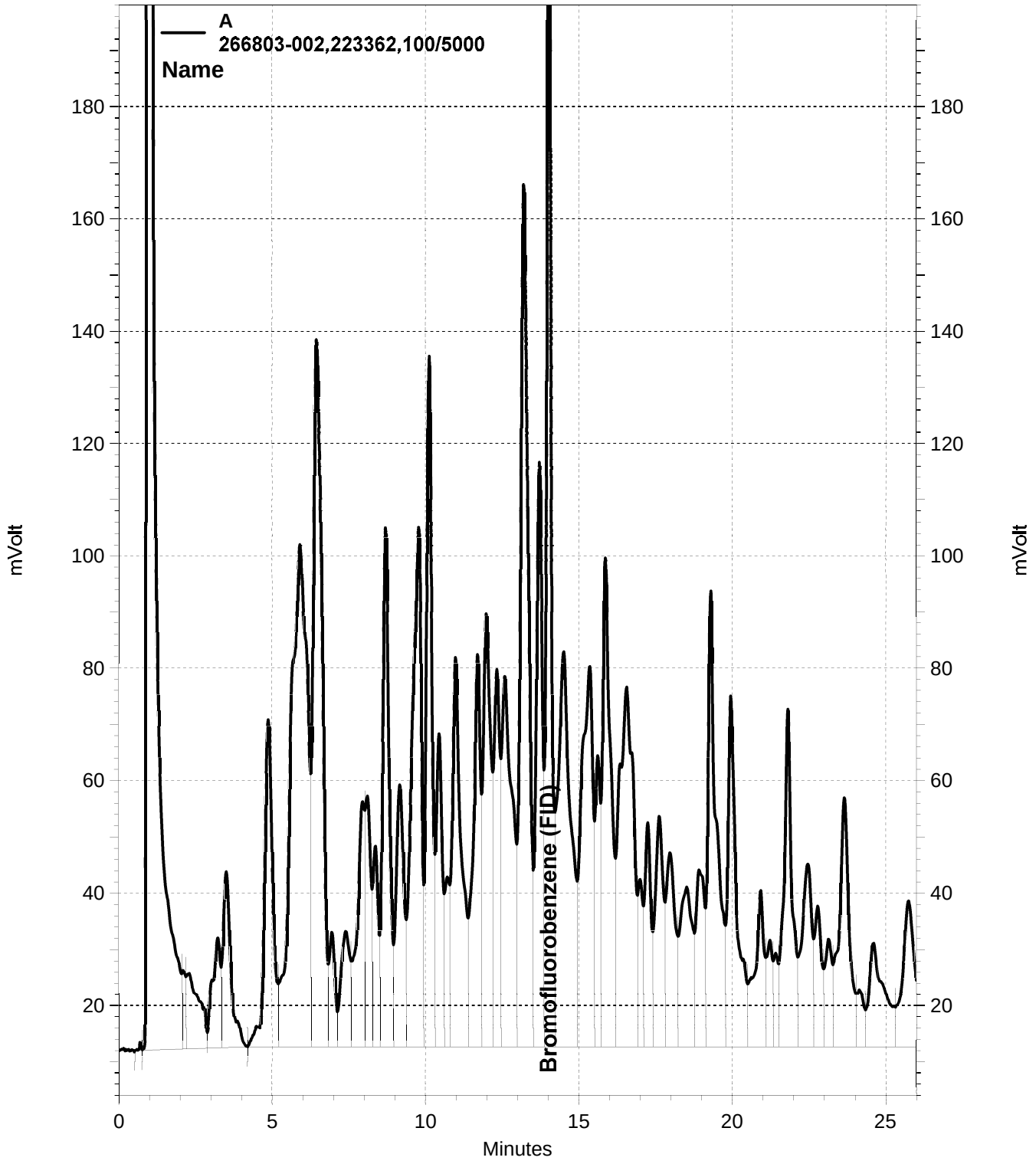
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	78-138

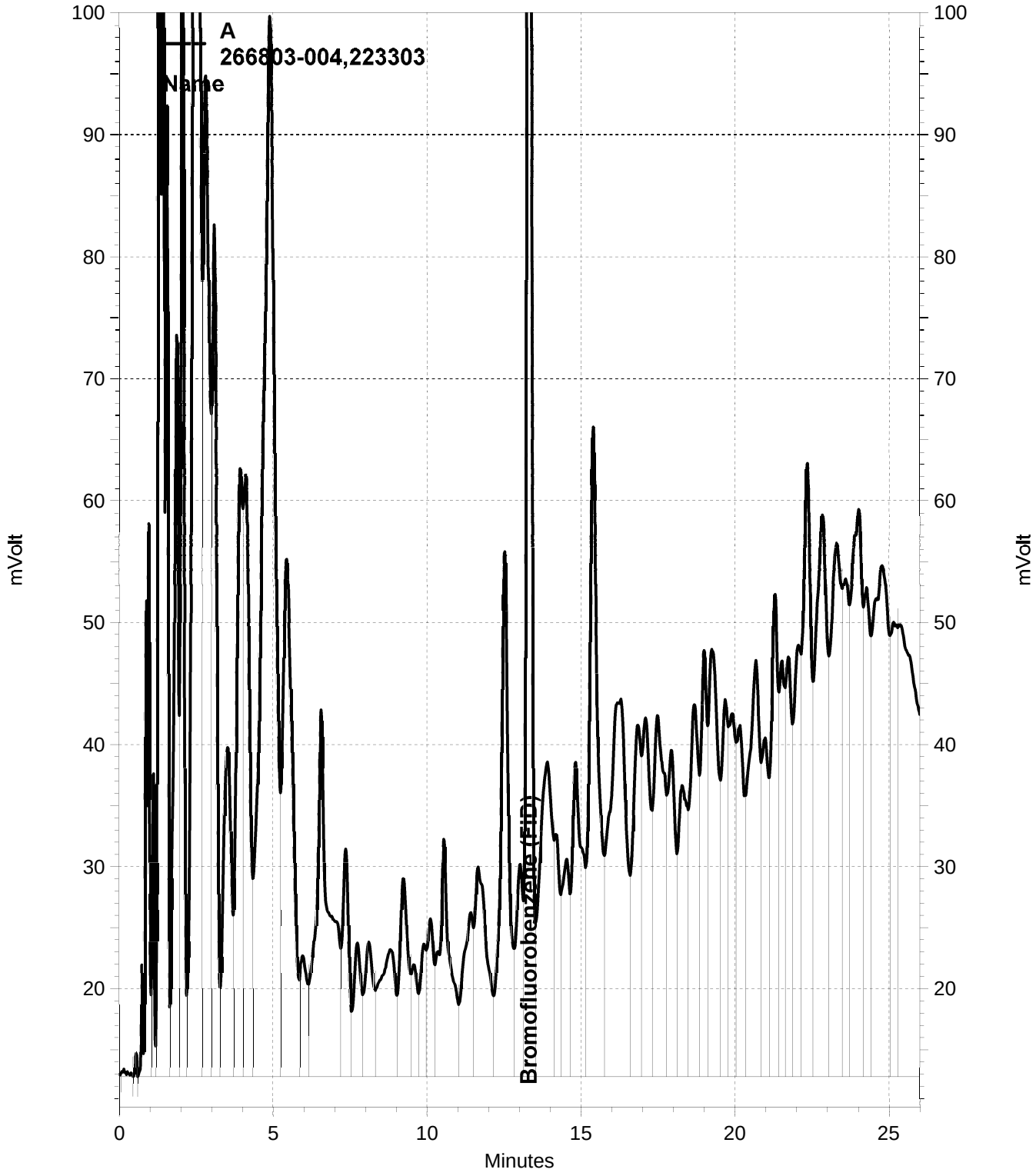
Type: BSD Lab ID: QC788728

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1.000	1.054	105	80-121	3	20

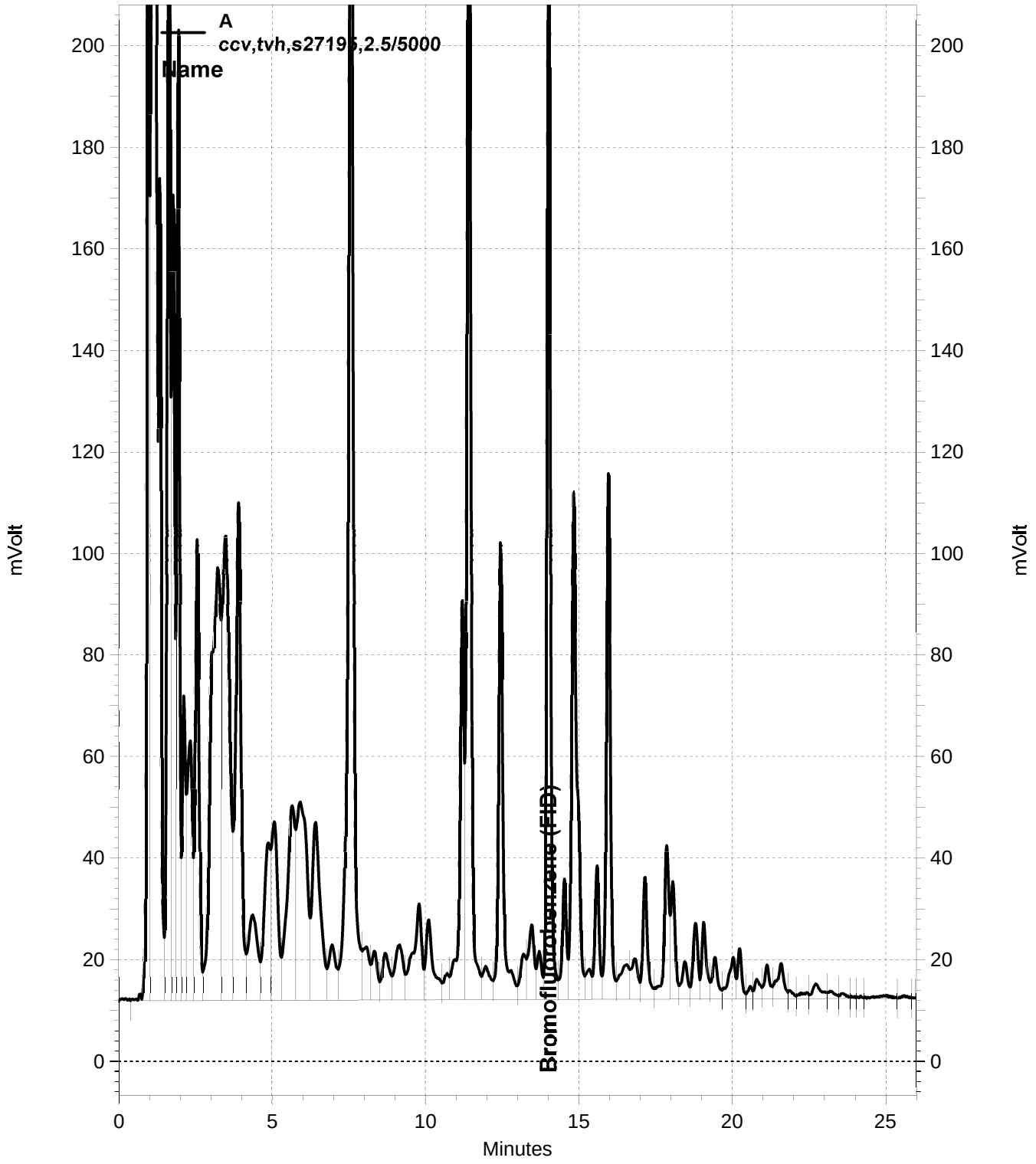
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	78-138

RPD= Relative Percent Difference


A
266803-002,223362,100/5000
Name
180
160
140
120
100
80
60
40
20
mVolt
Bromofluorobenzene (FID)
0
5
10
15
20
25
Minutes
\\Lims\gdrive\ezchrom\Projects\GC04\Data\140-006, A



\\Lims\gdrive\ezchrom\Projects\GC05\Data\139-017, A


A
ccv,tvh,s27195,2.5/5000
Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
20
40
60
80
100
120
140
160
180
200
0
5
10
15
20
25
\\Lims\gdrive\ezchrom\Projects\GC04\Data\140-002, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCVOA Soil: EPA 8015B

Inst : GC04
Calnum : 305179632001
Units : ng

Name : tvh/bfb_124
Date : 04-MAY-2015 19:45
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	124_004	305179632004	TVH_14	04-MAY-2015 19:45	S26765 (1000X), S26658 (5000X)
L2	124_005	305179632005	TVH_15	04-MAY-2015 20:23	S26658 (5000X), S26764 (1000X)
L3	124_006	305179632006	TVH_16	04-MAY-2015 21:01	S26658 (5000X), S26763 (1000X)
L4	124_007	305179632007	TVH_17	04-MAY-2015 21:38	S26658 (5000X), S26761 (2000X)
L5	124_008	305179632008	TVH_18	04-MAY-2015 22:16	S26658 (5000X), S26761 (1000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	4566.0	3500.1	3541.9	3374.7	3306.5	AVRG		2.73E-4		3657.8	14	0.995	20	
Bromofluorobenzene (FID)	A	1887.0	1843.8	2153.9	2150.2	2525.1	AVRG		4.73E-4		2112.0	13	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.00	**25**	2500.0	-4	10000	-3	25000	-8	50000	-10
Bromofluorobenzene (FID)	A	900.00	-11	900.00	-13	900.00	2	900.00	2	900.00	20

CB 05/05/15 : Corrected automatically drawn baseline for Ch. A in TVH_14 (124_004).

CB 05/05/15 : Corrected automatically drawn baseline for Ch. A in TVH_15 (124_005).

ERR 05/05/15 : Run 124_007 L4: Standard ID s26761

ERR 05/05/15 : Run 124_008 L5: Standard ID s26761

CB: 05/05/15 ERR: 05/05/15 EAH: 05/05/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC04 Name : tvh/bfb_124
Calnum : 305179632001 Cal Date : 04-MAY-2015

ICV 305179632010 (124_010 04-MAY-2015) stds: S26658 (5000X), S26760 (1000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	8854	ng	-11	15	

Analyst: CB Date: 05/05/15 Reviewer: EAH Date: 05/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCVOA Soil: EPA 8015B

Inst : GC05
Calnum : 315090403001
Units : ng

Name : tvh/BFB_062
Date : 04-MAR-2015 06:00
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	062_019	315090403019	TVH_15	04-MAR-2015 06:00	S26764 (1000X), S26658 (5000X)
L2	062_020	315090403020	TVH_16	04-MAR-2015 06:38	S26763 (1000X), S26658 (5000X)
L3	062_021	315090403021	TVH_17	04-MAR-2015 07:16	S26761 (2000X), S26658 (5000X)
L4	062_022	315090403022	TVH_18	04-MAR-2015 07:53	S26761 (1000X), S26658 (5000X)
L5	062_028	315090403028	TVH_14	04-MAR-2015 12:44	S26765 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	3071.8	2632.6	2316.7	2473.8	3553.9	AVRG		3.56E-4		2809.8	18	0.995	20	
Bromofluorobenzene (FID)	A	2056.4	1960.4	1953.0	2504.9	2301.1	AVRG		4.64E-4		2155.2	11	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	2500.0	9	10000	-6	25000	-18	50000	-12	250.00	**26**
Bromofluorobenzene (FID)	A	900.00	-5	900.00	-9	900.00	-9	900.00	16	900.00	7

ERR 03/05/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak in multiple levels.

ERR 03/05/15 : Corrected baseline noise or negative peak in multiple levels.

ERR 03/05/15 : TVH14_L4 low point out high, reran for better fit.

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Name : tvh/BFB_062
Calnum : 315090403001 Cal Date : 04-MAR-2015

ICV 315090403030 (062_030 04-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9289	ng	-7	15	

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCVOA Soil: EPA 8021B

Inst : GC05
Calnum : 315193517003
Units : ng

Name : MBTXE_bfb134b
Date : 15-MAY-2015 00:24
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	134_023	315193517023	BTXE_1	15-MAY-2015 00:24	S27217 (1000X), S27207 (5000X)
L2	134_024	315193517024	MBTXE_2	15-MAY-2015 01:02	S27216 (1250X), S27207 (5000X)
L3	134_025	315193517025	MBTXE_3	15-MAY-2015 01:40	S27216 (500X), S27207 (5000X)
L4	134_026	315193517026	MBTXE_4	15-MAY-2015 02:17	S27216 (125X), S27207 (5000X)
L5	134_027	315193517027	MBTXE_5	15-MAY-2015 02:55	S27215 (1000X), S27207 (5000X)
L6	134_028	315193517028	MBTXE_6	15-MAY-2015 03:32	S27215 (500X), S27207 (5000X)
L7	134_029	315193517029	MBTXE_7	15-MAY-2015 04:10	S27215 (250X), S27207 (5000X)
L8	134_030	315193517030	MBTBE_7	15-MAY-2015 04:48	S27153 (500X), S27207 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
MTBE	B		6369.6	6029.6	5188.6	5846.9	5403.7	5156.1	4556.2	AVRG		1.82E-4		5507.3	11	0.995	20	
Benzene	B	16546	16593	17587	19152	20946	19672	19066		AVRG		5.40E-5		18509	9	0.995	20	
Toluene	B	24550	17982	17094	18195	19597	17740	17450		AVRG		5.28E-5		18944	14	0.995	20	
Ethylbenzene	B	13392	12869	13683	15919	17640	15364	14763		AVRG		6.75E-5		14804	11	0.995	20	
m,p-Xylenes	B	16714	17203	18718	19922	20825	18355	18028		AVRG		5.39E-5		18538	8	0.995	20	
o-Xylene	B	14104	13946	15435	16780	18047	15661	15118		AVRG		6.42E-5		15584	9	0.995	20	
Bromofluorobenzene (PID)	B	11582	12100	12379	12590	11984	11253	10691	9422.6	AVRG		8.70E-5		11500	9	0.995	20	
MTBE	C		4124.6	4458.4	3924.1	4261.0	4025.5	3850.5	3356.5	AVRG		2.50E-4		4000.1	9	0.995	20	
Benzene	C	11472	12420	13345	13714	14426	13762	13425		AVRG		7.56E-5		13224	7	0.995	20	
Toluene	C	12851	11119	11621	12280	13658	12773	12678		AVRG		8.05E-5		12426	7	0.995	20	
Ethylbenzene	C	8431.6	9195.1	9787.4	10831	12653	11520	11409		AVRG		9.48E-5		10547	14	0.995	20	
m,p-Xylenes	C	8852.4	11232	11907	13164	14859	13481	13413		AVRG		8.05E-5		12416	16	0.995	20	
o-Xylene	C	8502.8	9515.7	10207	11058	13064	11788	11703		AVRG		9.23E-5		10834	14	0.995	20	
Bromofluorobenzene (PID)	C	8083.0	8351.4	8522.0	8692.8	8753.1	8542.2	8523.7	7281.7	AVRG		1.20E-4		8343.7	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
MTBE	B			10.000	16	25.000	9	100.00	-6	500.00	6	1000.0	-2	2000.0	-6	5000.0	-17
Benzene	B	2.5000	-11	10.000	-10	25.000	-5	100.00	3	500.00	13	1000.0	6	2000.0	3		
Toluene	B	2.5000	**30**	10.000	-5	25.000	-10	100.00	-4	500.00	3	1000.0	-6	2000.0	-8		
Ethylbenzene	B	2.5000	-10	10.000	-13	25.000	-8	100.00	8	500.00	19	1000.0	4	2000.0	0		
m,p-Xylenes	B	2.5000	-10	10.000	-7	25.000	1	100.00	7	500.00	12	1000.0	-1	2000.0	-3		
o-Xylene	B	2.5000	-9	10.000	-11	25.000	-1	100.00	8	500.00	16	1000.0	0	2000.0	-3		
Bromofluorobenzene (PID)	B	900.00	1	900.00	5	900.00	8	900.00	9	900.00	4	900.00	-2	900.00	-7	900.00	-18
MTBE	C			10.000	3	25.000	11	100.00	-2	500.00	7	1000.0	1	2000.0	-4	5000.0	-16
Benzene	C	2.5000	-13	10.000	-6	25.000	1	100.00	4	500.00	9	1000.0	4	2000.0	2		
Toluene	C	2.5000	3	10.000	-11	25.000	-6	100.00	-1	500.00	10	1000.0	3	2000.0	2		
Ethylbenzene	C	2.5000	-20	10.000	-13	25.000	-7	100.00	3	500.00	20	1000.0	9	2000.0	8		
m,p-Xylenes	C	2.5000	**-29**	10.000	-10	25.000	-4	100.00	6	500.00	20	1000.0	9	2000.0	8		
o-Xylene	C	2.5000	**-22**	10.000	-12	25.000	-6	100.00	2	500.00	**21**	1000.0	9	2000.0	8		
Bromofluorobenzene (PID)	C	900.00	-3	900.00	0	900.00	2	900.00	4	900.00	5	900.00	2	900.00	2	900.00	-13

ERR 05/18/15 [Toluene B]: Separated from coeluting peak for Ch. B in BTXE_1 (134_023).

ERR 05/18/15 [Ethylbenzene C]: Corrected automatically drawn baseline for Ch. C in multiple levels.

ERR 05/18/15 [m,p-Xylenes C]: Corrected automatically drawn baseline for Ch. C in all levels.

ERR 05/18/15 : X'ed out ICVs runs 32 and 33, prepped from bad vial. Run 35 ICV prepped from new vial.

ERR 05/18/15 : CALIB used for blank in batch 223179. ICAL reported without CALIB per CB.

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Name : MBTXE_bfb134b
Calnum : 315193517003 Cal Date : 15-MAY-2015

ICV 315193517035 (134_035 15-MAY-2015) stds: S26659 (1000X), S27207 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
MTBE	B	100.0	85.96	ng	-14	15	
Benzene	B	100.0	97.18	ng	-3	15	
Toluene	B	100.0	91.32	ng	-9	15	
Ethylbenzene	B	100.0	97.95	ng	-2	15	
m,p-Xylenes	B	200.0	205.3	ng	3	15	
o-Xylene	B	100.0	100.9	ng	1	15	
MTBE	C	100.0	99.25	ng	-1	15	
Benzene	C	100.0	107.4	ng	7	15	
Toluene	C	100.0	103.4	ng	3	15	
Ethylbenzene	C	100.0	108.4	ng	8	15	
m,p-Xylenes	C	200.0	215.9	ng	8	15	
o-Xylene	C	100.0	101.1	ng	1	15	

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC04 Run Name : QC788727 IDF : 1.0
Seqnum : 305202087002.1 File : 140_002 Time : 20-MAY-2015 08:48
Cal : 305179632001 Caldate : 04-MAY-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3657.8	3755.3	5000	5133	ng	3	15	u
Bromofluorobenzene (FID)	A	2112.0	1899.8	900.0	809.6	ng	-10	15	u

Analyst: EAH Date: 05/21/15 Reviewer: _____ Date: _____

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC04 Run Name : TVH IDF : 1.0
Seqnum : 305202087007 File : 140_007 Time : 20-MAY-2015 15:47
Cal : 305179632001 Caldate : 04-MAY-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	3657.8	3671.9	10000	10040	ng	0	15	
Bromofluorobenzene (FID)	A	2112.0	2449.9	900.0	1044	ng	**16**	15	c+

ETP 05/20/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15
+=high bias c=CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : QC788351 IDF : 1.0
Seqnum : 315199249002.4 File : 138_002 Time : 18-MAY-2015 09:27
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5789.6	50.00	52.56	ng	5	15	u
MTBE	C	4000.1	3422.8	50.00	42.78	ng	-14	15	
Benzene	C	13224	11784	50.00	44.56	ng	-11	15	u
Benzene	B	18509	19521	50.00	52.73	ng	5	15	
Toluene	B	18944	18810	50.00	49.65	ng	-1	15	u
Toluene	C	12426	10499	50.00	42.25	ng	**-16**	15	c- ***
Ethylbenzene	C	10547	9147.1	50.00	43.37	ng	-13	15	u
Ethylbenzene	B	14804	16341	50.00	55.19	ng	10	15	
m,p-Xylenes	C	12416	10978	50.00	44.21	ng	-12	15	u
m,p-Xylenes	B	18538	21225	50.00	57.25	ng	14	15	
o-Xylene	C	10834	9433.8	50.00	43.54	ng	-13	15	u
o-Xylene	B	15584	18063	50.00	57.95	ng	**16**	15	c+ ***
Bromofluorobenzene (PID)	B	11500	13210	900.0	1034	ng	15	15	u
Bromofluorobenzene (PID)	C	8343.7	7443.9	900.0	802.9	ng	-11	15	

ETP 05/18/15 : ccv/bs,qc788351,223262 [general version]

ETP 05/18/15 : Toluene out low on channel C, used to confirm. O-xylene out high on channel B, used to confirm. [general version]

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

+=high bias -=low bias c=CCV u=use

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : QC788350 IDF : 1.0
Seqnum : 315199249003.4 File : 138_003 Time : 18-MAY-2015 10:04
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2842.4	5000	5058	ng	1	15	u
Bromofluorobenzene (FID)	A	2155.2	2488.5	900.0	1039	ng	15	15	u

ETP 05/18/15 : ccv/lcs,qc788350,223262 [general version]

ETP 05/18/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249008 File : 138_008 Time : 18-MAY-2015 15:57
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	6174.9	100.0	112.1	ng	12	15	
Benzene	B	18509	21434	100.0	115.8	ng	**16**	15	c+ ***
Toluene	B	18944	20058	100.0	105.9	ng	6	15	
Ethylbenzene	B	14804	17488	100.0	118.1	ng	**18**	15	c+ ***
m,p-Xylenes	B	18538	21734	100.0	117.2	ng	**17**	15	c+ ***
o-Xylene	B	15584	18522	100.0	118.8	ng	**19**	15	c+ ***
Bromofluorobenzene (PID)	B	11500	13204	900.0	1033	ng	15	15	
MTBE	C	4000.1	4215.8	100.0	105.4	ng	5	15	
Benzene	C	13224	13758	100.0	104.0	ng	4	15	
Toluene	C	12426	12395	100.0	99.75	ng	0	15	
Ethylbenzene	C	10547	10927	100.0	103.6	ng	4	15	
m,p-Xylenes	C	12416	12940	100.0	104.2	ng	4	15	
o-Xylene	C	10834	11067	100.0	102.1	ng	2	15	
Bromofluorobenzene (PID)	C	8343.7	8235.1	900.0	888.3	ng	-1	15	

Analyst: ETP Date: 05/18/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249009 File : 138_009 Time : 18-MAY-2015 16:34
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2636.7	10000	9384	ng	-6	15	
Bromofluorobenzene (FID)	A	2155.2	2269.4	900.0	947.7	ng	5	15	

Analyst: ETP Date: 05/18/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249011 File : 138_011 Time : 18-MAY-2015 17:50
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5635.6	100.0	102.3	ng	2	15	
Benzene	B	18509	20560	100.0	111.1	ng	11	15	
Toluene	B	18944	19267	100.0	101.7	ng	2	15	
Ethylbenzene	B	14804	16832	100.0	113.7	ng	14	15	
m,p-Xylenes	B	18538	20941	100.0	113.0	ng	13	15	
o-Xylene	B	15584	17953	100.0	115.2	ng	15	15	
Bromofluorobenzene (PID)	B	11500	12809	900.0	1002	ng	11	15	
MTBE	C	4000.1	4147.7	100.0	103.7	ng	4	15	
Benzene	C	13224	13771	100.0	104.1	ng	4	15	
Toluene	C	12426	12320	100.0	99.15	ng	-1	15	
Ethylbenzene	C	10547	10732	100.0	101.8	ng	2	15	
m,p-Xylenes	C	12416	12660	100.0	102.0	ng	2	15	
o-Xylene	C	10834	10838	100.0	100.0	ng	0	15	
Bromofluorobenzene (PID)	C	8343.7	8016.4	900.0	864.7	ng	-4	15	

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249012 File : 138_012 Time : 18-MAY-2015 18:27
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2854.9	10000	10160	ng	2	15	
Bromofluorobenzene (FID)	A	2155.2	2502.1	900.0	1045	ng	**16**	15	c+

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249024 File : 138_024 Time : 19-MAY-2015 01:58
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5504.6	150.0	149.9	ng	0	15	
Benzene	B	18509	18821	150.0	152.5	ng	2	15	
Toluene	B	18944	17474	150.0	138.4	ng	-8	15	
Ethylbenzene	B	14804	14667	150.0	148.6	ng	-1	15	
m,p-Xylenes	B	18538	19372	150.0	156.8	ng	5	15	
o-Xylene	B	15584	16459	150.0	158.4	ng	6	15	
Bromofluorobenzene (PID)	B	11500	12830	900.0	1004	ng	12	15	
MTBE	C	4000.1	3871.9	150.0	145.2	ng	-3	15	
Benzene	C	13224	12450	150.0	141.2	ng	-6	15	
Toluene	C	12426	11011	150.0	132.9	ng	-11	15	
Ethylbenzene	C	10547	9502.5	150.0	135.1	ng	-10	15	
m,p-Xylenes	C	12416	11155	150.0	134.8	ng	-10	15	
o-Xylene	C	10834	9730.0	150.0	134.7	ng	-10	15	
Bromofluorobenzene (PID)	C	8343.7	7773.7	900.0	838.5	ng	-7	15	

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249025.1 File : 138_025 Time : 19-MAY-2015 02:36
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2678.0	15000	14300	ng	-5	15	
Bromofluorobenzene (FID)	A	2155.2	2540.4	900.0	1061	ng	**18**	15	c+

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315201006001 File : 139_001 Time : 19-MAY-2015 14:06
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5435.3	50.00	49.35	ng	-1	15	
Benzene	B	18509	17765	50.00	47.99	ng	-4	15	
Toluene	B	18944	17140	50.00	45.24	ng	-10	15	
Ethylbenzene	B	14804	14218	50.00	48.02	ng	-4	15	
m,p-Xylenes	B	18538	19514	50.00	52.63	ng	5	15	
o-Xylene	B	15584	16471	50.00	52.84	ng	6	15	
Bromofluorobenzene (PID)	B	11500	12782	900.0	1000	ng	11	15	
MTBE	C	4000.1	3675.2	50.00	45.94	ng	-8	15	
Benzene	C	13224	12017	50.00	45.44	ng	-9	15	
Toluene	C	12426	10599	50.00	42.65	ng	-15	15	
Ethylbenzene	C	10547	9169.8	50.00	43.47	ng	-13	15	
m,p-Xylenes	C	12416	10763	50.00	43.34	ng	-13	15	
o-Xylene	C	10834	9325.9	50.00	43.04	ng	-14	15	
Bromofluorobenzene (PID)	C	8343.7	7526.9	900.0	811.9	ng	-10	15	

Analyst: ERR Date: 05/20/15 Reviewer: EAH Date: 05/20/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315201006002 File : 139_002 Time : 19-MAY-2015 14:44
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2815.7	5000	5011	ng	0	15	
Bromofluorobenzene (FID)	A	2155.2	2370.7	900.0	990.0	ng	10	15	

ERR 05/20/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

ETP 05/20/15 : ccv/lcs,qc788498,223303 [general version]

ERR 05/20/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

Analyst: ERR Date: 05/20/15 Reviewer: _____ Date: _____

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : QC788498 IDF : 1.0
Seqnum : 315201006002.4 File : 139_002 Time : 19-MAY-2015 14:44
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2815.7	5000	5011	ng	0	15	u
Bromofluorobenzene (FID)	A	2155.2	2370.7	900.0	990.0	ng	10	15	u

ERR 05/20/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

ETP 05/20/15 : ccv/lcs,qc788498,223303 [general version]

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315201006011 File : 139_011 Time : 19-MAY-2015 23:14
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2823.4	10000	10050	ng	0	15	
Bromofluorobenzene (FID)	A	2155.2	2619.8	900.0	1094	ng	**22**	15	c+

ETP 05/20/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/20/15
+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315201006012 File : 139_012 Time : 19-MAY-2015 23:51
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5733.9	100.0	104.1	ng	4	15	
Benzene	B	18509	20628	100.0	111.4	ng	11	15	
Toluene	B	18944	19387	100.0	102.3	ng	2	15	
Ethylbenzene	B	14804	16180	100.0	109.3	ng	9	15	
m,p-Xylenes	B	18538	21472	100.0	115.8	ng	**16**	15	c+ ***
o-Xylene	B	15584	18014	100.0	115.6	ng	**16**	15	c+ ***
Bromofluorobenzene (PID)	B	11500	12918	900.0	1011	ng	12	15	
MTBE	C	4000.1	4010.6	100.0	100.3	ng	0	15	
Benzene	C	13224	13214	100.0	99.93	ng	0	15	
Toluene	C	12426	11945	100.0	96.13	ng	-4	15	
Ethylbenzene	C	10547	10302	100.0	97.68	ng	-2	15	
m,p-Xylenes	C	12416	12153	100.0	97.88	ng	-2	15	
o-Xylene	C	10834	10417	100.0	96.15	ng	-4	15	
Bromofluorobenzene (PID)	C	8343.7	7780.4	900.0	839.2	ng	-7	15	

ETP 05/20/15 : M,p-xylenes and o-xylene out high in Channel B, used to confirm.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/20/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315201006013 File : 139_013 Time : 20-MAY-2015 00:29
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2620.7	10000	9327	ng	-7	15	
Bromofluorobenzene (FID)	A	2155.2	2483.7	900.0	1037	ng	15	15	

ETP 05/20/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/20/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315201006018 File : 139_018 Time : 20-MAY-2015 10:01
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2632.2	15000	14050	ng	-6	15	
Bromofluorobenzene (FID)	A	2155.2	2560.7	900.0	1069	ng	**19**	15	c+

ETP 05/20/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/20/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315201006019 File : 139_019 Time : 20-MAY-2015 10:38
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5491.9	150.0	149.6	ng	0	15	
Benzene	B	18509	20122	150.0	163.1	ng	9	15	
Toluene	B	18944	18501	150.0	146.5	ng	-2	15	
Ethylbenzene	B	14804	15773	150.0	159.8	ng	7	15	
m,p-Xylenes	B	18538	19836	150.0	160.5	ng	7	15	
o-Xylene	B	15584	17157	150.0	165.1	ng	10	15	
Bromofluorobenzene (PID)	B	11500	12499	900.0	978.2	ng	9	15	
MTBE	C	4000.1	3906.1	150.0	146.5	ng	-2	15	
Benzene	C	13224	13000	150.0	147.5	ng	-2	15	
Toluene	C	12426	11626	150.0	140.3	ng	-6	15	
Ethylbenzene	C	10547	10038	150.0	142.8	ng	-5	15	
m,p-Xylenes	C	12416	11717	150.0	141.6	ng	-6	15	
o-Xylene	C	10834	10177	150.0	140.9	ng	-6	15	
Bromofluorobenzene (PID)	C	8343.7	7624.1	900.0	822.4	ng	-9	15	

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/20/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 305179632

Instrument : GC04 Begun : 05/04/15 17:52
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	124_001	IB				05/04/15 17:52	1.0	1	
002	124_002	IB				05/04/15 18:30	1.0	1	
003	124_003	IB	CALIB			05/04/15 19:08	1.0	1	
004	124_004	ICAL	TVH_14			05/04/15 19:45	1.0	2 1	
005	124_005	ICAL	TVH_15			05/04/15 20:23	1.0	1 3	
006	124_006	ICAL	TVH_16			05/04/15 21:01	1.0	1 4	
007	124_007	ICAL	TVH_17			05/04/15 21:38	1.0	1 5	
008	124_008	ICAL	TVH_18			05/04/15 22:16	1.0	1 5	
009	124_009	X	IB			05/04/15 22:53	1.0	1	
010	124_010	ICV	TVH			05/04/15 23:31	1.0	1 6	
011	124_011	X	ICV			05/05/15 00:09	1.0	1 6	
012	124_012	CMARKER	CMARK			05/05/15 00:46	1.0	7 1	

CB 05/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Reviewed by: CB Date: 05/05/15

Standards used: 1=S26658 2=S26765 3=S26764 4=S26763 5=S26761 6=S26760 7=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 305202087

Instrument : GC04 Begun : 05/20/15 08:07
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	140_001	X	CMARKER				05/20/15 08:07	1.0	1 2
002	140_002	CCV/BS	QC788727		Soil	223362	05/20/15 08:48	1.0	3 2
003	140_003	BSD	QC788728		Soil	223362	05/20/15 09:26	1.0	3 2
004	140_004	BLANK	QC788725		Soil	223362	05/20/15 10:03	1.0	2
005	140_005	SAMPLE	266803-004		Soil	223362	05/20/15 14:31	1.0	2
006	140_006	SAMPLE	266803-002	M	Soil	223362	05/20/15 15:09	50.0	2
007	140_007	CCV	TVH				05/20/15 15:47	1.0	3 2
008	140_008	CCV	TVH				05/20/15 16:24	1.0	3 2
009	140_009	X	CMARKER				05/20/15 17:02	1.0	1 2
010	140_010	CCV	TVH				05/20/15 18:02	1.0	3 2
011	140_011	CCV/LCS	QC788796		Water	223380	05/20/15 18:39	1.0	3 2
012	140_012	BLANK	QC788795		Water	223380	05/20/15 19:17	1.0	2
013	140_013	X	IB				05/20/15 19:55	1.0	2
014	140_014	MSS	266907-001		Water	223380	05/20/15 20:32	1.0	2
015	140_015	MS	QC788797		Water	223380	05/20/15 21:10	1.0	3 2
016	140_016	MSD	QC788798		Water	223380	05/20/15 21:47	1.0	3 2
017	140_017	CCV	TVH				05/20/15 22:25	1.0	3 2
018	140_018	CCV	TVH				05/20/15 23:03	1.0	3 2
019	140_019	X	CMARKER				05/20/15 23:40	1.0	1 2
020	140_020	CCV	JP4				05/21/15 00:18	1.0	4 2
021	140_021	CCV	JP4				05/21/15 00:56	1.0	4 2
022	140_022	X	IB				05/21/15 01:33	1.0	2
023	140_023	X	IB				05/21/15 02:11	1.0	2
024	140_024	LOD	214828-028		Soil	223377	05/21/15 02:48	1.0	5 2
025	140_025	LOD	214828-027		Water	223378	05/21/15 03:26	1.0	5 2
026	140_026	CCV	JP4				05/21/15 04:03	1.0	4 2
027	140_027	CCV	JP4				05/21/15 04:41	1.0	4 2

ERR 05/20/15 : Cmarker peaks and TVH ranges adjusted using first run

ETP 05/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

ERR 05/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 27.

Reviewed by: ETP Date: 05/20/15

Standards used: 1=S26730 2=S27207 3=S27195 4=S27089 5=S27312

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315090403

Instrument : GC05 Begun : 03/03/15 18:43
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	062_001	X	IB			03/03/15 18:43	1.0	1	
002	062_002	X	IB			03/03/15 19:21	1.0	1	
003	062_003	IB	CALIB			03/03/15 19:58	1.0	1	
004	062_004	ICAL	BTXE_1			03/03/15 20:36	1.0	2 1	
005	062_005	ICAL	MBTXE_2			03/03/15 21:14	1.0	3 1	
006	062_006	ICAL	MBTXE_3			03/03/15 21:51	1.0	3 1	
007	062_007	ICAL	MBTXE_4			03/03/15 22:29	1.0	3 1	
008	062_008	ICAL	MBTXE_5			03/03/15 23:06	1.0	4 1	
009	062_009	ICAL	MBTXE_6			03/03/15 23:44	1.0	4 1	
010	062_010	ICAL	MBTXE_7			03/04/15 00:22	1.0	4 1	
011	062_011	ICAL	MBTBE_7			03/04/15 00:59	1.0	5 1	
012	062_012	X	IB			03/04/15 01:37	1.0	1	
013	062_013	ICV	MBTXE			03/04/15 02:15	1.0	6 1	
014	062_014	ICV	MBTXE			03/04/15 02:52	1.0	6 1	
015	062_015	X	IB			03/04/15 03:30	1.0	1	
016	062_016	X	IB			03/04/15 04:07	1.0	1	
017	062_017	IB	CALIB			03/04/15 04:45	1.0	1	
018	062_018	X	X			03/04/15 05:23	1.0	7 1	
019	062_019	ICAL	TVH_15			03/04/15 06:00	1.0	8 1	
020	062_020	ICAL	TVH_16			03/04/15 06:38	1.0	9 1	
021	062_021	ICAL	TVH_17			03/04/15 07:16	1.0	10 1	
022	062_022	ICAL	TVH_18			03/04/15 07:53	1.0	10 1	
023	062_023	X	IB			03/04/15 08:31	1.0	1	
024	062_024	ICV	TVH			03/04/15 09:08	1.0	11 1	
025	062_025	X	ICV			03/04/15 09:46	1.0	11 1	
026	062_026	CMARKER	CMARK			03/04/15 10:23	1.0	12 1	
027	062_027	X	CMARKER			03/04/15 11:01	1.0	12 1	
028	062_028	ICAL	TVH_14			03/04/15 12:44	1.0	7 1	
029	062_029	X	IB			03/04/15 13:21	1.0	1	
030	062_030	ICV	TVH			03/04/15 13:59	1.0	11 1	
031	062_031	X	ICV			03/04/15 14:37	1.0	11 1	
032	062_032	X	CMARKER			03/04/15 15:14	1.0	12 1	

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 03/04/15

Standards used: 1=S26658 2=S26340 3=S26339 4=S26338 5=S26368 6=S26659 7=S26765 8=S26764 9=S26763 10=S26761 11=S26760 12=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315193517

Instrument : GC05 Begun : 05/14/15 09:17
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	134_001	CCV	BTXE			05/14/15 09:17	1.0	1 2	
003	134_003	CCV	BTXE			05/14/15 10:56	1.0	1 2	
004	134_004	CCV	BTXE			05/14/15 11:34	1.0	1 2	
005	134_005	CCV	BTXE			05/14/15 12:11	1.0	1 2	
006	134_006	CCV	BTXE			05/14/15 12:49	1.0	1 2	
007	134_007	X	CMARKER			05/14/15 13:26	1.0	3 2	
008	134_008	CCV/LCS	QC787998	Soil	223179	05/14/15 15:00	1.0	4 2	
009	134_009	BLANK	QC787999	Soil	223179	05/14/15 15:38	1.0	2	
010	134_010	X	AVGAS			05/14/15 16:15	1.0	5 2	
011	134_011	ICAL	AVGAS			05/14/15 16:53	1.0	5 2	
012	134_012	X	IB	Soil		05/14/15 17:31	1.0	2	
013	134_013	MSS	266659-001	Soil	223179	05/14/15 18:08	1.0	2	
014	134_014	MS	QC788000	Soil	223179	05/14/15 18:46	1.0	4 2	
015	134_015	MSD	QC788001	Soil	223179	05/14/15 19:24	1.0	4 2	
016	134_016	SAMPLE	266659-002	Soil	223179	05/14/15 20:01	1.0	2	
017	134_017	CCV	TVH			05/14/15 20:39	1.0	4 2	
018	134_018	CCV	AVGAS			05/14/15 21:16	1.0	5 2	
019	134_019	CCV	TVH			05/14/15 21:54	1.0	4 2	
020	134_020	X	CMARKER			05/14/15 22:32	1.0	3 2	
021	134_021	CCV	AVGAS			05/14/15 23:09	1.0	5 2	
022	134_022	BLANK	QC787999	Soil	223179	05/14/15 23:47	1.0	2	
023	134_023	ICAL	BTXE_1			05/15/15 00:24	1.0	6 2	
024	134_024	ICAL	MBTXE_2			05/15/15 01:02	1.0	7 2	
025	134_025	ICAL	MBTXE_3			05/15/15 01:40	1.0	7 2	
026	134_026	ICAL	MBTXE_4			05/15/15 02:17	1.0	7 2	
027	134_027	ICAL	MBTXE_5			05/15/15 02:55	1.0	8 2	
028	134_028	ICAL	MBTXE_6			05/15/15 03:32	1.0	8 2	
029	134_029	ICAL	MBTXE_7			05/15/15 04:10	1.0	8 2	
030	134_030	ICAL	MBTBE_7			05/15/15 04:48	1.0	9 2	
031	134_031	X	IB			05/15/15 05:25	1.0	2	
032	134_032	X	MBTXE			05/15/15 06:03	1.0	10 2	
033	134_033	X	MBTXE			05/15/15 06:40	1.0	10 2	
034	134_034	CCV	AVGAS			05/15/15 10:24	1.0	5 2	
035	134_035	ICV	MBTXE			05/15/15 13:32	1.0	10 2	

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 33.

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 34 through 35.

Reviewed by: ERR Date: 05/15/15

Standards used: 1=S27205 2=S27207 3=S26730 4=S27195 5=S27256 6=S27217 7=S27216 8=S27215 9=S27153 10=S26659

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315199249

Instrument : GC05 Begun : 05/18/15 08:49
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	138_001	X	CMARKER				05/18/15 08:49	1.0	1 2	
002	138_002	CCV/BS	QC788351		Soil	223262	05/18/15 09:27	1.0	3 2	
003	138_003	CCV/LCS	QC788350		Soil	223262	05/18/15 10:04	1.0	4 2	
004	138_004	BSD	QC788352		Soil	223262	05/18/15 10:42	1.0	3 2	
005	138_005	BLANK	QC788349		Soil	223262	05/18/15 11:20	1.0	2	
006	138_006	SAMPLE	266748-001	M	Soil	223262	05/18/15 14:41	25.0	2	
007	138_007	SAMPLE	266748-002	M	Soil	223262	05/18/15 15:19	25.0	2	
008	138_008	CCV	BTXE				05/18/15 15:57	1.0	3 2	
009	138_009	CCV	TVH				05/18/15 16:34	1.0	4 2	
010	138_010	X	CMARKER				05/18/15 17:12	1.0	1 2	
011	138_011	CCV	BTXE				05/18/15 17:50	1.0	3 2	
012	138_012	CCV	TVH				05/18/15 18:27	1.0	4 2	
013	138_013	PREPBLK	QC788355	M	Soil	223262	05/18/15 19:05	25.0	2	
014	138_014	MSS	266816-001		Soil	223262	05/18/15 19:42	1.0	2	
015	138_015	MS	QC788353		Soil	223262	05/18/15 20:20	1.0	4 2	
016	138_016	MSD	QC788354		Soil	223262	05/18/15 20:58	1.0	4 2	
017	138_017	SAMPLE	266803-001		Soil	223262	05/18/15 21:35	1.0	2	
018	138_018	SAMPLE	266803-002		Soil	223262	05/18/15 22:13	1.0	2	3:GAS:7-12=330000
019	138_019	SAMPLE	266803-003		Soil	223262	05/18/15 22:51	1.0	2	
020	138_020	SAMPLE	266803-004		Soil	223262	05/18/15 23:28	1.0	2	
021	138_021	SAMPLE	266815-001		Soil	223262	05/19/15 00:06	1.0	2	
022	138_022	SAMPLE	266814-001	M	Soil	223262	05/19/15 00:43	50.0	2	
023	138_023	X	IB				05/19/15 01:21	1.0	2	
024	138_024	CCV	BTXE				05/19/15 01:58	1.0	3 2	
025	138_025	CCV	TVH				05/19/15 02:36	1.0	4 2	
026	138_026	X	CMARKER				05/19/15 03:14	1.0	1 2	
027	138_027	CCV	BTXE				05/19/15 03:51	1.0	3 2	
028	138_028	CCV	TVH				05/19/15 04:29	1.0	4 2	
029	138_029	SAMPLE	266816-002		Soil	223262	05/19/15 05:06	1.0	2	diluted (odor)
030	138_030	SAMPLE	266816-003		Soil	223262	05/19/15 05:44	1.0	2	
031	138_031	SAMPLE	266816-006		Soil	223262	05/19/15 06:22	1.0	2	
032	138_032	SAMPLE	266820-001		Soil	223262	05/19/15 06:59	1.0	2	
033	138_033	SAMPLE	266820-002		Soil	223262	05/19/15 07:37	1.0	2	
034	138_034	SAMPLE	266831-017		Soil	223262	05/19/15 08:14	1.0	2	
035	138_035	SAMPLE	266831-018		Soil	223262	05/19/15 08:52	1.0	2	
036	138_036	SAMPLE	266831-019		Soil	223262	05/19/15 09:29	1.0	2	
037	138_037	SAMPLE	266831-020		Soil	223262	05/19/15 10:07	1.0	2	
038	138_038	SAMPLE	266845-001		Soil	223262	05/19/15 10:45	1.0	2	
039	138_039	CCV	BTXE				05/19/15 11:22	1.0	3 2	
040	138_040	CCV	TVH				05/19/15 12:00	1.0	4 2	
041	138_041	CCV	BTXE				05/19/15 12:37	1.0	3 2	
042	138_042	X	CMARKER				05/19/15 13:15	1.0	1 2	

ERR 05/18/15 : Increased channel C lamp by 1 after run 2

ETP 05/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

ERR 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 28.

ETP 05/19/15 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315199249

Instrument : GC05 Begun : 05/18/15 08:49
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

sequence data entry, for runs 29 through 42.

Reviewed by: ETP Date: 05/18/15

Standards used: 1=S26730 2=S27207 3=S27205 4=S27195

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315201006

Instrument : GC05 Begun : 05/19/15 14:06
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	139_001	CCV	BTXE				05/19/15 14:06	1.0	1 2
002	139_002	CCV/LCS	QC788498		Soil	223303	05/19/15 14:44	1.0	3 2
003	139_003	BS	QC788499		Soil	223303	05/19/15 15:21	1.0	1 2
005	139_005	BLANK	QC788497		Soil	223303	05/19/15 19:11	1.0	2
006	139_006	MSS	266871-001		Soil	223303	05/19/15 20:06	1.0	2
007	139_007	MS	QC788501		Soil	223303	05/19/15 20:43	1.0	3 2
008	139_008	MSD	QC788502		Soil	223303	05/19/15 21:21	1.0	3 2
009	139_009	BSD	QC788500		Soil	223303	05/19/15 21:59	1.0	1 2
010	139_010	X	CMARKER				05/19/15 22:36	1.0	4 2
011	139_011	CCV	TVH				05/19/15 23:14	1.0	3 2
012	139_012	CCV	BTXE				05/19/15 23:51	1.0	1 2
013	139_013	CCV	TVH				05/20/15 00:29	1.0	3 2
014	139_014	SAMPLE	266872-001		Soil	223303	05/20/15 01:07	1.0	2
015	139_015	SAMPLE	266803-002	M	Soil	223303	05/20/15 01:44	50.0	2
016	139_016	X	IB				05/20/15 08:46	1.0	2
017	139_017	SAMPLE	266803-004		Soil	223303	05/20/15 09:23	1.0	2
018	139_018	CCV	TVH				05/20/15 10:01	1.0	3 2
019	139_019	CCV	BTXE				05/20/15 10:38	1.0	1 2
020	139_020	CCV	TVH				05/20/15 11:16	1.0	3 2
021	139_021	X	CMARKER				05/20/15 11:54	1.0	4 2

ETP 05/19/15 : Used closing CM from seq 138 as opening CM.

ETP 05/19/15 : Run 4, IB, lost due to synch error.

ERR 05/20/15 : X'ed out run 16 due to autosampler error.

ERR 05/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 15.

ETP 05/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 16 through 21.

Reviewed by: ETP Date: 05/20/15

Standards used: 1=S27205 2=S27207 3=S27195 4=S26730

PROJECT TVH/MBTXE MeOH Prep

Notebook No. BK2938

Continued From Page

Sample	ID	Weight (g)	MeOH Lot#	MeOH mL	Comments
PREPBLK	—	—	DL535	5.0	ETP 5/11/15
266731-001	B (ALIAS: 266505-7B)	5.11	DL535	5.0	ETP 5/12/15
PREPBLK	—	—	↓	↓	↓
266704-002	A	5.00	↓	↓	↓
266719-001	A	1.00	DL535	10.0	ETP 5/14/15
266643-001	A	6.22	↓	5.0	↓
↓ 3	↓	5.81	↓	↓	↓
266728-001	↓	6.18	↓	↓	↓
↓ 3	↓	5.94	↓	↓	↓
PREPBLK	—	—	↓	↓	↓
266814-001	B	5.56	DL535	5.0	ETP 5/18/15
PREPBLK	—	—	↓	↓	↓

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

BK3656 - 16
BOOK PAGE

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample	ID	Weight (g)	Na_2SO_4	Comments
266649-9	G	1.00	No	ERR 5-14-15
266608-017	A	1.00	No	ETP 5/14/15 for 5/13/15
	17MS	0.92		
	17MSD	0.94		
266771-001	C (also 266505-7C)	5.84		
266666-001	A	1.01		ETP 5/14/15
	1MS	0.91		
	1MSD	0.98		
266775-001	A	1.07		
266608-017	A	1.00		
266783-001	C	5.25		
266790-001	A	1.03		
266794-001	A	38.52-31.202-0.25=7.07		
266783-001	C	5.99	No	ETP 5/15/15
266817-001	A	0.94		
	MS	0.92		
	MSD	0.92		
	2	0.97		
	3	0.97		
	4	0.98		
	5	0.98		
	1	1.04	No	MS 5/17/15
266659-1	A	0.93 +.05 ERR 5-13-15	No	ERR 5-13-15 for 5-14-15
-1MS	A	1.05		
-1MSD	A	1.01		
-2	A	1.04		
266816-001	A	0.92	No	ETP 5/18/15
1MS		0.96		
1MSD		1.03		
2		0.59		
3		0.96		
6		0.99		
266831-017	A	Comp 1-4 1.08		
18		Comp. 5-8 0.99		
19		Comp. 9-12 1.01		
20		Comp. 13-16 1.08		
266803-001	A	36.38-30.950-0.29=5.18-0.17=5.01		
2		38.31-31.448-0.29=6.90-0.17=6.73		
3	E	35.95-30.762-0.29=4.94-0.17=4.77		
4		37.10-30.754-0.25=6.10-0.17=5.93		
266870-001	E	36.56-30.776-0.25-0.17=5.36		
3		37.00-30.835-0.25-0.17=5.75		
266815-1	A	0.91	No	ERR 5-19-15 for ETP 5-18-15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample	ID		Weight(g)	NaHSO4	Comments
266877-001	A		1.04	No	ETP 5/18/15
266845-001	↓		096	↓	↓
266803-4	D	37.52-31.174-0.25=6.10		No	ERR 5-19-15
266871-1MS	A		1.08	No	ERR 5-19-15
↓ -1MSD	↓		0.99	↓	↓
266877-001	↓		1.076	No	ETP 5/19/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample	ID	Weight(g)	Na_2SO_4	Comments
266877-001	A	1.04	No	~~ETP~~ 5/18/15
266845-001	↓	0.96	↓	↓
266803-4	D	37.52-31.174-0.25=6.10	No	ERR 5-19-15
266871-MS	A	1.08	NO	ERR 5-19-15
↓ -MSD	↓	0.99	↓	↓
266872-001	A	1.06	No	~~ETP~~ 5/19/15
266803-4	A	36.72-30.924-0.42=5.38	NO	ERR 5-20-15
↓ 4	B	37.88-30.798-0.42=6.66	↓	↓

Continued to page

SIGNATURE	DATE
DISCLOSED TO AND UNDERSTOOD BY	DATE

PROPRIETARY INFORMATION

PROJECT TVH/MBTXE MeOH Prep

Notebook No. BK2938

Continued From Page

Sample	ID	Weight (g)	MeOH Lot#	MeOH mL	Comments
PREPBLK	—	—	DL535	5.0	ETP 5/11/15
266731-001	B (ALIAS: 266505-7B)	5.11	DL535	5.0	ETP 5/12/15
PREPBLK	—	—	↓	↓	↓
266704-002	A	5.00	↓	↓	↓
266719-001	A	1.00	DL535	10.0	~~ETP 5~~/14/15
266643-001	A	6.22	↓	5.0	↓
↓ 3	↓	5.81	↓	↓	↓
266748-001	↓	6.18	↓	↓	↓
↓ 3	↓	5.94	↓	↓	↓
PREPBLK	—	—	↓	↓	↓
266814-001	B	5.56	DL535	5.0	ETP 5/18/15
PREPBLK	—	—	↓	↓	↓
~~266803-2~~	F	~~32.16-27.306+0.25=4.60~~	DL535	5.0	ERR 5-19-15
266803-2	F	32.16-27.306-0.42=4.43	~~DL535~~ Eff 5-19-15 CLIENT	PREPPED	↓

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

BK3656 - 18
BOOK PAGE

TITLE Soil Aliquot TVH/BTXE PROJECT DATE

Continued from page

Sample ID	Weight (g)	Na_2SO_4	Comments
266881-13 A	37.98-30.828-0.25 = 6.90	NO	ERR 5-20-15
14	35.41-30.747-0.25 = 4.41	↓	↓
15	35.50-30.682-0.25 = 4.57	↓	↓
266803-004 C	36.58-31.022-0.25-0.17=5.14	No	~~ERR~~ 5/20/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

PROJECT TVH/MBTXE MeOH Prep

Notebook No. BK2938

Continued From Page

Sample	ID	Weight (g)	MeOH Lot#	MeOH mL	Comments
PREPBLK	—	—	DL535	5.0	ETP 5/11/15
266731-001	B (ALIAS: 266505-7B)	5.11	DL535	5.0	ETP 5/12/15
PREPBLK	—	—	↓	↓	↓
266704-002	A	5.00	↓	↓	↓
266719-001	A	1.00	DL535	10.0	~~ETP 5~~/14/15
266643-001	A	6.22	↓	5.0	↓
↓ 3	↓	5.81	↓	↓	↓
266748-001	↓	6.18	↓	↓	↓
↓ 3	↓	5.94	↓	↓	↓
PREPBLK	—	—	↓	↓	↓
266814-001	B	5.56	DL535	5.0	~~ETP~~ 5/18/15
PREPBLK	—	—	↓	↓	↓
~~266803-2~~	~~F~~	~~32.16-27.306-0.25=4.60~~	~~DL535~~	~~5.0~~	ERR 5-19-15
266803-2	F	32.16-27.306-0.42=4.43	~~DL535~~ EAR 5-19-15 CLIENT PREPPED		↓
266803-2	F	32.16-27.306-0.42=4.43	Client Prepped	5.0	ERR 5-20-15 for 5A

Continued on Page

Read and Understood By

Signed	Date	Signed	Date

REPORTING SUMMARY FOR 266803 GCVOA Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
266803-001	Gasoline C7-C12	GC05	A	05/18/15 21:35
266803-001	MTBE	GC05	B	05/18/15 21:35
266803-001	Benzene	GC05	B	05/18/15 21:35
266803-001	Toluene	GC05	B	05/18/15 21:35
266803-001	Ethylbenzene	GC05	B	05/18/15 21:35
266803-001	m,p-Xylenes	GC05	B	05/18/15 21:35
266803-001	o-Xylene	GC05	B	05/18/15 21:35
266803-001	Bromofluorobenzene (FID)	GC05	A	05/18/15 21:35
266803-001	Bromofluorobenzene (PID)	GC05	B	05/18/15 21:35
266803-002	Gasoline C7-C12	GC04	A	05/20/15 15:09
266803-002	MTBE	GC05	C	05/20/15 01:44
266803-002	Benzene	GC05	C	05/20/15 01:44
266803-002	Toluene	GC05	C	05/20/15 01:44
266803-002	Ethylbenzene	GC05	C	05/20/15 01:44
266803-002	m,p-Xylenes	GC05	C	05/20/15 01:44
266803-002	o-Xylene	GC05	C	05/20/15 01:44
266803-002	Bromofluorobenzene (FID)	GC04	A	05/20/15 15:09
266803-002	Bromofluorobenzene (PID)	GC05	C	05/20/15 01:44
266803-003	Gasoline C7-C12	GC05	A	05/18/15 22:51
266803-003	MTBE	GC05	B	05/18/15 22:51
266803-003	Benzene	GC05	B	05/18/15 22:51
266803-003	Toluene	GC05	B	05/18/15 22:51
266803-003	Ethylbenzene	GC05	B	05/18/15 22:51
266803-003	m,p-Xylenes	GC05	B	05/18/15 22:51
266803-003	o-Xylene	GC05	B	05/18/15 22:51
266803-003	Bromofluorobenzene (FID)	GC05	A	05/18/15 22:51
266803-003	Bromofluorobenzene (PID)	GC05	B	05/18/15 22:51
266803-004	Gasoline C7-C12	GC05	A	05/20/15 09:23
266803-004	MTBE	GC05	C	05/20/15 09:23
266803-004	Benzene	GC05	C	05/20/15 09:23
266803-004	Toluene	GC05	C	05/20/15 09:23
266803-004	Ethylbenzene	GC05	C	05/20/15 09:23
266803-004	m,p-Xylenes	GC05	C	05/20/15 09:23
266803-004	o-Xylene	GC05	C	05/20/15 09:23
266803-004	Bromofluorobenzene (FID)	GC05	A	05/20/15 09:23
266803-004	Bromofluorobenzene (PID)	GC05	C	05/20/15 09:23
QC788349	Gasoline C7-C12	GC05	A	05/18/15 11:20
QC788349	MTBE	GC05	B	05/18/15 11:20
QC788349	Benzene	GC05	C	05/18/15 11:20
QC788349	Toluene	GC05	B	05/18/15 11:20
QC788349	Ethylbenzene	GC05	C	05/18/15 11:20
QC788349	m,p-Xylenes	GC05	C	05/18/15 11:20
QC788349	o-Xylene	GC05	C	05/18/15 11:20
QC788349	Bromofluorobenzene (FID)	GC05	A	05/18/15 11:20
QC788349	Bromofluorobenzene (PID)	GC05	B	05/18/15 11:20
QC788497	Gasoline C7-C12	GC05	A	05/19/15 19:11
QC788497	MTBE	GC05	C	05/19/15 19:11
QC788497	Benzene	GC05	C	05/19/15 19:11
QC788497	Toluene	GC05	C	05/19/15 19:11

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC788497	Ethylbenzene	GC05	C	05/19/15 19:11
QC788497	m,p-Xylenes	GC05	C	05/19/15 19:11
QC788497	o-Xylene	GC05	C	05/19/15 19:11
QC788497	Bromofluorobenzene (FID)	GC05	A	05/19/15 19:11
QC788497	Bromofluorobenzene (PID)	GC05	C	05/19/15 19:11
QC788725	Gasoline C7-C12	GC04	A	05/20/15 10:03
QC788725	Bromofluorobenzene (FID)	GC04	A	05/20/15 10:03
QC788350	Gasoline C7-C12	GC05	A	05/18/15 10:04
QC788350	Bromofluorobenzene (FID)	GC05	A	05/18/15 10:04
QC788351	MTBE	GC05	B	05/18/15 09:27
QC788351	Benzene	GC05	C	05/18/15 09:27
QC788351	Toluene	GC05	B	05/18/15 09:27
QC788351	Ethylbenzene	GC05	C	05/18/15 09:27
QC788351	m,p-Xylenes	GC05	C	05/18/15 09:27
QC788351	o-Xylene	GC05	C	05/18/15 09:27
QC788351	Bromofluorobenzene (PID)	GC05	B	05/18/15 09:27
QC788352	MTBE	GC05	B	05/18/15 10:42
QC788352	Benzene	GC05	C	05/18/15 10:42
QC788352	Toluene	GC05	B	05/18/15 10:42
QC788352	Ethylbenzene	GC05	C	05/18/15 10:42
QC788352	m,p-Xylenes	GC05	C	05/18/15 10:42
QC788352	o-Xylene	GC05	C	05/18/15 10:42
QC788352	Bromofluorobenzene (PID)	GC05	B	05/18/15 10:42
QC788353	Gasoline C7-C12	GC05	A	05/18/15 20:20
QC788353	Bromofluorobenzene (FID)	GC05	A	05/18/15 20:20
QC788354	Gasoline C7-C12	GC05	A	05/18/15 20:58
QC788354	Bromofluorobenzene (FID)	GC05	A	05/18/15 20:58
QC788498	Gasoline C7-C12	GC05	A	05/19/15 14:44
QC788498	Bromofluorobenzene (FID)	GC05	A	05/19/15 14:44
QC788499	MTBE	GC05	C	05/19/15 15:21
QC788499	Benzene	GC05	C	05/19/15 15:21
QC788499	Toluene	GC05	C	05/19/15 15:21
QC788499	Ethylbenzene	GC05	C	05/19/15 15:21
QC788499	m,p-Xylenes	GC05	C	05/19/15 15:21
QC788499	o-Xylene	GC05	C	05/19/15 15:21
QC788499	Bromofluorobenzene (PID)	GC05	C	05/19/15 15:21
QC788500	MTBE	GC05	C	05/19/15 21:59
QC788500	Benzene	GC05	C	05/19/15 21:59
QC788500	Toluene	GC05	C	05/19/15 21:59
QC788500	Ethylbenzene	GC05	C	05/19/15 21:59
QC788500	m,p-Xylenes	GC05	C	05/19/15 21:59
QC788500	o-Xylene	GC05	C	05/19/15 21:59
QC788500	Bromofluorobenzene (PID)	GC05	C	05/19/15 21:59
QC788501	Gasoline C7-C12	GC05	A	05/19/15 20:43

REPORTING SUMMARY FOR 266803 GCVOA Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC788501	Bromofluorobenzene (FID)	GC05	A	05/19/15 20:43
QC788502	Gasoline C7-C12	GC05	A	05/19/15 21:21
QC788502	Bromofluorobenzene (FID)	GC05	A	05/19/15 21:21
QC788727	Gasoline C7-C12	GC04	A	05/20/15 08:48
QC788727	Bromofluorobenzene (FID)	GC04	A	05/20/15 08:48
QC788728	Gasoline C7-C12	GC04	A	05/20/15 09:26
QC788728	Bromofluorobenzene (FID)	GC04	A	05/20/15 09:26

Laboratory Job Number 266803

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/14/15
Units:	mg/Kg	Received:	05/14/15
Basis:	dry	Prepared:	05/15/15
Batch#:	223220		

Field ID:	APLMW-1(4)	Moisture:	5%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	266803-001	Analyzed:	05/16/15

Analyte	Result	RL
Diesel C10-C24	9.6 Y	1.1
Motor Oil C24-C36	65	5.3

Surrogate	%REC	Limits
o-Terphenyl	117	59-140

Field ID:	APLMW-1(7.5)	Moisture:	8%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	266803-002	Analyzed:	05/16/15

Analyte	Result	RL
Diesel C10-C24	300	1.1
Motor Oil C24-C36	520	5.4

Surrogate	%REC	Limits
o-Terphenyl	123	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/14/15
Units:	mg/Kg	Received:	05/14/15
Basis:	dry	Prepared:	05/15/15
Batch#:	223220		

Field ID:	APLMW-3(4)	Moisture:	10%
Type:	SAMPLE	Diln Fac:	10.00
Lab ID:	266803-003	Analyzed:	05/16/15

Analyte	Result	RL
Diesel C10-C24	150 Y	11
Motor Oil C24-C36	900	56

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID:	APLMW-3(7)	Moisture:	23%
Type:	SAMPLE	Diln Fac:	5.000
Lab ID:	266803-004	Analyzed:	05/18/15

Analyte	Result	RL
Diesel C10-C24	460 Y	6.5
Motor Oil C24-C36	1,400	32

Surrogate	%REC	Limits
o-Terphenyl	100	59-140

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC788169	Analyzed:	05/16/15

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	111	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788170	Batch#:	223220
Matrix:	Soil	Prepared:	05/15/15
Units:	mg/Kg	Analyzed:	05/16/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.79	47.88	96	58-137

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	223220
MSS Lab ID:	266815-001	Sampled:	05/14/15
Matrix:	Soil	Received:	05/15/15
Units:	mg/Kg	Prepared:	05/15/15
Basis:	as received	Analyzed:	05/16/15
Diln Fac:	1.000		

Type: MS Lab ID: QC788171

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	233.9	49.77	612.7 >LR	761 NM	46-154

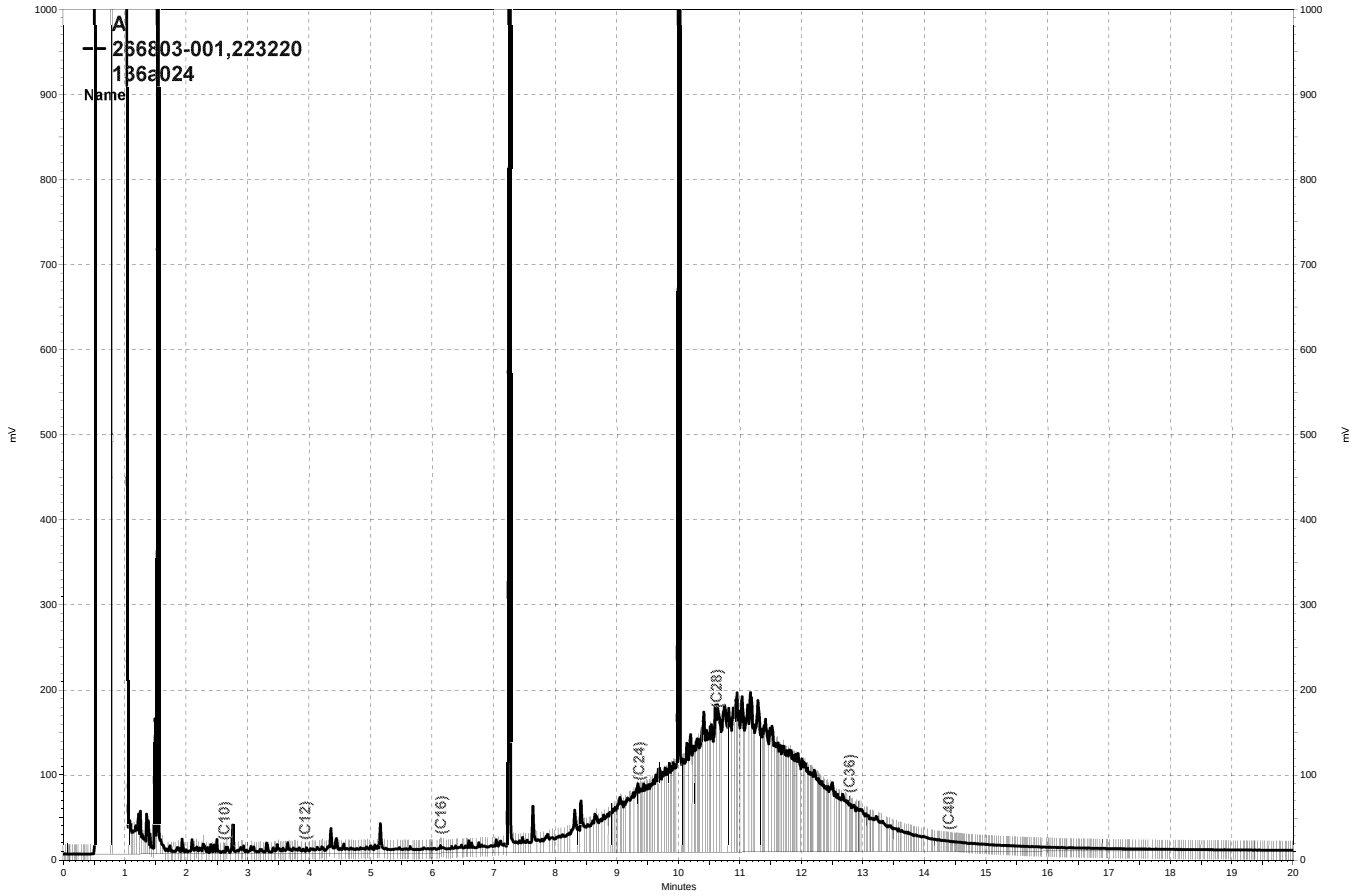
Surrogate	%REC	Limits
o-Terphenyl	119	59-140

Type: MSD Lab ID: QC788172

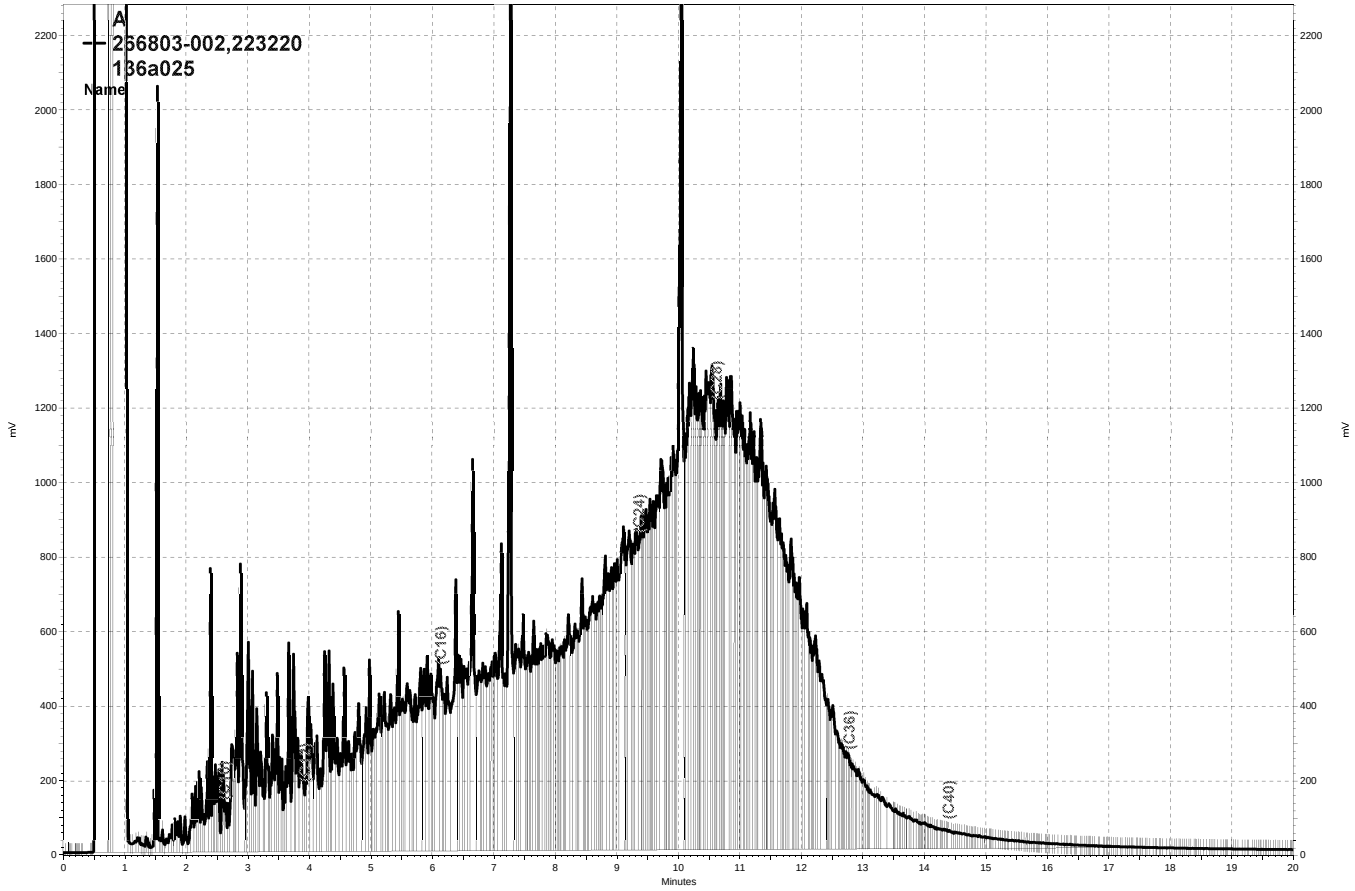
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.93	74.78	-319 NM	46-154	NC	50

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

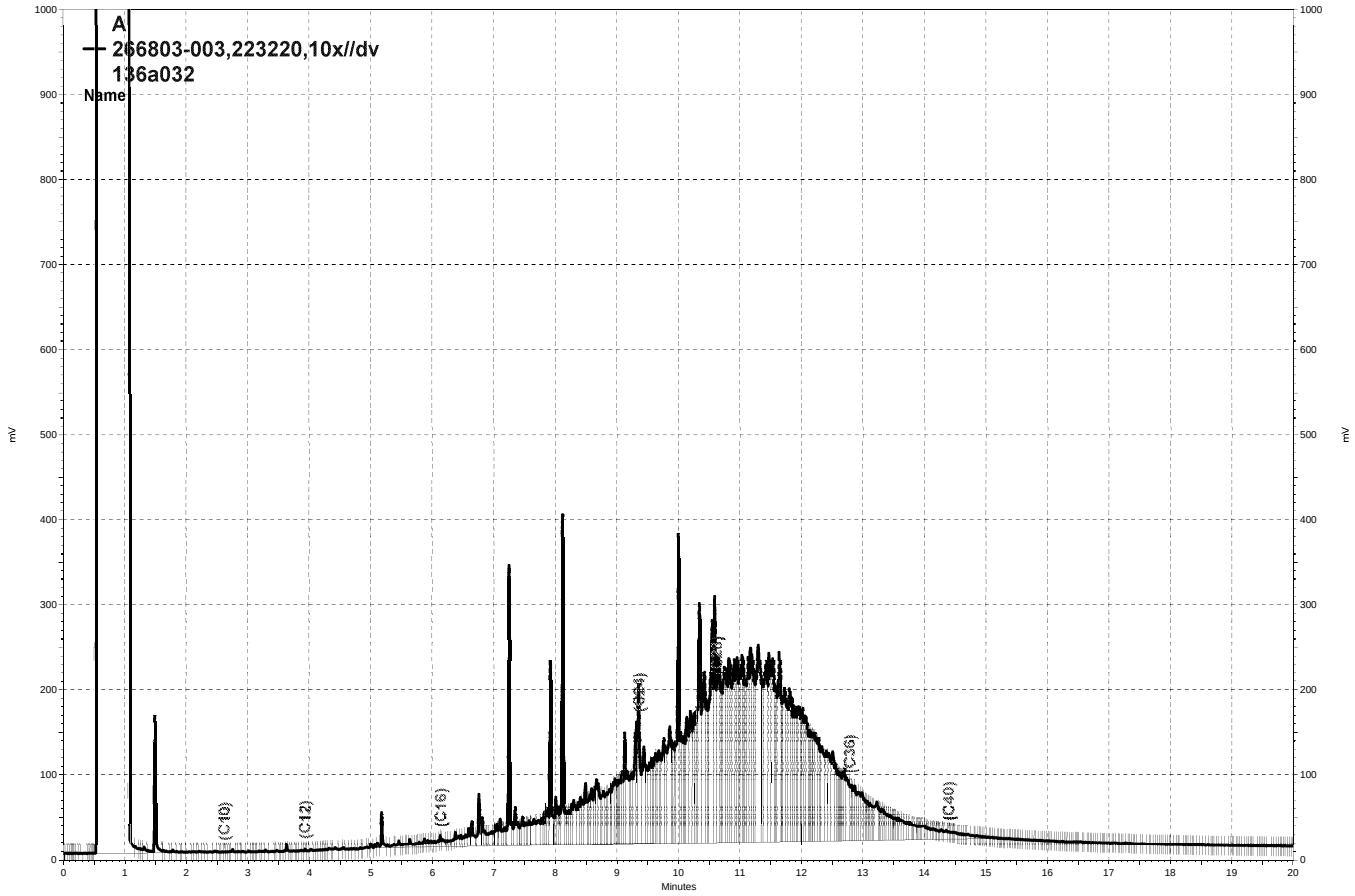
NC= Not Calculated
NM= Not Meaningful: Sample concentration > 4X spike concentration
>LR= Response exceeds instrument's linear range
RPD= Relative Percent Difference



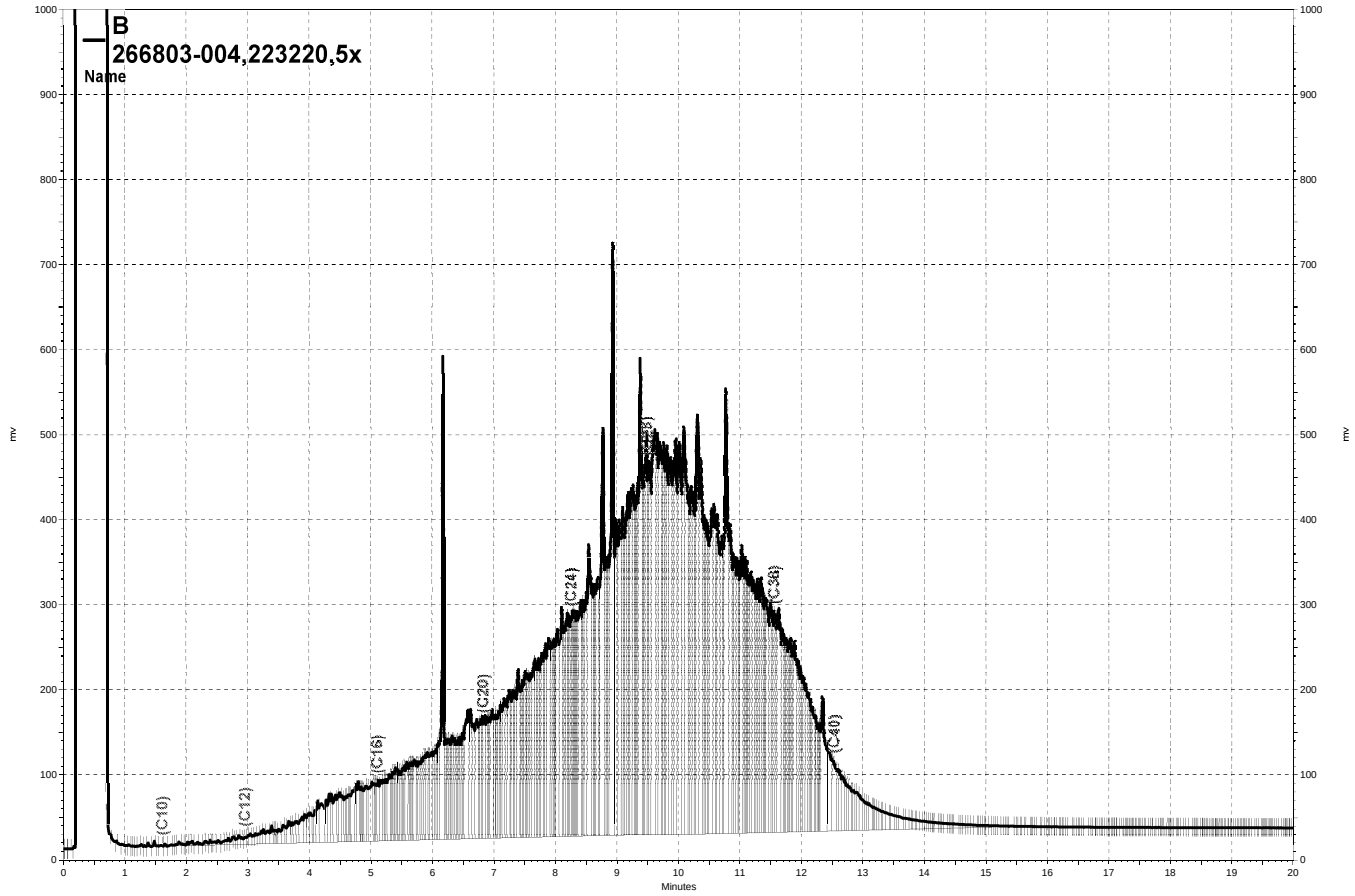
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a024, A



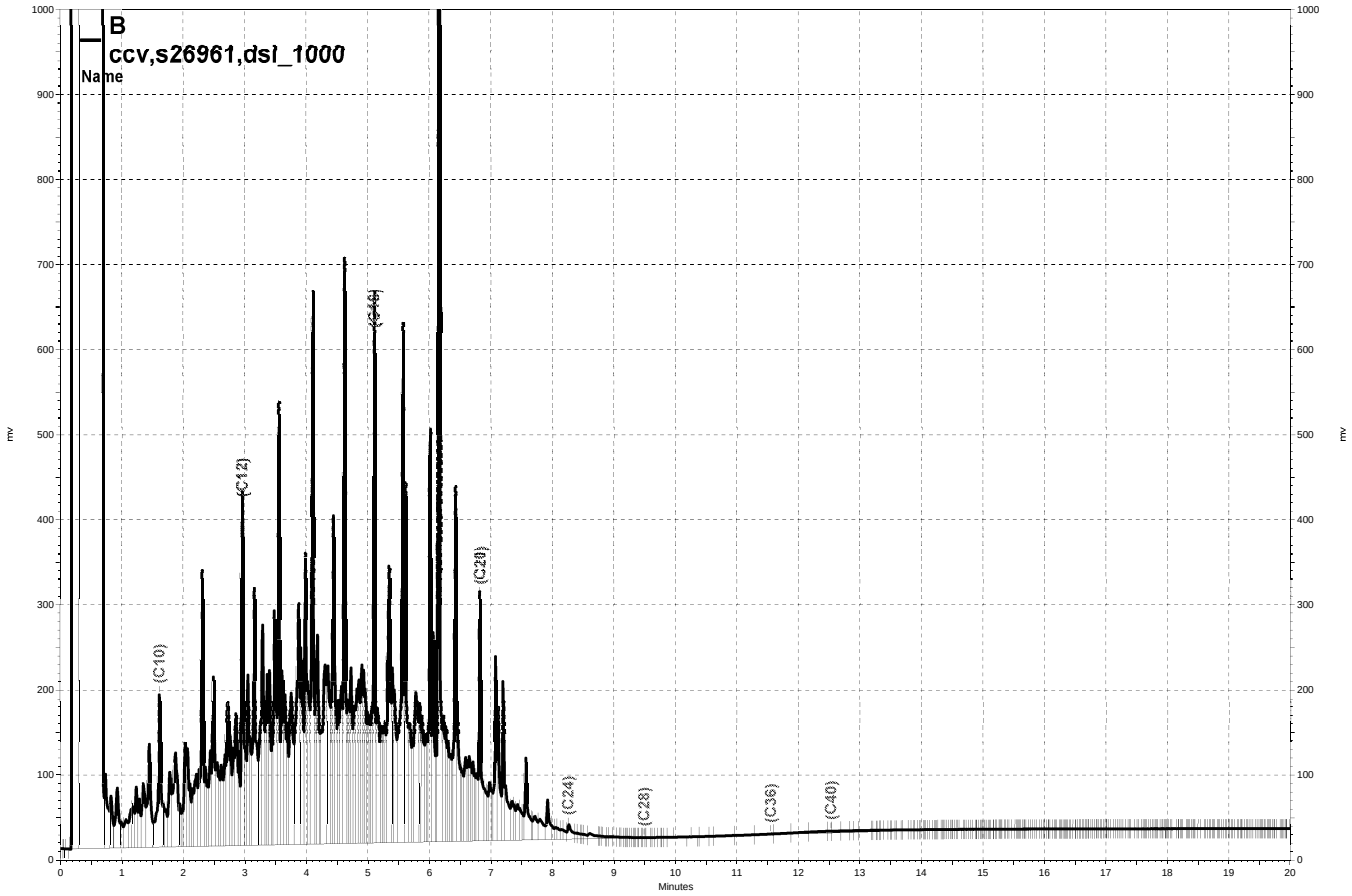
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a025, A



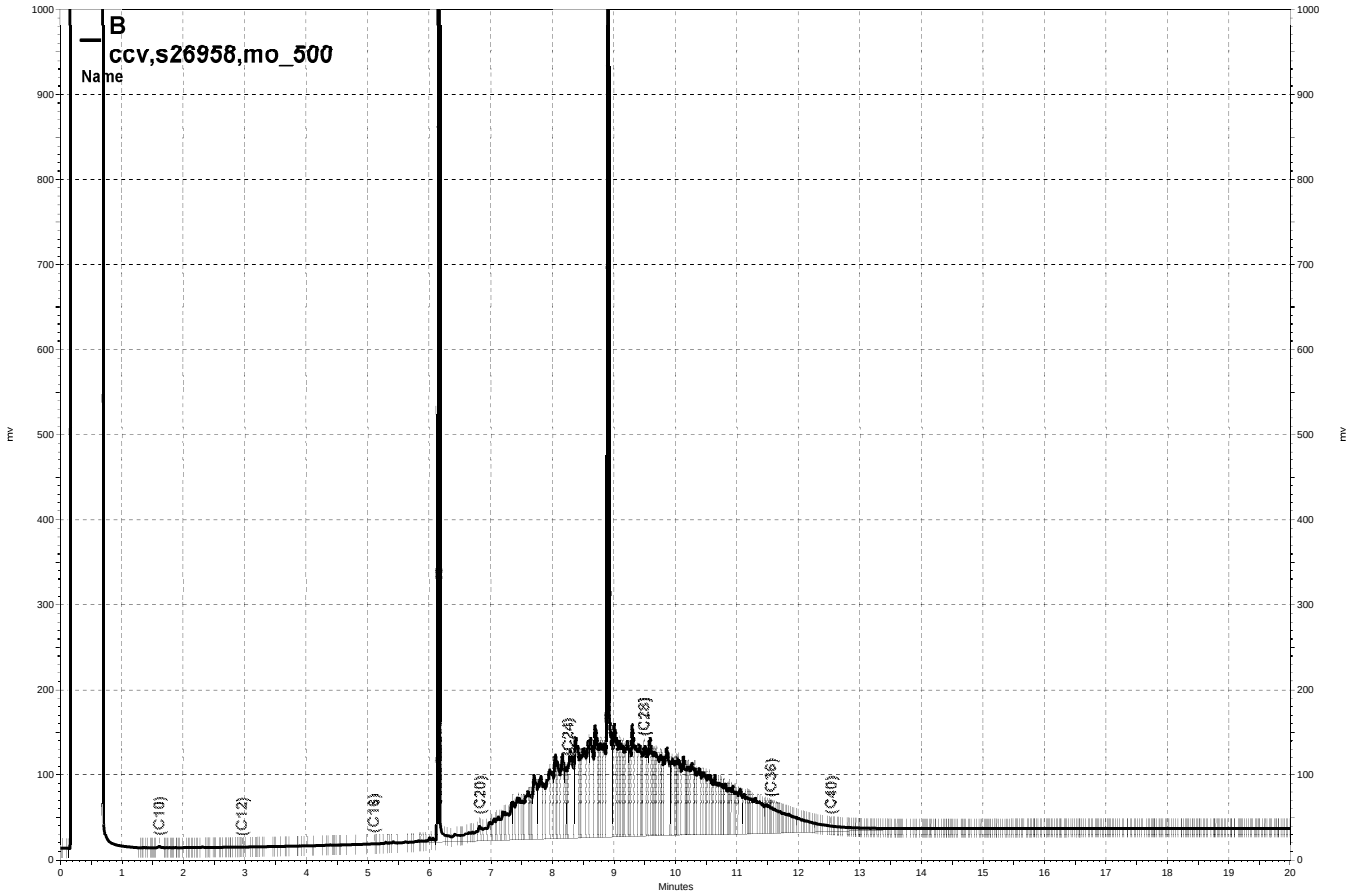
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a032, A



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\138b005, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\138b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\138b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 GCSV Soil
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439001
Units : mg/L

Name : OTPHEX_125
Date : 05-MAY-2015 12:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a007	175180439007	HEXOTP_5	05-MAY-2015 12:49	S26468
L2	125a008	175180439008	HEXOTP_10	05-MAY-2015 13:17	S26469
L3	125a009	175180439009	HEXOTP_25	05-MAY-2015 13:45	S26470
L4	125a010	175180439010	HEXOTP_50	05-MAY-2015 14:13	S26471
L5	125a011	175180439011	HEXOTP_100	05-MAY-2015 14:41	S26472
L6	125a012	175180439012	HEXOTP_200	05-MAY-2015 15:09	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71436	72399	70812	70604	71499	69719	AVRG		1.41E-5		71078	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	1	10.000	2	25.000	0	50.000	-1	100.00	1	200.00	-2

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

175180439001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439002
Units : mg/L

Name : DSL_125
Date : 05-MAY-2015 16:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a014	175180439014	DSL_10	05-MAY-2015 16:05	S27111
L2	125a015	175180439015	DSL_100	05-MAY-2015 16:33	S27112
L3	125a016	175180439016	DSL_500	05-MAY-2015 17:01	S27113
L4	125a017	175180439017	DSL_1000	05-MAY-2015 17:29	S27114
L5	125a018	175180439018	DSL_5000	05-MAY-2015 17:56	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	76763	63180	62015	63432	62838	AVRG		1.52E-5		65646	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	17	100.00	-4	500.00	-6	1000.0	-3	5000.0	-4

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_125
Calnum : 175180439002 Cal Date : 05-MAY-2015

ICV 175180439020 (125a020 05-MAY-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	514.3	mg/L	3	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439003
Units : mg/L

Name : MO_500
Date : 05-MAY-2015 20:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a023	175180439023	MO_50	05-MAY-2015 20:16	S26392
L2	125a024	175180439024	MO_250	05-MAY-2015 20:44	S26393
L3	125a025	175180439025	MO_500	05-MAY-2015 21:12	S26394
L4	125a026	175180439026	MO_1000	05-MAY-2015 21:40	S26395
L5	125a027	175180439027	MO_2500	05-MAY-2015 22:08	S26389 (2X)
L6	125a028	175180439028	MO_5000	05-MAY-2015 22:36	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	43142	43279	40585	39032	34696	33194	AVRG		2.56E-5		38988	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	11	250.00	11	500.00	4	1000.0	0	2500.0	-11	5000.0	-15

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165199168003 File : 138b003 Time : 18-MAY-2015 08:23
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	32835	500.0	473.2	mg/L	-5	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60656	50.00	53.89	mg/L	8	15	

SFL 05/18/15 : Picked or reassigned peak.

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165199168004 File : 138b004 Time : 18-MAY-2015 08:51
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50426	1000	1090	mg/L	9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	61358	50.00	54.51	mg/L	9	15	

SFL 05/18/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165199168012 File : 138b012 Time : 18-MAY-2015 13:44
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	35049	500.0	505.1	mg/L	1	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	63350	50.00	56.28	mg/L	13	15	

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 165199168013 File : 138b013 Time : 18-MAY-2015 14:11
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	51157	500.0	552.7	mg/L	11	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60833	50.00	54.04	mg/L	8	15	

SFL 05/18/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175196380003 File : 136a003 Time : 16-MAY-2015 09:56
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38245	500.0	490.5	mg/L	-2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	73109	50.00	51.43	mg/L	3	15	

Analyst: SFL Date: 05/16/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175196380004 File : 136a004 Time : 16-MAY-2015 10:24
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	61531	1000	937.3	mg/L	-6	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	76622	50.00	53.90	mg/L	8	15	

SFL 05/16/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/16/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175196380018 File : 136a018 Time : 16-MAY-2015 17:11
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	40154	500.0	514.9	mg/L	3	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	77190	50.00	54.30	mg/L	9	15	

JDG 05/18/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175196380019 File : 136a019 Time : 16-MAY-2015 17:38
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	63862	500.0	486.4	mg/L	-3	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	76078	50.00	53.52	mg/L	7	15	

JDG 05/18/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175196380034 File : 136a034 Time : 17-MAY-2015 00:36
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	40403	500.0	518.1	mg/L	4	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	76251	50.00	53.64	mg/L	7	15	

Analyst: JDG Date: 05/18/15 Reviewer: SFL Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175196380035 File : 136a035 Time : 17-MAY-2015 01:04
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	66839	250.0	254.5	mg/L	2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	78119	50.00	54.95	mg/L	10	15	

JDG 05/18/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/18/15 Reviewer: SFL Date: 05/19/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165199168

Instrument : GC15B
Method : EPA 8015B
Begun : 05/18/15 07:28
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	138b001	X	IB				05/18/15 07:28	1.0		
002	138b002	CMARKER	C8-C50				05/18/15 07:56	1.0	1	
003	138b003	CCV	MO_500				05/18/15 08:23	1.0	2	
004	138b004	CCV	DSL_1000				05/18/15 08:51	1.0	3	
005	138b005	SAMPLE	266803-004		Soil	223220	05/18/15 09:44	5.0		2:BUNKC:12-40=5400
006	138b006	X	IB				05/18/15 10:12	1.0		
007	138b007	SAMPLE	266808-001		Water	223212	05/18/15 11:25	1.0		
008	138b008	SAMPLE	266809-001		Water	223212	05/18/15 11:53	1.0		8:BUNKC:12-40=27000
009	138b009	SAMPLE	266812-001		Water	223212	05/18/15 12:21	1.0		
010	138b010	SAMPLE	266813-001		Water	223212	05/18/15 12:48	1.0		
011	138b011	SAMPLE	266809-001		Water	223212	05/18/15 13:16	5.0		
012	138b012	CCV	MO_500				05/18/15 13:44	1.0	2	
013	138b013	CCV	DSL_500				05/18/15 14:11	1.0	4	
014	138b014	CCV	JP5_250				05/18/15 15:54	1.0	5	
015	138b015	CCV	BUNK_500				05/18/15 16:21	1.0	6	
016	138b016	SAMPLE	266710-009		Water	223141	05/18/15 16:49	1.0		
017	138b017	SAMPLE	266710-010		Water	223141	05/18/15 17:17	1.0		
018	138b018	SAMPLE	266710-009	S	Water	223141	05/18/15 17:44	1.0		
019	138b019	SAMPLE	266710-010	S	Water	223141	05/18/15 18:12	1.0		
020	138b020	X	CMARKER				05/18/15 18:39	1.0	1	
021	138b021	BLANK	QC788373		Miscell.	223268	05/18/15 19:07	1.0		
022	138b022	BS	QC788374		Miscell.	223268	05/18/15 19:35	1.0		
023	138b023	BSD	QC788375		Miscell.	223268	05/18/15 20:03	1.0		
024	138b024	SAMPLE	266719-001		Miscell.	223268	05/18/15 20:31	5.0		8:BUNKC:10-40=12000
025	138b025	CCV	MO_500				05/18/15 20:59	1.0	2	
026	138b026	CCV	DSL_500				05/18/15 21:27	1.0	4	
027	138b027	CCV	JP5_250				05/18/15 21:54	1.0	5	
028	138b028	CCV	BUNK_500				05/18/15 22:22	1.0	6	
029	138b029	X	CCV				05/18/15 22:50	1.0	2	
030	138b030	X	CCV				05/18/15 23:18	1.0	4	
031	138b031	X	CCV				05/18/15 23:46	1.0	5	
032	138b032	X	CCV				05/19/15 00:13	1.0	6	

SFL 05/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 32.

Standards used: 1=S27269 2=S26958 3=S26961 4=S26960 5=S26748 6=S26288

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175180439

Instrument : GC17A
Method : EPA 8015B
Begun : 05/05/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 07:19	1.0		
002	125a002	CHECK	CMARKER			05/05/15 07:48	1.0	1	
003	125a003	CHECK	CMARKER			05/05/15 08:46	1.0	1	
004	125a004	CHECK	CMARKER			05/05/15 11:25	1.0	1	
005	125a005	X	IB			05/05/15 11:53	1.0		
006	125a006	IB	CALIB			05/05/15 12:21	1.0		
007	125a007	ICAL	HEXOTP_5			05/05/15 12:49	1.0	2	
008	125a008	ICAL	HEXOTP_10			05/05/15 13:17	1.0	3	
009	125a009	ICAL	HEXOTP_25			05/05/15 13:45	1.0	4	
010	125a010	ICAL	HEXOTP_50			05/05/15 14:13	1.0	5	
011	125a011	ICAL	HEXOTP_100			05/05/15 14:41	1.0	6	
012	125a012	ICAL	HEXOTP_200			05/05/15 15:09	1.0	7	
013	125a013	IB	CALIB			05/05/15 15:37	1.0		
014	125a014	ICAL	DSL_10			05/05/15 16:05	1.0	8	
015	125a015	ICAL	DSL_100			05/05/15 16:33	1.0	9	
016	125a016	ICAL	DSL_500			05/05/15 17:01	1.0	10	
017	125a017	ICAL	DSL_1000			05/05/15 17:29	1.0	11	
018	125a018	ICAL	DSL_5000			05/05/15 17:56	1.0	12	
019	125a019	IB	CALIB			05/05/15 18:24	1.0		
020	125a020	ICV	DSL_500			05/05/15 18:52	1.0	13	
021	125a021	X	ICV			05/05/15 19:20	1.0	13	
022	125a022	IB	CALIB			05/05/15 19:48	1.0		
023	125a023	ICAL	MO_50			05/05/15 20:16	1.0	14	
024	125a024	ICAL	MO_250			05/05/15 20:44	1.0	15	
025	125a025	ICAL	MO_500			05/05/15 21:12	1.0	16	
026	125a026	ICAL	MO_1000			05/05/15 21:40	1.0	17	
027	125a027	ICAL	MO_2500			05/05/15 22:08	1.0	18	
028	125a028	ICAL	MO_5000			05/05/15 22:36	1.0	18	
029	125a029	IB	CALIB			05/05/15 23:05	1.0		
030	125a030	CMARKER	C8-C50			05/05/15 23:33	1.0	1	
031	125a031	IB	CALIB			05/06/15 00:01	1.0		

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S26646 2=S26468 3=S26469 4=S26470 5=S26471 6=S26472 7=S26473 8=S27111 9=S27112 10=S27113 11=S27114 12=S27110 13=S26960 14=S26392 15=S26393 16=S26394 17=S26395 18=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175196380

Instrument : GC17A
Method : EPA 8015B
Begun : 05/16/15 09:00
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	136a001	X	IB			05/16/15 09:00	1.0		
002	136a002	X	CMARKER			05/16/15 09:28	1.0	1	
003	136a003	CCV	MO_500			05/16/15 09:56	1.0	2	
004	136a004	CCV	DSL_1000			05/16/15 10:24	1.0	3	
005	136a005	CCV	BUNK_500			05/16/15 10:51	1.0	4	
006	136a006	BLANK	QC788169	Soil	223220	05/16/15 11:38	1.0		
007	136a007	LCS	QC788170	Soil	223220	05/16/15 12:06	1.0		
008	136a008	MSS	266815-001	Soil	223220	05/16/15 12:34	1.0		2:BUNKC:12-40=10000
009	136a009	MS	QC788171	Soil	223220	05/16/15 13:01	1.0		9:BUNKC:12-40=23000
010	136a010	MSD	QC788172	Soil	223220	05/16/15 13:29	1.0		
011	136a011	SAMPLE	266826-001	Soil	223220	05/16/15 13:57	1.0		
012	136a012	SAMPLE	266826-002	Soil	223220	05/16/15 14:25	1.0		
013	136a013	SAMPLE	266826-003	Soil	223220	05/16/15 14:53	1.0		
014	136a014	SAMPLE	266826-004	Soil	223220	05/16/15 15:20	1.0		
015	136a015	SAMPLE	266814-001	Soil	223220	05/16/15 15:48	1.0		
016	136a016	SAMPLE	266820-002	Soil	223220	05/16/15 16:16	1.0		
017	136a017	SAMPLE	266820-001	Soil	223220	05/16/15 16:43	5.0		
018	136a018	CCV	MO_500			05/16/15 17:11	1.0	2	
019	136a019	CCV	DSL_500			05/16/15 17:38	1.0	5	
020	136a020	CCV	BUNK_500			05/16/15 18:06	1.0	4	
021	136a021	X	CCV			05/16/15 18:33	1.0	2	
022	136a022	X	CCV			05/16/15 19:01	1.0	5	
023	136a023	X	CCV			05/16/15 19:29	1.0	4	
024	136a024	SAMPLE	266803-001	Soil	223220	05/16/15 19:57	1.0		
025	136a025	SAMPLE	266803-002	Soil	223220	05/16/15 20:25	1.0		3:BUNKC:10-40=15000
026	136a026	SAMPLE	266803-004	Soil	223220	05/16/15 20:52	1.0		8:BUNKC:12-40=21000
027	136a027	SAMPLE	266817-001	Soil	223220	05/16/15 21:20	1.0		
028	136a028	SAMPLE	266817-002	Soil	223220	05/16/15 21:48	1.0		
029	136a029	SAMPLE	266817-003	Soil	223220	05/16/15 22:17	1.0		
030	136a030	SAMPLE	266817-004	Soil	223220	05/16/15 22:45	1.0		
031	136a031	SAMPLE	266817-005	Soil	223220	05/16/15 23:13	1.0		
032	136a032	SAMPLE	266803-003	Soil	223220	05/16/15 23:41	10.0		
033	136a033	X	CMARKER			05/17/15 00:09	1.0	1	
034	136a034	CCV	MO_500			05/17/15 00:36	1.0	2	
035	136a035	CCV	DSL_250			05/17/15 01:04	1.0	6	
036	136a036	X	CCV			05/17/15 01:32	1.0	2	
037	136a037	X	CCV			05/17/15 02:00	1.0	6	

JDG 05/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26288 5=S26960 6=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 223220
Started By : KKL
Method : 3550B
Spike #1 ID : S27144
Prep Date : 15-MAY-2015 16:00
Spike #2 ID : S26964
Analysis : TEHM
Finished By : KKL
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266803-001		Soil	49.85	5	1	0.1003		1				TEHM	
266803-002		Soil	49.92	5	1	0.1002		1				TEHM	
266803-003		Soil	49.84	5	1	0.1003		1				TEHM	
266803-004		Soil	50.08	5	1	0.09984		1				TEHM	
266814-001		Soil	49.99	5	1	0.1000		1				TEHM	
266815-001		Soil	49.71	5	1	0.1006		1				TEHM	
266817-001		Soil	49.85	5	1	0.1003		1				TEHM	Prepped 15-MAY-2015 17:55
266817-002		Soil	49.89	5	1	0.1002		1				TEHM	Prepped 15-MAY-2015 17:55
266817-003		Soil	50.08	5	1	0.09984		1				TEHM	Prepped 15-MAY-2015 17:55
266817-004		Soil	50.19	5	1	0.09962		1				TEHM	Prepped 15-MAY-2015 17:55
266817-005		Soil	50.51	5	1	0.09899		1				TEHM	Prepped 15-MAY-2015 17:55
266820-001		Soil	49.98	5	1	0.1000		1				TEHM	
266820-002		Soil	49.94	5	1	0.1001		1				TEHM	
266826-001		Soil	49.91	5	1	0.1002		1				TEH	Prepped 15-MAY-2015 17:30
266826-002		Soil	50.17	5	1	0.09966		1				TEH	Prepped 15-MAY-2015 17:30
266826-003		Soil	50.24	5	1	0.09952		1				TEH	Prepped 15-MAY-2015 17:30
266826-004		Soil	50.09	5	1	0.09982		1				TEH	Prepped 15-MAY-2015 17:30
QC788169	BLANK	Soil	50.42	5	1	0.09917		1				TEHM	
QC788170	LCS	Soil	50.21	5	1	0.09958		1	1			TEHM	
QC788171	MS	Soil	50.23	5	1	0.09954		1	1			TEHM	
QC788172	MSD	Soil	50.07	5	1	0.09986		1	1			TEHM	

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

TITLE Soil Aliquot **PROJECT** **DATE**

Continued from page

Sample ID	Weight (g)	Analysis	Batch #	Scale Used	Comments
266803-001 G	49.85	TEH/M		WetChem	
2	49.92				
3	49.84				
4	50.08				
266814-001 E	49.99				
266815-001 C	49.71				MSS
266820-001 G	49.98				
2	49.94				
MB N/A	50.42				EMXF27F
LCS	50.21				↓
MS	50.23				266815-001C
MSD	50.07				↓

KKL 5/15/15

266826-001 A	49.91	TEH/M		DISH 1	
2	50.17				
3	50.24				
4	50.09				
266815-001 B	29.79	PLPD			LMS
266816-001 A	29.99				
266829-002	29.85				
3	30.29				
LMB	30.07				EMXPL7F
LCS	29.78				↓
LMS	30.12				266815-001
LMSD	29.68				↓

APW 5/15/15

266803-001 G	30.36	8270-SIM		DISH 1	
-2	30.06				
-3	30.30				
-4	30.26				
266815-001 C	30.12				
266817-001	30.02				
-2	30.47				MSS
-3	29.99				
-4	30.28				
-5	30.28				
266820-001 G	30.02				
-2 G	30.25				
MB N/A	29.78				EMXF27F
LCS	30.44				↓
MS	30.01				266817-002
MSD	30.33				↓

GDM 5/15/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

BK3652 - 160
BOOK PAGE

TITLE Soil Aliquot **PROJECT** D

Continued from page

Sample ID	Weight (g)	Analysis	Batch #	Scale Used	Comments
266817-001 A	49.85	TEH/M		Dish 1	MIS-NO DRY
2	49.89				
3	50.08				
4	50.19				
5	50.51				
266826-001	49.91				
2	50.17				
3	50.24				
4	50.09				

KKL 5/15/15

Continued to pag

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 58

LIMS Batch No: 223220
LIMS Analysis TEH/M
Date Extracted: 5/15/15

Extraction Method:
☐ Shaker Table
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	266803-001	G	49.85	☑5.0 ☐____		
	2		49.92	☑5.0 ☐____		
	3		49.84	☑5.0 ☐____		
	4		50.08	☑5.0 ☐____		
5	266814-001	E	49.99	☑5.0 ☐____		
	266815-001	C	49.71	☑5.0 ☐____		MSS
	266817-001	A	49.85	☑5.0 ☐____		a/o @ 17:55, 5/15/15
	2		49.89	☑5.0 ☐____		
	3		50.08	☑5.0 ☐____		
10	4		50.19	☑5.0 ☐____		
	5		50.51	☑5.0 ☐____		
	266820-001	G	49.98	☑5.0 ☐____		
	2		49.94	☑5.0 ☐____		
	266826-001	A	49.91	☑5.0 ☐____		a/o @ 17:30, 5/15/15
15	2		50.17	☑5.0 ☐____		
	3		50.24	☑5.0 ☐____		
	4		50.09	☑5.0 ☐____		
	MB QC788169	N/A	50.42	☑5.0 ☐____		
	LCS 70		50.21	☑5.0 ☐____		
20	MS 71		50.23	☑5.0 ☐____		
	MSD 72		50.07	☑5.0 ☐____		
				☐5.0 ☐____		
				☐5.0 ☐____		
				☐5.0 ☐____		
				☐5.0 ☐____		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMXF27F	KKL 5/15/15
Samples were dried with CH2Cl2-rinsed ~~powdered~~ granular Na2SO4	↓	
1.0 mL of Surrogate solution was added to all samples	527144C	
1.0 mL of Spike solution was added to all spikes	526964B	
1:1 CH_2Cl_2 (lot# EM54351):Acetone(lot# EM54318) was added to all	✓	
Solvent added at (time)	16:00 / 17:30 / 17:55	
☑ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	✓	
taken off Shaker Table at:	N/A	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM1604C509	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	↓

Kristin Low 5/15/15
Extraction Chemist / Date

Continued from page ____
Continued on page 1

SFW 5/18/15
Reviewed by / Date

Laboratory Job Number 266803

ANALYTICAL REPORT

Semivolatile Organics by GC/MS SIM

Matrix: Soil

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-1(4)	Batch#:	223246
Lab ID:	266803-001	Sampled:	05/14/15
Matrix:	Soil	Received:	05/14/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15
Diln Fac:	1.000		

Moisture: 5%

Analyte	Result	RL
Naphthalene	ND	5.3
Acenaphthylene	ND	5.3
Acenaphthene	ND	5.3
Fluorene	ND	5.3
Phenanthrene	ND	5.3
Anthracene	ND	5.3
Fluoranthene	ND	5.3
Pyrene	ND	5.3
Benzo(a)anthracene	ND	5.3
Chrysene	ND	5.3
Benzo(b)fluoranthene	ND	5.3
Benzo(k)fluoranthene	ND	5.3
Benzo(a)pyrene	ND	5.3
Indeno(1,2,3-cd)pyrene	ND	5.3
Dibenz(a,h)anthracene	ND	5.3
Benzo(g,h,i)perylene	ND	5.3

Surrogate	%REC	Limits
Nitrobenzene-d5	76	40-120
2-Fluorobiphenyl	71	46-120
Terphenyl-d14	61	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-1(7.5)	Batch#:	223246
Lab ID:	266803-002	Sampled:	05/14/15
Matrix:	Soil	Received:	05/14/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15
Diln Fac:	1.000		

Moisture: 8%

Analyte	Result	RL
Naphthalene	ND	5.5
Acenaphthylene	ND	5.5
Acenaphthene	ND	5.5
Fluorene	ND	5.5
Phenanthrene	ND	5.5
Anthracene	ND	5.5
Fluoranthene	7.1	5.5
Pyrene	13	5.5
Benzo(a)anthracene	ND	5.5
Chrysene	ND	5.5
Benzo(b)fluoranthene	ND	5.5
Benzo(k)fluoranthene	ND	5.5
Benzo(a)pyrene	ND	5.5
Indeno(1,2,3-cd)pyrene	ND	5.5
Dibenz(a,h)anthracene	ND	5.5
Benzo(g,h,i)perylene	ND	5.5

Surrogate	%REC	Limits
Nitrobenzene-d5	76	40-120
2-Fluorobiphenyl	67	46-120
Terphenyl-d14	61	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-3(4)	Batch#:	223246
Lab ID:	266803-003	Sampled:	05/14/15
Matrix:	Soil	Received:	05/14/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15
Diln Fac:	100.0		

Moisture: 10%

Analyte	Result	RL
Naphthalene	ND	550
Acenaphthylene	720	550
Acenaphthene	ND	550
Fluorene	ND	550
Phenanthrene	710	550
Anthracene	ND	550
Fluoranthene	2,100	550
Pyrene	3,400	550
Benzo(a)anthracene	910	550
Chrysene	1,300	550
Benzo(b)fluoranthene	2,600	550
Benzo(k)fluoranthene	650	550
Benzo(a)pyrene	2,600	550
Indeno(1,2,3-cd)pyrene	1,700	550
Dibenz(a,h)anthracene	ND	550
Benzo(g,h,i)perylene	2,400	550

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	40-120
2-Fluorobiphenyl	DO	46-120
Terphenyl-d14	DO	43-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-3(7)	Batch#:	223246
Lab ID:	266803-004	Sampled:	05/14/15
Matrix:	Soil	Received:	05/14/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15

Moisture: 23%

Analyte	Result	RL	Diln Fac
Naphthalene	15	6.5	1.000
Acenaphthylene	7.3	6.5	1.000
Acenaphthene	ND	6.5	1.000
Fluorene	ND	6.5	1.000
Phenanthrene	18	6.5	1.000
Anthracene	7.8	6.5	1.000
Fluoranthene	53	6.5	1.000
Pyrene	80	6.5	1.000
Benzo(a)anthracene	28	6.5	1.000
Chrysene	41	6.5	1.000
Benzo(b)fluoranthene	66	33	5.000
Benzo(k)fluoranthene	ND	33	5.000
Benzo(a)pyrene	51	6.5	1.000
Indeno(1,2,3-cd)pyrene	35	6.5	1.000
Dibenz(a,h)anthracene	7.0	6.5	1.000
Benzo(g,h,i)perylene	51	6.5	1.000

Surrogate	%REC	Limits	Diln Fac
Nitrobenzene-d5	80	40-120	1.000
2-Fluorobiphenyl	70	46-120	1.000
Terphenyl-d14	66	43-120	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC788271	Batch#:	223246
Matrix:	Soil	Prepared:	05/18/15
Units:	ug/Kg	Analyzed:	05/18/15

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	72	40-120
2-Fluorobiphenyl	72	46-120
Terphenyl-d14	67	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788272	Batch#:	223246
Matrix:	Soil	Prepared:	05/18/15
Units:	ug/Kg	Analyzed:	05/18/15

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	32.85	23.94	73	49-120
Pyrene	32.85	21.99	67	48-120

Surrogate	%REC	Limits
Nitrobenzene-d5	75	40-120
2-Fluorobiphenyl	82	46-120
Terphenyl-d14	69	43-120

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	223246
MSS Lab ID:	266817-002	Sampled:	05/13/15
Matrix:	Soil	Received:	05/15/15
Units:	ug/Kg	Prepared:	05/18/15
Basis:	dry	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: MS Moisture: 31%
Lab ID: QC788273

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<1.448	48.29	29.60	61	43-120
Pyrene	<1.448	48.29	29.98	62	18-144

Surrogate	%REC	Limits
Nitrobenzene-d5	78	40-120
2-Fluorobiphenyl	71	46-120
Terphenyl-d14	68	43-120

Type: MSD Moisture: 31%
Lab ID: QC788274

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	47.78	25.04	52	43-120	16	45
Pyrene	47.78	27.36	57	18-144	8	72

Surrogate	%REC	Limits
Nitrobenzene-d5	65	40-120
2-Fluorobiphenyl	60	46-120
Terphenyl-d14	61	43-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266803 MSSIM Soil
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525131701005 File : vd105 Time : 01-APR-2015 12:58

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	144572	42.83	
68	< 2% of mass 69	0	0.00	
69		166261	100.00	
70	< 2% of mass 69	1218	0.73	
127	40% - 60% of mass 198	186729	55.32	
197	< 1% of mass 198	0	0.00	
198		337514	100.00	
199	5% - 9% of mass 198	24104	7.14	
275	10% - 30% of mass 198	74893	22.19	
365	> 1% of mass 198	12658	3.75	
441	Present, < mass 443	47405	74.51	
442	> 40% and < 100% of mass 198	315029	93.34	
443	17% - 23% of mass 442	63621	20.20	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266803 MSSIM Soil
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525199322003 File : vei03 Time : 18-MAY-2015 10:41

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	110765	50.58	
68	< 2% of mass 69	426	0.43	
69		100080	100.00	
70	< 2% of mass 69	203	0.20	
127	40% - 60% of mass 198	98858	45.14	
197	< 1% of mass 198	0	0.00	
198		218986	100.00	
199	5% - 9% of mass 198	14298	6.53	
275	10% - 30% of mass 198	58661	26.79	
365	> 1% of mass 198	16617	7.59	
441	Present, < mass 443	26626	71.99	
442	> 40% and < 100% of mass 198	204130	93.22	
443	17% - 23% of mass 442	36984	18.12	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/18/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266803 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535173399006 File : wdu06 Time : 30-APR-2015 12:21

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	119897	50.67	
68	< 2% of mass 69	0	0.00	
69		120026	100.00	
70	< 2% of mass 69	444	0.37	
127	40% - 60% of mass 198	127069	53.70	
197	< 1% of mass 198	0	0.00	
198		236608	100.00	
199	5% - 9% of mass 198	15931	6.73	
275	10% - 30% of mass 198	47293	19.99	
365	> 1% of mass 198	4596	1.94	
441	Present, < mass 443	20379	75.05	
442	> 40% and < 100% of mass 198	142029	60.03	
443	17% - 23% of mass 442	27155	19.12	

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 05/01/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266803 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535199333004 File : wei04 Time : 18-MAY-2015 11:11

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	89797	55.38	
68	< 2% of mass 69	0	0.00	
69		84330	100.00	
70	< 2% of mass 69	402	0.48	
127	40% - 60% of mass 198	92642	57.14	
197	< 1% of mass 198	0	0.00	
198		162141	100.00	
199	5% - 9% of mass 198	10877	6.71	
275	10% - 30% of mass 198	33112	20.42	
365	> 1% of mass 198	3826	2.36	
441	Present, < mass 443	13175	75.24	
442	> 40% and < 100% of mass 198	92045	56.77	
443	17% - 23% of mass 442	17510	19.02	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266803 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535200772002 File : wej02 Time : 19-MAY-2015 10:37

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	79120	55.64	
68	< 2% of mass 69	0	0.00	
69		73997	100.00	
70	< 2% of mass 69	339	0.46	
127	40% - 60% of mass 198	81594	57.38	
197	< 1% of mass 198	0	0.00	
198		142202	100.00	
199	5% - 9% of mass 198	9594	6.75	
275	10% - 30% of mass 198	29554	20.78	
365	> 1% of mass 198	3534	2.49	
441	Present, < mass 443	11703	75.55	
442	> 40% and < 100% of mass 198	81938	57.62	
443	17% - 23% of mass 442	15490	18.90	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 MSSIM Soil: EPA 8270C-SIM

Inst : MSBNA03
Calnum : 525131701001
Units : ug/mL

Name : 3PAHSIM
Date : 01-APR-2015 13:17
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	vd106	525131701006	ICAL	01-APR-2015 13:17	S26126
L2	vd107	525131701007	ICAL	01-APR-2015 13:50	S26127
L3	vd108	525131701008	ICAL	01-APR-2015 14:24	S26919
L4	vd109	525131701009	ICAL	01-APR-2015 14:57	S26920
L5	vd110	525131701010	ICAL	01-APR-2015 15:30	S26130
L6	vd111	525131701011	ICAL	01-APR-2015 16:03	S26131
L7	vd112	525131701012	ICAL	01-APR-2015 16:36	S26132

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.0149	1.0289	1.0641	1.0871	1.0618	1.0776	1.1597	AVRG		0.93405		1.0706	4	15	0.05	0.99	
Acenaphthylene	1.7445	1.7619	2.0357	2.0852	1.8385	1.8877	2.0244	AVRG		0.52325		1.9111	7	15	0.05	0.99	
Acenaphthene	1.1518	1.1546	1.3343	1.3635	1.2251	1.2296	1.3413	AVRG		0.79544		1.2572	7	15	0.05	0.99	
Fluorene	1.2852	1.3126	1.5176	1.5180	1.3771	1.4726	1.6612	AVRG		0.69005		1.4492	9	15	0.05	0.99	
Phenanthrene	1.0751	1.0919	1.1075	1.1303	1.1292	1.1693	1.2351	AVRG		0.88179		1.1341	5	15	0.05	0.99	
Anthracene	1.0472	1.0715	1.0845	1.0926	1.1015	1.1636	1.2267	AVRG		0.89886		1.1125	6	15	0.05	0.99	
Fluoranthene	1.2044	1.2242	1.2327	1.2515	1.2696	1.3195	1.4104	AVRG		0.78542		1.2732	6	15	0.05	0.99	
Pyrene	1.2698	1.2713	1.3017	1.2862	1.2973	1.2606	1.3668	AVRG		0.77316		1.2934	3	15	0.05	0.99	
Benzo(a)anthracene	1.1612	1.1342	1.1513	1.1677	1.1912	1.2423	1.3566	AVRG		0.83290		1.2006	6	15	0.05	0.99	
Chrysene	1.0584	1.0738	1.0954	1.1042	1.1142	1.1056	1.1762	AVRG		0.90581		1.1040	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.0931	1.1271	1.1614	1.1894	1.2318	1.3145	1.4314	AVRG		0.81883		1.2213	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0825	1.1143	1.1019	1.2027	1.2171	1.2750	1.4384	AVRG		0.83017		1.2046	10	15	0.05	0.99	
Benzo(a)pyrene	0.9393	0.9772	1.0307	1.0484	1.0950	1.1681	1.2650	AVRG		0.93039		1.0748	10	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.1076	1.1400	1.1697	1.2539	1.3238	1.4807		AVRG		0.80260		1.2459	11	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8945	0.9304	0.9427	1.0116	1.0792	1.2108		AVRG		0.98859		1.0115	12	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9997	1.0119	1.0071	1.0727	1.1105	1.1724	1.2619	AVRG		0.91668		1.0909	9	15	0.05	0.99	
Nitrobenzene-d5	0.2927	0.2862	0.3037	0.3172	0.3142	0.3243	0.3460	AVRG		3.20468		0.3120	6	15	0.05	0.99	
2-Fluorobiphenyl	1.5354	1.5623	1.8123	1.8183	1.6439	1.6800	1.8067	AVRG		0.59027		1.6941	7	15	0.05	0.99	
Terphenyl-d14	0.9490	0.9736	0.9598	0.9801	0.9874	0.9955	1.0694	AVRG		1.01233		0.9878	4	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	-5	0.2000	-4	0.5000	-1	1.0000	2	2.0000	-1	5.0000	1	10.000	8
Acenaphthylene	0.1000	-9	0.2000	-8	0.5000	7	1.0000	9	2.0000	-4	5.0000	-1	10.000	6
Acenaphthene	0.1000	-8	0.2000	-8	0.5000	6	1.0000	8	2.0000	-3	5.0000	-2	10.000	7
Fluorene	0.1000	-11	0.2000	-9	0.5000	5	1.0000	5	2.0000	-5	5.0000	2	10.000	15
Phenanthrene	0.1000	-5	0.2000	-4	0.5000	-2	1.0000	0	2.0000	0	5.0000	3	10.000	9
Anthracene	0.1000	-6	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	-1	5.0000	5	10.000	10
Fluoranthene	0.1000	-5	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	0	5.0000	4	10.000	11
Pyrene	0.1000	-2	0.2000	-2	0.5000	1	1.0000	-1	2.0000	0	5.0000	-3	10.000	6
Benzo(a)anthracene	0.1000	-3	0.2000	-6	0.5000	-4	1.0000	-3	2.0000	-1	5.0000	3	10.000	13
Chrysene	0.1000	-4	0.2000	-3	0.5000	-1	1.0000	0	2.0000	1	5.0000	0	10.000	7
Benzo(b)fluoranthene	0.1000	-10	0.2000	-8	0.5000	-5	1.0000	-3	2.0000	1	5.0000	8	10.000	17
Benzo(k)fluoranthene	0.1000	-10	0.2000	-7	0.5000	-9	1.0000	0	2.0000	1	5.0000	6	10.000	19
Benzo(a)pyrene	0.1000	-13	0.2000	-9	0.5000	-4	1.0000	-2	2.0000	2	5.0000	9	10.000	18
Indeno(1,2,3-cd)pyrene	0.1000	-11	0.2000	-9	0.5000	-6	1.0000	1	2.0000	6	5.0000	19		
Dibenz(a,h)anthracene	0.1000	-12	0.2000	-8	0.5000	-7	1.0000	0	2.0000	7	5.0000	20		
Benzo(g,h,i)perylene	0.1000	-8	0.2000	-7	0.5000	-8	1.0000	-2	2.0000	2	5.0000	7	10.000	16
Nitrobenzene-d5	0.1000	-6	0.2000	-8	0.5000	-3	1.0000	2	2.0000	1	5.0000	4	10.000	11
2-Fluorobiphenyl	0.1000	-9	0.2000	-8	0.5000	7	1.0000	7	2.0000	-3	5.0000	-1	10.000	7
Terphenyl-d14	0.1000	-4	0.2000	-1	0.5000	-3	1.0000	-1	2.0000	0	5.0000	1	10.000	8

KMH 04/02/15 [1,4-Dioxane]: Corrected automatically drawn baseline in multiple levels.

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

525131701001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA03 Name : 3PAHSIM
Calnum : 525131701001 Cal Date : 01-APR-2015

ICV 525131701013 (vd113 01-APR-2015) stds: S26530

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.8880	ug/mL	-11	30	
Acenaphthylene	1.000	0.9299	ug/mL	-7	30	
Acenaphthene	1.000	0.8706	ug/mL	-13	20	
Fluorene	1.000	0.8700	ug/mL	-13	30	
Phenanthrene	1.000	0.9112	ug/mL	-9	30	
Anthracene	1.000	0.9398	ug/mL	-6	30	
Fluoranthene	1.000	0.9169	ug/mL	-8	20	
Pyrene	1.000	1.016	ug/mL	2	30	
Benzo(a)anthracene	1.000	0.8835	ug/mL	-12	30	
Chrysene	1.000	0.9391	ug/mL	-6	30	
Benzo(b)fluoranthene	1.000	0.9116	ug/mL	-9	30	
Benzo(k)fluoranthene	1.000	0.8596	ug/mL	-14	30	
Benzo(a)pyrene	1.000	0.9589	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9374	ug/mL	-6	30	
Dibenz(a,h)anthracene	1.000	0.9568	ug/mL	-4	30	
Benzo(g,h,i)perylene	1.000	0.9333	ug/mL	-7	30	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266803 MSSIM Soil: EPA 8270C-SIM

Inst : MSBNA04
Calnum : 535173399001
Units : ug/mL

Name : 4PAHSIM
Date : 30-APR-2015 12:48
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	wdu07	535173399007	ICAL	30-APR-2015 12:48	S26126
L2	wdu08	535173399008	ICAL	30-APR-2015 13:20	S26127
L3	wdu09	535173399009	ICAL	30-APR-2015 13:51	S26919
L4	wdu10	535173399010	ICAL	30-APR-2015 14:23	S26920
L5	wdu11	535173399011	ICAL	30-APR-2015 14:54	S26130
L6	wdu12	535173399012	ICAL	30-APR-2015 15:25	S26131
L7	wdu13	535173399013	ICAL	30-APR-2015 15:56	S26132

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.0742	1.0808	1.1222	1.1352	1.0883	1.0501	1.0241	AVRG		0.92410		1.0821	4	15	0.05	0.99	
Acenaphthylene	1.6908	1.7135	2.0088	2.0495	1.8428	1.7983	1.7765	AVRG		0.54347		1.8400	8	15	0.05	0.99	
Acenaphthene	1.0728	1.0943	1.2602	1.2868	1.1341	1.1160	1.1123	AVRG		0.86670		1.1538	7	15	0.05	0.99	
Fluorene	1.1161	1.1363	1.3318	1.3535	1.1960	1.1748	1.1678	AVRG		0.82582		1.2109	8	15	0.05	0.99	
Phenanthrene	1.0832	1.1044	1.1148	1.1331	1.1284	1.1087	1.0729	AVRG		0.90376		1.1065	2	15	0.05	0.99	
Anthracene	0.9745	1.0044	1.0338	1.0620	1.0380	1.0276	1.0692	AVRG		0.97094		1.0299	3	15	0.05	0.99	
Fluoranthene	1.0129	1.0287	1.0470	1.0803	1.0956	1.0782	1.0682	AVRG		0.94457		1.0587	3	15	0.05	0.99	
Pyrene	1.5592	1.5523	1.5953	1.6372	1.6414	1.5994	1.5374	AVRG		0.62937		1.5889	3	15	0.05	0.99	
Benzo(a)anthracene	1.0734	1.0706	1.0819	1.1139	1.1171	1.0944	1.0779	AVRG		0.91753		1.0899	2	15	0.05	0.99	
Chrysene	1.0492	1.0722	1.1026	1.1026	1.1062	1.0727	1.0523	AVRG		0.92621		1.0797	2	15	0.05	0.99	
Benzo(b)fluoranthene	1.1318	1.1163	1.1767	1.1728	1.2245	1.2109	1.1879	AVRG		0.85149		1.1744	3	15	0.05	0.99	
Benzo(k)fluoranthene	1.1138m	1.1823m	1.1836m	1.2277	1.1863	1.1561	1.1557	AVRG		0.85309		1.1722	3	15	0.05	0.99	
Benzo(a)pyrene	0.9258	0.9453	0.9865	1.0180	1.0397	1.0444	1.0402	AVRG		1.00003		1.0000	5	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0117	1.0708	1.1378	1.1893	1.2371	1.2363	1.2423	AVRG		0.86150		1.1608	8	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8056	0.8534	0.9252	0.9759	1.0044	1.0172	1.0266	AVRG		1.05926		0.9441	9	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9384	0.9824	1.0157	1.0439	1.0720	1.0735	1.0739	AVRG		0.97224		1.0286	5	15	0.05	0.99	
Nitrobenzene-d5	0.2835	0.2810	0.2939	0.2992	0.2990	0.2896	0.2922	AVRG		3.43404		0.2912	2	15	0.05	0.99	
2-Fluorobiphenyl	1.4050	1.4119	1.6289	1.6332	1.4211	1.3821	1.3500	AVRG		0.68412		1.4617	8	15	0.05	0.99	
Terphenyl-d14	1.1432	1.1626	1.1728	1.1986	1.2029	1.1765	1.1748	AVRG		0.85040		1.1759	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	-1	0.2000	0	0.5000	4	1.0000	5	2.0000	1	5.0000	-3	10.000	-5
Acenaphthylene	0.1000	-8	0.2000	-7	0.5000	9	1.0000	11	2.0000	0	5.0000	-2	10.000	-3
Acenaphthene	0.1000	-7	0.2000	-5	0.5000	9	1.0000	12	2.0000	-2	5.0000	-3	10.000	-4
Fluorene	0.1000	-8	0.2000	-6	0.5000	10	1.0000	12	2.0000	-1	5.0000	-3	10.000	-4
Phenanthrene	0.1000	-2	0.2000	0	0.5000	1	1.0000	2	2.0000	2	5.0000	0	10.000	-3
Anthracene	0.1000	-5	0.2000	-2	0.5000	0	1.0000	3	2.0000	1	5.0000	0	10.000	4
Fluoranthene	0.1000	-4	0.2000	-3	0.5000	-1	1.0000	2	2.0000	3	5.0000	2	10.000	1
Pyrene	0.1000	-2	0.2000	-2	0.5000	0	1.0000	3	2.0000	3	5.0000	1	10.000	-3
Benzo(a)anthracene	0.1000	-2	0.2000	-2	0.5000	-1	1.0000	2	2.0000	2	5.0000	0	10.000	-1
Chrysene	0.1000	-3	0.2000	-1	0.5000	2	1.0000	2	2.0000	2	5.0000	-1	10.000	-3
Benzo(b)fluoranthene	0.1000	-4	0.2000	-5	0.5000	0	1.0000	0	2.0000	4	5.0000	3	10.000	1
Benzo(k)fluoranthene	0.1000	-5	0.2000	1	0.5000	1	1.0000	5	2.0000	1	5.0000	-1	10.000	-1
Benzo(a)pyrene	0.1000	-7	0.2000	-5	0.5000	-1	1.0000	2	2.0000	4	5.0000	4	10.000	4
Indeno(1,2,3-cd)pyrene	0.1000	-13	0.2000	-8	0.5000	-2	1.0000	2	2.0000	7	5.0000	7	10.000	7
Dibenz(a,h)anthracene	0.1000	-15	0.2000	-10	0.5000	-2	1.0000	3	2.0000	6	5.0000	8	10.000	9
Benzo(g,h,i)perylene	0.1000	-9	0.2000	-4	0.5000	-1	1.0000	1	2.0000	4	5.0000	4	10.000	4
Nitrobenzene-d5	0.1000	-3	0.2000	-4	0.5000	1	1.0000	3	2.0000	3	5.0000	-1	10.000	0
2-Fluorobiphenyl	0.1000	-4	0.2000	-3	0.5000	11	1.0000	12	2.0000	-3	5.0000	-5	10.000	-8
Terphenyl-d14	0.1000	-3	0.2000	-1	0.5000	0	1.0000	2	2.0000	2	5.0000	0	10.000	0

NPM 05/01/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 05/01/15 [1,4-Dioxane]: Corrected automatically drawn baseline in ICAL (wdu08).

Analyst: NPM Date: 05/01/15 Reviewer: LW Date: 05/04/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

535173399001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266803 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Name : 4PAHSIM
Calnum : 535173399001 Cal Date : 30-APR-2015

ICV 535173399014 (wdu14 30-APR-2015) stds: S26530

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.9251	ug/mL	-7	30	
Acenaphthylene	1.000	0.9749	ug/mL	-3	30	
Acenaphthene	1.000	0.9050	ug/mL	-9	20	
Fluorene	1.000	0.9169	ug/mL	-8	30	
Phenanthrene	1.000	0.9512	ug/mL	-5	30	
Anthracene	1.000	0.9644	ug/mL	-4	30	
Fluoranthene	1.000	0.9456	ug/mL	-5	20	
Pyrene	1.000	1.027	ug/mL	3	30	
Benzo(a)anthracene	1.000	0.9380	ug/mL	-6	30	
Chrysene	1.000	0.9709	ug/mL	-3	30	
Benzo(b)fluoranthene	1.000	0.9299	ug/mL	-7	30	
Benzo(k)fluoranthene	1.000	0.9242	ug/mL	-8	30	
Benzo(a)pyrene	1.000	0.9908	ug/mL	-1	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9531	ug/mL	-5	30	
Dibenz(a,h)anthracene	1.000	0.9823	ug/mL	-2	30	
Benzo(g,h,i)perylene	1.000	0.9711	ug/mL	-3	30	

Analyst: NPM Date: 05/01/15 Reviewer: LW Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA03 IDF : 1.0
Seqnum : 525199322004 File : vei04 Time : 18-MAY-2015 11:00
Cal : 525131701001 Caldate : 01-APR-2015
Standards: S26920

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0706	1.1336	1.000	1.059	ug/mL	6	30	0.0500	
Acenaphthylene	1.9111	2.0289	1.000	1.062	ug/mL	6	30	0.0500	
Acenaphthene	1.2572	1.3400	1.000	1.066	ug/mL	7	20	0.0500	
Fluorene	1.4492	1.4600	1.000	1.008	ug/mL	1	30	0.0500	
Phenanthrene	1.1341	1.1067	1.000	0.9759	ug/mL	-2	30	0.0500	
Anthracene	1.1125	1.0218	1.000	0.9185	ug/mL	-8	30	0.0500	
Fluoranthene	1.2732	1.4678	1.000	1.153	ug/mL	15	20	0.0500	
Pyrene	1.2934	1.2171	1.000	0.9410	ug/mL	-6	30	0.0500	
Benzo(a)anthracene	1.2006	1.1645	1.000	0.9699	ug/mL	-3	30	0.0500	
Chrysene	1.1040	1.1689	1.000	1.059	ug/mL	6	30	0.0500	
Benzo(b)fluoranthene	1.2213	1.3258	1.000	1.086	ug/mL	9	30	0.0500	
Benzo(k)fluoranthene	1.2046	1.2727	1.000	1.057	ug/mL	6	30	0.0500	
Benzo(a)pyrene	1.0748	1.1159	1.000	1.038	ug/mL	4	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2459	1.2940	1.000	1.039	ug/mL	4	30	0.0500	
Dibenz(a,h)anthracene	1.0115	1.0873	1.000	1.075	ug/mL	7	30	0.0500	
Benzo(g,h,i)perylene	1.0909	1.0752	1.000	0.9856	ug/mL	-1	30	0.0500	
Nitrobenzene-d5	0.3120	0.3363	1.000	1.078	ug/mL	8	30	0.0500	
2-Fluorobiphenyl	1.6941	1.9474	1.000	1.150	ug/mL	15	30	0.0500	
Terphenyl-d14	0.9878	0.9691	1.000	0.9810	ug/mL	-2	30	0.0500	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Run Name : PAHDIOX IDF : 1.0
Seqnum : 535199333005 File : wei05 Time : 18-MAY-2015 11:33
Cal : 535173399001 Caldate : 30-APR-2015
Standards: S26920

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0821	1.1143	1.000	1.030	ug/mL	3	30	0.0500	
Acenaphthylene	1.8400	2.0084	1.000	1.092	ug/mL	9	30	0.0500	
Acenaphthene	1.1538	1.2485	1.000	1.082	ug/mL	8	20	0.0500	
Fluorene	1.2109	1.3650	1.000	1.127	ug/mL	13	30	0.0500	
Phenanthrene	1.1065	1.1229	1.000	1.015	ug/mL	1	30	0.0500	
Anthracene	1.0299	1.0665	1.000	1.036	ug/mL	4	30	0.0500	
Fluoranthene	1.0587	1.1046	1.000	1.043	ug/mL	4	20	0.0500	
Pyrene	1.5889	1.5571	1.000	0.9800	ug/mL	-2	30	0.0500	
Benzo(a)anthracene	1.0899	1.1179	1.000	1.026	ug/mL	3	30	0.0500	
Chrysene	1.0797	1.0939	1.000	1.013	ug/mL	1	30	0.0500	
Benzo(b)fluoranthene	1.1744	1.2613	1.000	1.074	ug/mL	7	30	0.0500	
Benzo(k)fluoranthene	1.1722	1.2320	1.000	1.051	ug/mL	5	30	0.0500	
Benzo(a)pyrene	1.0000	1.0191	1.000	1.019	ug/mL	2	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.1608	1.1902	1.000	1.025	ug/mL	3	30	0.0500	
Dibenz(a,h)anthracene	0.9441	0.9498	1.000	1.006	ug/mL	1	30	0.0500	
Benzo(g,h,i)perylene	1.0286	1.0873	1.000	1.057	ug/mL	6	30	0.0500	
Nitrobenzene-d5	0.2912	0.3210	1.000	1.102	ug/mL	10	30	0.0500	
2-Fluorobiphenyl	1.4617	1.6281	1.000	1.114	ug/mL	11	30	0.0500	
Terphenyl-d14	1.1759	1.1636	1.000	0.9895	ug/mL	-1	30	0.0500	

KMH 05/18/15 [1,4-Dioxane]: Corrected automatically drawn baseline.

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266803 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Run Name : PAHDIOX IDF : 1.0
Seqnum : 535200772004 File : wej04 Time : 19-MAY-2015 12:34
Cal : 535173399001 Caldate : 30-APR-2015
Standards: S26130

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0821	1.0797	2.000	1.996	ug/mL	0	30	0.0500	
Acenaphthylene	1.8400	1.7765	2.000	1.931	ug/mL	-3	30	0.0500	
Acenaphthene	1.1538	1.1019	2.000	1.910	ug/mL	-4	20	0.0500	
Fluorene	1.2109	1.2294	2.000	2.031	ug/mL	2	30	0.0500	
Phenanthrene	1.1065	1.1438	2.000	2.068	ug/mL	3	30	0.0500	
Anthracene	1.0299	1.0614	2.000	2.061	ug/mL	3	30	0.0500	
Fluoranthene	1.0587	1.1000	2.000	2.078	ug/mL	4	20	0.0500	
Pyrene	1.5889	1.6430	2.000	2.068	ug/mL	3	30	0.0500	
Benzo(a)anthracene	1.0899	1.1266	2.000	2.067	ug/mL	3	30	0.0500	
Chrysene	1.0797	1.1166	2.000	2.069	ug/mL	3	30	0.0500	
Benzo(b)fluoranthene	1.1744	1.2023	2.000	2.048	ug/mL	2	30	0.0500	
Benzo(k)fluoranthene	1.1722	1.2103	2.000	2.065	ug/mL	3	30	0.0500	
Benzo(a)pyrene	1.0000	1.0537	2.000	2.108	ug/mL	5	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.1608	1.2299	2.000	2.119	ug/mL	6	30	0.0500	
Dibenz(a,h)anthracene	0.9441	0.9721	2.000	2.059	ug/mL	3	30	0.0500	
Benzo(g,h,i)perylene	1.0286	1.0969	2.000	2.133	ug/mL	7	30	0.0500	
Nitrobenzene-d5	0.2912	0.3206	2.000	2.202	ug/mL	10	30	0.0500	
2-Fluorobiphenyl	1.4617	1.4384	2.000	1.968	ug/mL	-2	30	0.0500	
Terphenyl-d14	1.1759	1.2291	2.000	2.091	ug/mL	5	30	0.0500	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 525199322

Date : 05/18/15
Sequence : MSBNA03 vei

Reference : vei04
Analyzed : 05/18/15 11:00

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	9559	7.29	37141	8.92	13603	11.22	26419	13.17	33832	16.61	30403	18.33
		LOWER LIMIT	4780	6.79	18571	8.42	6802	10.72	13210	12.67	16916	16.11	15202	17.83
		UPPER LIMIT	19118	7.79	74282	9.42	27206	11.72	52838	13.67	67664	17.11	60806	18.83
004	CCV		9559	7.29	37141	8.92	13603	11.22	26419	13.17	33832	16.61	30403	18.33
005	SAMPLE	266813-001	10753	7.30	42274	8.92	16109	11.22	33421	13.17	41997	16.61	37280	18.33
006	SAMPLE	266808-001	10706	7.30	42789	8.93	16144	11.22	36137	13.17	38942	16.61	34909	18.33
007	SAMPLE	266809-001	11078	7.29	44680	8.92	19429	11.23	35555	13.17	131693 *	16.65	126857 *	18.39
008	SAMPLE	266808-001	8127	7.30	33284	8.93	13160	11.22	29104	13.17	39967	16.61	38962	18.33
009	SAMPLE	266809-001	9218	7.30	36874	8.92	15884	11.22	34504	13.16	52861	16.61	51839	18.34
010	SAMPLE	266808-001	9409	7.30	38328	8.92	14865	11.22	31633	13.17	39894	16.60	37431	18.33
011	SAMPLE	266812-001	10892	7.29	41541	8.92	16495	11.22	33711	13.17	40551	16.61	36924	18.33
012	SAMPLE	266733-001	10694	7.29	42090	8.92	17052	11.22	28125	13.17	34114	16.60	33801	18.33
013	SAMPLE	266817-003	9082	7.30	37666	8.92	15170	11.22	35369	13.16	38199	16.61	36504	18.33
014	SAMPLE	266817-004	9127	7.30	37669	8.92	15382	11.22	33986	13.16	39834	16.60	36154	18.33
015	SAMPLE	266817-001	10396	7.30	42052	8.92	17775	11.22	41065	13.17	39842	16.61	35988	18.33
016	MSS	266817-002	8917	7.30	36807	8.92	15560	11.22	37948	13.17	37294	16.61	34884	18.33
017	SAMPLE	266817-005	8798	7.30	36258	8.93	17378	11.22	35665	13.17	40210	16.61	39417	18.33
018	MS	QC788273	9097	7.30	36714	8.92	15362	11.22	37327	13.17	37762	16.61	33825	18.33
019	MSD	QC788274	9192	7.30	37352	8.92	15946	11.22	37402	13.17	37048	16.61	34919	18.33

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 535199333

Date : 05/18/15 Reference : wei05
Sequence : MSBNA04 wei Analyzed : 05/18/15 11:33

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	35018	7.85	137953	9.42	65214	11.69	104230	13.65	74955	17.20	61133	19.13
		LOWER LIMIT	17509	7.35	68977	8.92	32607	11.19	52115	13.15	37478	16.70	30567	18.63
		UPPER LIMIT	70036	8.35	275906	9.92	130428	12.19	208460	14.15	149910	17.70	122266	19.63
005	CCV	PAHDIOX	35018	7.85	137953	9.42	65214	11.69	104230	13.65	74955	17.20	61133	19.13
006	BLANK	QC788271	28740	7.86	117787	9.43	53500	11.70	92298	13.65	57864	17.21	47499	19.14
007	LCS	QC788272	29992	7.85	118052	9.42	55240	11.69	96604	13.64	64670	17.20	54649	19.13

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 535200772

Date : 05/19/15 Reference : wej04
Sequence : MSBNA04 wej Analyzed : 05/19/15 12:34

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	36966	7.86	149938	9.43	79973	11.70	113864	13.65	77526	17.21	65920	19.14
		LOWER LIMIT	18483	7.36	74969	8.93	39987	11.20	56932	13.15	38763	16.71	32960	18.64
		UPPER LIMIT	73932	8.36	299876	9.93	159946	12.20	227728	14.15	155052	17.71	131840	19.64
004	CCV	PAHDIOX	36966	7.86	149938	9.43	79973	11.70	113864	13.65	77526	17.21	65920	19.14
005	BLANK	QC788339	34188	7.85	133109	9.42	64487	11.69	107221	13.65	71408	17.20	59046	19.13
006	BS	QC788340	31932	7.85	127863	9.42	63601	11.69	105336	13.64	76264	17.20	61966	19.13
007	BSD	QC788341	35813	7.85	141492	9.42	70809	11.69	114430	13.65	79765	17.20	66826	19.13
008	SAMPLE	266827-001	32334	7.85	126976	9.42	59495	11.69	106768	13.64	82131	17.20	76344	19.14
009	SAMPLE	266827-002	38684	7.85	157524	9.42	75588	11.69	131255	13.65	86168	17.20	80013	19.13
010	SAMPLE	266827-003	36319	7.85	145341	9.42	68280	11.69	117033	13.65	85530	17.21	71809	19.13
011	SAMPLE	266820-002	32930	7.85	137937	9.42	64109	11.69	113258	13.65	80777	17.20	75616	19.13
012	SAMPLE	266803-002	33671	7.85	140197	9.42	69569	11.69	126700	13.65	88345	17.20	83820	19.14
013	SAMPLE	266803-001	34436	7.85	140086	9.42	67641	11.69	112330	13.65	80421	17.21	73271	19.14
014	SAMPLE	266815-001	36631	7.85	149719	9.42	77388	11.69	153262	13.66	153860	17.24	113974	19.17
015	SAMPLE	266803-004	35584	7.85	147475	9.42	76653	11.69	151786	13.65	128308	17.23	106819	19.19
016	SAMPLE	266820-001	36763	7.85	166601	9.42	104300	11.70	190832	13.67	111623	17.22	94517	19.15
017	SAMPLE	266803-003	37605	7.86	155274	9.42	75149	11.69	131705	13.65	89163	17.21	75600	19.14
018	SAMPLE	266815-001	34835	7.85	144125	9.42	70114	11.69	124644	13.65	93924	17.21	74837	19.14
019	SAMPLE	266803-004	36234	7.85	148481	9.42	72504	11.69	132542	13.65	95590	17.21	84267	19.15

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525131701

Instrument : MSBNA03 Begun : 04/01/15 11:01
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	vd101	TUN	DFTPP			04/01/15 11:01	1.0	1	
002	vd102	TUN	DFTPP			04/01/15 11:35	1.0	1	
003	vd103	CCV	RTCHECK			04/01/15 11:55	1.0	2	
004	vd104	IB	IB			04/01/15 12:32	1.0		
005	vd105	TUN	DFTPP			04/01/15 12:58	1.0	1	
006	vd106	ICAL	ICAL			04/01/15 13:17	1.0	3	
007	vd107	ICAL	ICAL			04/01/15 13:50	1.0	4	
008	vd108	ICAL	ICAL			04/01/15 14:24	1.0	5	
009	vd109	ICAL	ICAL			04/01/15 14:57	1.0	6	
010	vd110	ICAL	ICAL			04/01/15 15:30	1.0	7	
011	vd111	ICAL	ICAL			04/01/15 16:03	1.0	8	
012	vd112	ICAL	ICAL			04/01/15 16:36	1.0	9	
013	vd113	ICV	ICV			04/01/15 17:08	1.0	10	
014	vd114	CCV	PAHDIOX			04/01/15 17:42	1.0	6	
015	vd115	LOD	209076-066	Soil	221583	04/01/15 18:14	1.0	11	
016	vd116	LOD	209076-067	Soil	221583	04/01/15 18:47	1.0	11	
017	vd117	LOD	209076-068	Soil	221583	04/01/15 19:21	1.0	11	

KMH 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

Standards used: 1=S26814 2=S26129 3=S26126 4=S26127 5=S26919 6=S26920 7=S26130 8=S26131 9=S26132 10=S26530 11=S26588

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525199322

Instrument : MSBNA03 Begun : 05/18/15 10:02
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	vei01	IB	IB			05/18/15 10:02	1.0		?t
002	vei02	TUN	DFTPP			05/18/15 10:27	1.0	1	t
003	vei03	TUN	DFTPP			05/18/15 10:41	1.0	1	
004	vei04	CCV				05/18/15 11:00	1.0	2	
005	vei05	SAMPLE	266813-001	Water	223170	05/18/15 11:36	1.0	3	
006	vei06	SAMPLE	266808-001	Water	223170	05/18/15 12:12	1.0	3	
007	vei07	SAMPLE	266809-001	Water	223170	05/18/15 12:48	1.0	3	
008	vei08	SAMPLE	266808-001	Water	223170	05/18/15 13:24	10.0	3	high NT
009	vei09	SAMPLE	266809-001	Water	223170	05/18/15 13:59	10.0	3	high NT
010	vei10	SAMPLE	266808-001	Water	223170	05/18/15 14:35	5.0	3	high NT
011	vei11	SAMPLE	266812-001	Water	223170	05/18/15 15:11	1.0	3	
012	vei12	SAMPLE	266733-001	Water	223170	05/18/15 15:47	8.33	3	high NT
013	vei13	SAMPLE	266817-003	Soil	223246	05/18/15 16:22	1.0	3	
014	vei14	SAMPLE	266817-004	Soil	223246	05/18/15 16:57	1.0	3	
015	vei15	SAMPLE	266817-001	Soil	223246	05/18/15 17:32	1.0	3	
016	vei16	MSS	266817-002	Soil	223246	05/18/15 18:06	1.0	3	
017	vei17	SAMPLE	266817-005	Soil	223246	05/18/15 18:40	1.0	3	
018	vei18	MS	QC788273	Soil	223246	05/18/15 19:15	1.0	3	
019	vei19	MSD	QC788274	Soil	223246	05/18/15 19:50	1.0	3	

KMH 05/18/15 : adjusted tune after run 2

KMH 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S26920 3=S26952
Flags used: ?t=missing tune t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535173399

Instrument : MSBNA04 Begun : 04/30/15 09:59
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wdu01	TUN	DFTPP			04/30/15 09:59	1.0	1	t
002	wdu02	CCV	RTCHECK			04/30/15 10:19	1.0	2	t cc-
003	wdu03	TUN	DFTPP			04/30/15 10:45	1.0	1	
004	wdu04	CCV	RTCHECK			04/30/15 11:06	1.0	3	
005	wdu05	IB	IB			04/30/15 11:53	1.0		
006	wdu06	TUN	DFTPP			04/30/15 12:21	1.0	1	
007	wdu07	ICAL	ICAL			04/30/15 12:48	1.0	4	
008	wdu08	ICAL	ICAL			04/30/15 13:20	1.0	5	
009	wdu09	ICAL	ICAL			04/30/15 13:51	1.0	6	
010	wdu10	ICAL	ICAL			04/30/15 14:23	1.0	7	
011	wdu11	ICAL	ICAL			04/30/15 14:54	1.0	8	
012	wdu12	ICAL	ICAL			04/30/15 15:25	1.0	3	
013	wdu13	ICAL	ICAL			04/30/15 15:56	1.0	9	
014	wdu14	ICV	ICV			04/30/15 16:28	1.0	10	

KMH 04/30/15 : adjusted tune after runs 1 & 3

NPM 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

Standards used: 1=S26814 2=S26128 3=S26131 4=S26126 5=S26127 6=S26919 7=S26920 8=S26130 9=S26132 10=S26530
Flags used: -=low bias cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535199333

Instrument : MSBNA04 Begun : 05/18/15 10:13
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wei01	IB	IB			05/18/15 10:13	1.0		?t
002	wei02	TUN	DFTPP			05/18/15 10:39	1.0	1	t
003	wei03	TUN	DFTPP			05/18/15 10:54	1.0	1	t
004	wei04	TUN	DFTPP			05/18/15 11:11	1.0	1	
005	wei05	CCV	PAHDIOX			05/18/15 11:33	1.0	2	
006	wei06	BLANK	QC788271	Soil	223246	05/18/15 14:59	1.0	3	
007	wei07	LCS	QC788272	Soil	223246	05/18/15 15:32	1.0	3	

KMH 05/18/15 : adjusted tune after run 3

NPM 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 7.

Standards used: 1=S26814 2=S26920 3=S26952
Flags used: ?t=missing tune t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535200772

Instrument : MSBNA04 Begun : 05/19/15 10:12
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wej01	IB	IB			05/19/15 10:12	1.0		?t
002	wej02	TUN	DFTPP			05/19/15 10:37	1.0	1	
003	wej03	CCV	PAHDIOX			05/19/15 10:59	1.0	2	
004	wej04	CCV	PAHDIOX			05/19/15 12:34	1.0	2	
005	wej05	BLANK	QC788339	Miscell.	223259	05/19/15 13:07	1.0	3	
006	wej06	BS	QC788340	Miscell.	223259	05/19/15 13:39	1.0	3	
007	wej07	BSD	QC788341	Miscell.	223259	05/19/15 14:12	1.0	3	
008	wej08	SAMPLE	266827-001	Miscell.	223259	05/19/15 14:44	50.0	3	high NT
009	wej09	SAMPLE	266827-002	Miscell.	223259	05/19/15 15:15	200.0	3	
010	wej10	SAMPLE	266827-003	Miscell.	223259	05/19/15 15:48	100.0	3	
011	wej11	SAMPLE	266820-002	Soil	223246	05/19/15 16:20	1.0	3	
012	wej12	SAMPLE	266803-002	Soil	223246	05/19/15 16:53	1.0	3	
013	wej13	SAMPLE	266803-001	Soil	223246	05/19/15 17:25	1.0	3	
014	wej14	SAMPLE	266815-001	Soil	223246	05/19/15 17:58	1.0	3	11:FLA=100
015	wej15	SAMPLE	266803-004	Soil	223246	05/19/15 18:31	1.0	3	
016	wej16	SAMPLE	266820-001	Soil	223246	05/19/15 19:04	1.0	3	
017	wej17	SAMPLE	266803-003	Soil	223246	05/19/15 19:37	100.0	3	
018	wej18	SAMPLE	266815-001	Soil	223246	05/19/15 20:11	20.0	3	
019	wej19	SAMPLE	266803-004	Soil	223246	05/19/15 20:43	5.0	3	

KMH 05/19/15 : ran second ccv by mistake

KMH 05/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S26130 3=S26952
Flags used: ?t=missing tune
Page 1 of 1

SAMPLE PREPARATION SUMMARY

Batch # : 223246 Analysis : 8270-SIM
Started By : JCD Prep Date : 18-MAY-2015 11:05 Finished By : JCD
Method : 3550B SOP Version : 8270-SIM_3550_rv5 Units : g
Spike #1 ID : S26499 Spike #2 ID : S26609

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266803-001		Soil	29.76	1	1	0.0336		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-002		Soil	29.79	1	1	0.03357		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-003		Soil	30.22	1	1	0.03309		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-004		Soil	29.89	1	1	0.03346		1				8270-SIM	Prepped 19-MAY-2015 10:55
266815-001		Soil	30.28	1	1	0.03303		1				8270-SIM	Prepped 19-MAY-2015 10:55
266817-001		Soil	30.16	1	1	0.03316		1				8270-SIM	
266817-002		Soil	30.03	1	1	0.0333		1				8270-SIM	
266817-003		Soil	30.47	1	1	0.03282		1				8270-SIM	
266817-004		Soil	30.24	1	1	0.03307		1				8270-SIM	
266817-005		Soil	30.18	1	1	0.03313		1				8270-SIM	
266820-001		Soil	30	1	1	0.03333		1				8270-SIM	Prepped 19-MAY-2015 10:55
266820-002		Soil	29.93	1	1	0.03341		1				8270-SIM	Prepped 19-MAY-2015 10:55
QC788271	BLANK	Soil	29.78	1	1	0.03358		1				8270-SIM	
QC788272	LCS	Soil	30.44	1	1	0.03285		1	1			8270-SIM	
QC788273	MS	Soil	30.01	1	1	0.03332		1	1			8270-SIM	
QC788274	MSD	Soil	30.33	1	1	0.03297		1	1			8270-SIM	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

TITLE Soil Aliquot PROJECT DATE

Continued from page

Sample ID	(Weighted)	Analysis	Batch #	Surveyed	Comments
265286-001 comp	49.69	TEHim		DISH 1	comp 286-1 B-6
↓ 2 ↓	49.60				↓ -2 ↓
265346-001 A	50.41				
↓ 2 ↓	49.55				
265381-001 B	50.11				
↓ 2	49.60				
265384-001	49.79				
4	50.20				
5	50.44				
7 C	50.02				
8 ↓	49.62				
265385-001 ↓	49.69				
		JM 3-18-15			
265389-003 J	50.12	TEHim			
↓ 5A	50.37	↓		DISH 1	
		JM 3-18-15		↓	
265341-001 A	29.83	8270-SIM		Dish-1	
3	30.26				
5	30.23				
↓ 8 ↓	15.06				limited sample
265389-001 A	29.84				
3 #	29.76				
↓ 6 A	30.21				(MS)
265402-001 #	29.87				
↓ 2 ↓	30.06				
3 D	30.02				
↓ 4 ↓	29.84				
265403-006 comp	29.59				comp of 265403-01-05@30g
MB MA	29.77				EMXF21B
LCS	30.15				↓
MS	30.18				265389-006
MSD	30.04				↓
					APW 3/17/2015
266817-001 B	30.16	8270 SIM		DISH 1	
2	30.08				MSS
3	30.07				
4	30.24				
↓ 5 ↓	30.18				
MB MA	29.78				EMXF27F
LCS	30.44				↓
MS	30.01				266817002
MSD	30.33				↓
		JCD 5/18/15			

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE PROJECT DATE

Continued from page

Sample ID		Weight(g)	Analysis Batch #	Scale-used	Comments
265722-006	MA	29.86	8081	Dish 1	LOQ
7		30.50			
8		30.20			
265780-007	E	30.19			
8		29.60			
9		30.24			
10		30.02			
11		29.61			
265788-001	B	29.69			
LV		30.00			
IDOC	MA	29.96			EMXF27F
IDOC		29.70			
IDOC		29.93			
IDOC		29.67			
MB		29.91			
LCS		29.71			
MS		29.78			265780-009
MSD		29.75			

JM1 4/3/15

265722-006	N/A	30.25	PCB	Dish 1	LOQ	
7		29.91				
8		29.94				
9		30.09				
10		29.99				
265780-005	E	30.09			MSS	
6		30.25				
IDOC	N/A	29.93			EMXF27F	
IDOC		29.91				
IDOC		29.94			EMXF27F	
MB		29.97				
LCS		29.84			265780-005E	
MS		29.91				
MSD		30.18				

KKL 4/3/15

266803-001	G	29.76	8270-SIM	22324P	DISH 1
2		29.79			
3		30.22			
4		29.89			
266815-001	C	30.28			
266820-001	G	30.00			
2		29.93			

JCO 5-18-15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

BNA Soil Prep Log

Curtis & Tompkins, Ltd.

Page: 76 **BK 3666**

LIMS Batch No: 223246
LIMS Analysis 8270-SIM
Date Extracted: 5/18/15

Extraction Method:
☒ EPA 3550b Sonication
☐ Other _____

Cleanup Method (if necessary):
☐ EPA 3640a GPC
☐ Other _____

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	2666817-001	B	30.16	☒1.0 ☐___		
	2		30.03	☒1.0 ☐___		
	3		30.47	☒1.0 ☐___		
	4		30.24	☒1.0 ☐___		
5	5	↓	30.18	☒1.0 ☐___		
	MB QC788271	VA	29.78	☒1.0 ☐___		
	LCS 2		30.44	☒1.0 ☐___		
	MS 3		30.01	☒1.0 ☐___		
	MSD 4	↓	30.33	☒1.0 ☐___		
10	2666803-001	G	29.76	☒1.0 ☐___		AIO @1055 5/19/20
	2		29.79	☒1.0 ☐___		
	3		30.22	☒1.0 ☐___		
	4	↓	29.89	☒1.0 ☐___		
	2666815-001	C	30.28	☒1.0 ☐___		
15	2666820-001	G	30.00	☒1.0 ☐___		
	↓ 2	↓	29.93	☒1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
20				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, CH_2Cl_2-rinsed granular Na_2SO_4 used for QC & to dry samples	EMXF27F	JCD 5.18.15
1.0 mL of surrogate solution was added to all samples	S26499 B	
1.0 mL of matrix spiking solution was added to all spikes	S26609 F	
≥100mL 1:1 CH_2Cl_2:Acetone was added to all: CH_2Cl_2	EM54275	
Acetone	EM55015	
Solvent was added at (time)	1105	
☒ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	~~55015~~ 1055 5/18/15 ✓	
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	

Hannah Daughtry 5/18/15
Extraction Chemist / Date

Continued from page ___
Continued on page ___

Kmk 5/19/15
Reviewed by / Date

Laboratory Job Number 266803

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Batch#:	223280
Matrix:	Soil	Sampled:	05/14/15
Units:	%	Received:	05/14/15
Diln Fac:	1.000	Analyzed:	05/18/15

Field ID	Lab ID	Result	RL
APLMW-1(4)	266803-001	5	1
APLMW-1(7.5)	266803-002	8	1
APLMW-3(4)	266803-003	10	1
APLMW-3(7)	266803-004	23	1

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Moisture

Lab #:	266803	Location:	Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	APLMW-2(8.2)	Diln Fac:	1.000
Type:	SDUP	Batch#:	223280
MSS Lab ID:	266820-002	Sampled:	05/15/15
Lab ID:	QC788427	Received:	05/15/15
Matrix:	Soil	Analyzed:	05/18/15

MSS Result	Result	RL	RPD	Lim
16.86	16.90	1.000	0	26

RL= Reporting Limit
RPD= Relative Percent Difference

Percent Moisture Summary Report

Batch: 223280
Date: 05/18/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266803-001	10.8902	16.4039	16.1010	95	5
266803-002	11.3428	17.4523	16.9419	92	8
266803-003	11.3007	16.4675	15.9329	90	10
266803-004	11.0233	16.6127	15.3235	77	23
266815-001	11.0474	18.1990	16.7636	80	20
266817-001	11.3391	18.9690	16.4623	67	33
266817-002	11.3437	17.9984	15.9500	69	31
266817-003	11.4017	18.4411	16.7237	76	24
266817-004	11.3605	16.9083	15.3314	72	28
266817-005	10.8807	18.1272	16.5642	78	22
266820-001	11.3559	18.3658	18.1031	96	4
266820-002	11.2268	18.1792	17.0070	83	17
QC788427	11.3417	16.8635	15.9301	83	17
of 266820-002			RPD:	0.1%	0.3%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 223280
Date: 5-18-15

Page: 96
Benchbook#: **BK 3643**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	94	11.3563	Ø	11.3563	
266803-001 G	72	10.8902	16.4039	16.1010	
-002	93	11.3428	17.4523	16.9419	
-003	95	11.3007	16.4675	15.9329	
-004	34	11.0233	16.6127	15.3235	
266815-001 C	62	11.0474	18.1990	16.7636	
266817-001 B	19	11.3391	18.9690	16.4623	
-002	41	11.3437	17.9984	15.9500	
-003	11	11.4017	18.4411	16.7237	
-004	56	11.3605	16.9083	15.3314	
-005	42	10.8807	18.1272	16.5642	
266820-001 G	81	11.3559	18.3658	18.1031	
-002	83	11.2268	18.1792	17.0070	
DUP -002	50	11.3417	16.8635	15.9301	

5-19-15

Date/ Time IN: 5-18-15 2100
Temp (C) IN: 105
Date/ Time OUT: 5-19-15 10:30
Temp (C) OUT: 105°C

5-18-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
~~4-05-15~~	SL			
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827
4-30-15	JB	0.2000	99.9999	10827
5-1-15	MN	0.2000	99.9999	10827
5-2-15	MN	0.2000	99.9998	10827
5-7-15	MN	0.2000	99.9999	10827
5-8-15	MN	0.2001	100.0001	10827
5-9-15	MN	0.2001	100.0000	10827
5-10-15	VV	0.2000	100.0000	10827
5-12-15	MN	0.2000	99.9999	10827
5-13-15	VV	0.1999	99.9999	10827
5-14-15	MN	0.2000	99.9998	10827
5-18-15	MN	0.2001	99.9999	10827
5-19-15	VV	0.1999	99.9992	10827

Continued on Page

Read and Understood By

Signed Date Signed Date


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266820
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Port of Oakland Former APC Terminal
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLMW-2(4.5)	266820-001
APLMW-2(8.2)	266820-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 05/22/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266820**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Port of Oakland Former APC Terminal**
Request Date:	**05/15/15**
Samples Received:	**05/15/15**

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 05/15/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
Response exceeding the instrument's linear range was observed for diesel C10-C24 in the MS for batch 223220.

APLMW-2(4.5) (lab # 266820-001) was diluted due to the dark and viscous nature of the sample extract.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
No analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

266820

CHAIN OF CUSTODY FORM

Seq. No. 3173

Lab: CET

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Bill Felix

amec

Job Number: 09141708 10 .03

Name/Location: Port of Oakland Farm APL terminal

Project Manager: Mary Jo Heaslip

Recorder: (Signature Required)

| MATRIX | | | # CONTAINERS | | | | | SAMPLE NUMBER | DATE | | | | STATION DESCRIPTION | | ANALYSIS REQUESTED | | | | |

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 266820 Date Received 5/15/15 Number of coolers 1
Client AMEC Project Port of Oakland

Date Opened 5/15 By (print) SL (sign)
Date Logged in 5/15 By (print) BL (sign)

1. Did cooler come with a shipping slip (airbill, etc) FEDEX YES NO
Shipping info TRK# 8043 7073 0092

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many ____ Name ____ Date ____
2B. Were custody seals intact upon arrival? ____ YES NO N/A
3. Were custody papers dry and intact when received? ____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? ____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ____ YES NO
6. Indicate the packing in cooler: (if other, describe) ____

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 3.9°

☒ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ____ YES NO
If YES, what time were they transferred to freezer? 1400
9. Did all bottles arrive unbroken/unopened? ____ YES NO
10. Are there any missing / extra samples? ____ YES NO
11. Are samples in the appropriate containers for indicated tests? ____ YES NO
12. Are sample labels present, in good condition and complete? ____ YES NO
13. Do the sample labels agree with custody papers? ____ YES NO
14. Was sufficient amount of sample sent for tests requested? ____ YES NO
15. Are the samples appropriately preserved? ____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? ____ YES NO N/A
17. Did you document your preservative check? ____ YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? ____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? BL YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? ____ YES NO N/A
21. Was the client contacted concerning this sample delivery? ____ YES NO
If YES, Who was called? ____ By ____ Date: ____

COMMENTS

Rev 10, 9/12

Curtis & Tompkins, Ltd.

Detections Summary for 266820

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Port of Oakland Former APC Terminal

Client Sample ID : APLMW-2(4.5) Laboratory Sample ID : 266820-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1.5	Y	0.19	mg/Kg	Dry	1.000	EPA 8015B	EPA 5035
o-Xylene	1.3	C	0.97	ug/Kg	Dry	1.000	EPA 8021B	EPA 5035
Diesel C10-C24	380		5.2	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	220		26	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Naphthalene	11		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Acenaphthylene	17		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Fluorene	28		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Phenanthrene	78		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Fluoranthene	26		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Pyrene	52		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(a)anthracene	13		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Chrysene	26		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(b)fluoranthene	39		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(k)fluoranthene	11		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(a)pyrene	34		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Indeno(1,2,3-cd)pyrene	22		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Benzo(g,h,i)perylene	31		5.2	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Moisture, Percent	4		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : APLMW-2(8.2) Laboratory Sample ID : 266820-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.2	Y	1.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	8.4		6.0	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Benzo(g,h,i)perylene	6.2		6.0	ug/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550B
Moisture, Percent	17		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

C = Presence confirmed, but RPD between columns exceeds 40%
Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 266820

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03		
Matrix:	Soil	Batch#:	223262
Basis:	dry	Sampled:	05/15/15
Diln Fac:	1.000	Received:	05/15/15

Field ID: APLMW-2(4.5)
Type: SAMPLE
Lab ID: 266820-001

Moisture: 4%
Analyzed: 05/19/15

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	1.5 Y	0.19	mg/Kg	EPA 8015B
MTBE	ND	3.9	ug/Kg	EPA 8021B
Benzene	ND	0.97	ug/Kg	EPA 8021B
Toluene	ND	0.97	ug/Kg	EPA 8021B
Ethylbenzene	ND	0.97	ug/Kg	EPA 8021B
m,p-Xylenes	ND	0.97	ug/Kg	EPA 8021B
o-Xylene	1.3 C	0.97	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	123	78-138	EPA 8015B
Bromofluorobenzene (PID)	113	70-137	EPA 8021B

Field ID: APLMW-2(8.2)
Type: SAMPLE
Lab ID: 266820-002

Moisture: 17%
Analyzed: 05/19/15

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.21	mg/Kg	EPA 8015B
MTBE	ND	4.2	ug/Kg	EPA 8021B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	114	78-138	EPA 8015B
Bromofluorobenzene (PID)	108	70-137	EPA 8021B

Type: BLANK
Lab ID: QC788349

Analyzed: 05/18/15

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.20	mg/Kg	EPA 8015B
MTBE	ND	4.0	ug/Kg	EPA 8021B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	109	78-138	EPA 8015B
Bromofluorobenzene (PID)	109	70-137	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788350	Batch#:	223262
Matrix:	Soil	Analyzed:	05/18/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.012	101	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	78-138

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5035
Project#:	OD14170810.03	Analysis:	EPA 8021B
Matrix:	Soil	Batch#:	223262
Units:	ug/Kg	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788351

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.51	105	65-141
Benzene	10.00	8.911	89	80-120
Toluene	10.00	9.929	99	80-120
Ethylbenzene	10.00	8.673	87	80-120
m,p-Xylenes	10.00	8.842	88	80-120
o-Xylene	10.00	8.708	87	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	115	70-137

Type: BSD Lab ID: QC788352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	10.99	110	65-141	4	46
Benzene	10.00	10.27	103	80-120	14	20
Toluene	10.00	10.28	103	80-120	3	20
Ethylbenzene	10.00	10.07	101	80-120	15	20
m,p-Xylenes	10.00	10.25	102	80-120	15	20
o-Xylene	10.00	10.05	100	80-120	14	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	114	70-137

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	266816-001	Batch#:	223262
Matrix:	Soil	Sampled:	05/13/15
Units:	mg/Kg	Received:	05/15/15
Basis:	as received	Analyzed:	05/18/15

Type: MS Lab ID: QC788353

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2487	10.42	9.332	87	50-120

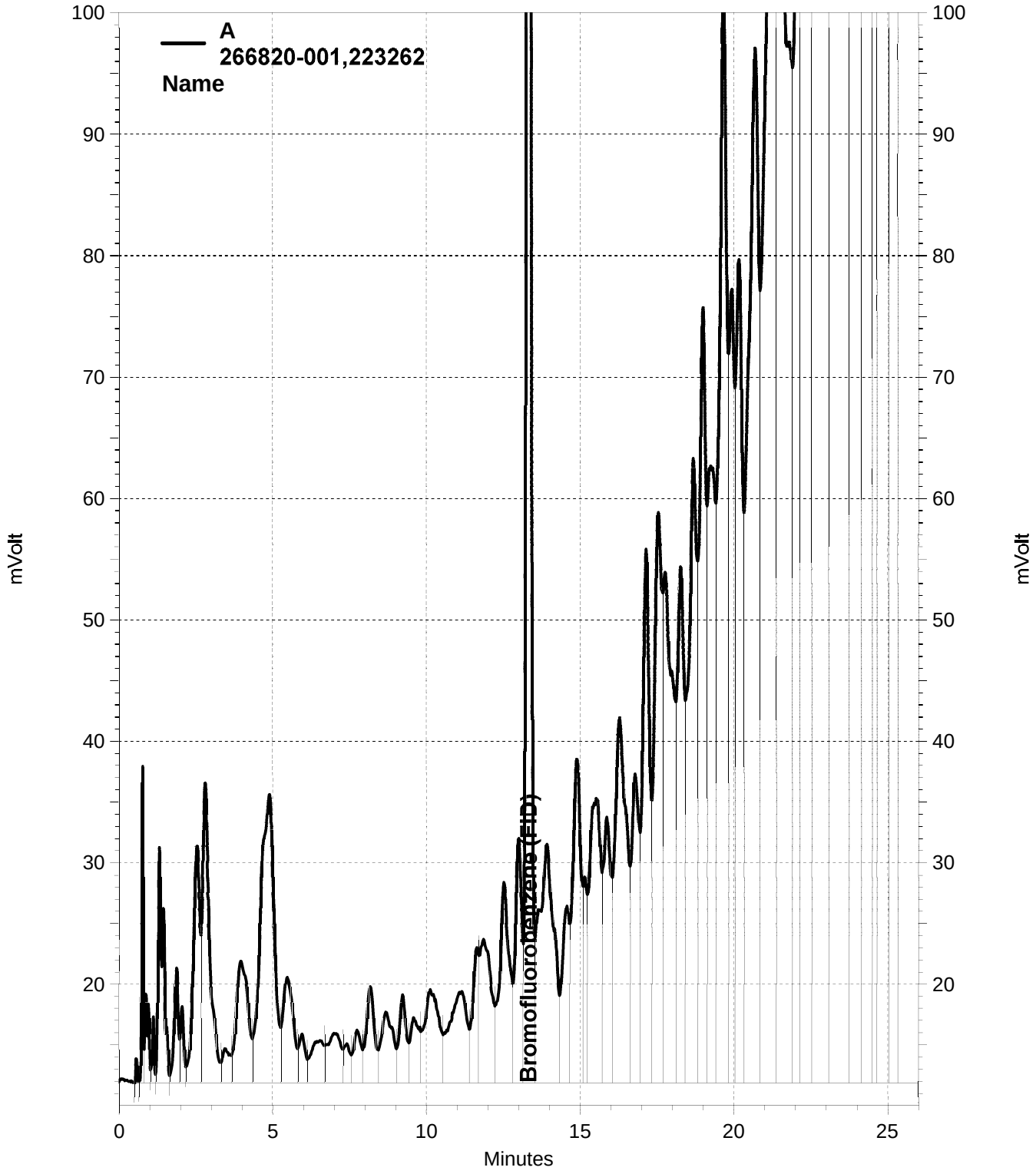
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	78-138

Type: MSD Lab ID: QC788354

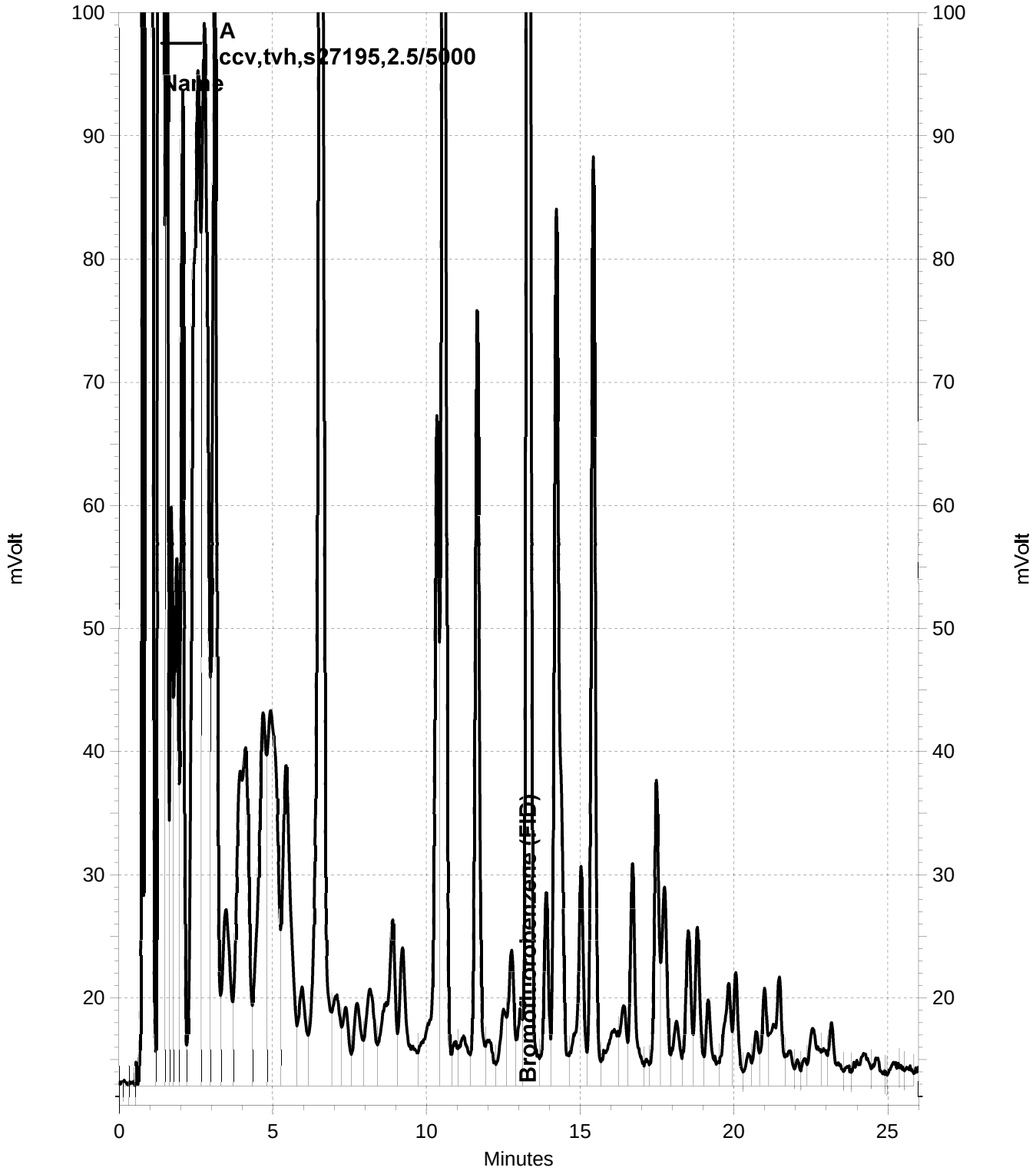
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.709	9.081	91	50-120	4	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	78-138

RPD= Relative Percent Difference



\\Lims\gdrive\ezchrom\Projects\GC05\Data\138-032, A


A
ccv,tvh,s27195,2.5/5000
Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
100
90
80
70
60
50
40
30
20
0
5
10
15
20
25
\\Lims\gdrive\ezchrom\Projects\GC05\Data\138-003, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 GCVOA Soil: EPA 8015B

Inst : GC05
Calnum : 315090403001
Units : ng

Name : tvh/BFB_062
Date : 04-MAR-2015 06:00
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	062_019	315090403019	TVH_15	04-MAR-2015 06:00	S26764 (1000X), S26658 (5000X)
L2	062_020	315090403020	TVH_16	04-MAR-2015 06:38	S26763 (1000X), S26658 (5000X)
L3	062_021	315090403021	TVH_17	04-MAR-2015 07:16	S26761 (2000X), S26658 (5000X)
L4	062_022	315090403022	TVH_18	04-MAR-2015 07:53	S26761 (1000X), S26658 (5000X)
L5	062_028	315090403028	TVH_14	04-MAR-2015 12:44	S26765 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	3071.8	2632.6	2316.7	2473.8	3553.9	AVRG		3.56E-4		2809.8	18	0.995	20	
Bromofluorobenzene (FID)	A	2056.4	1960.4	1953.0	2504.9	2301.1	AVRG		4.64E-4		2155.2	11	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	2500.0	9	10000	-6	25000	-18	50000	-12	250.00	**26**
Bromofluorobenzene (FID)	A	900.00	-5	900.00	-9	900.00	-9	900.00	16	900.00	7

ERR 03/05/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak in multiple levels.

ERR 03/05/15 : Corrected baseline noise or negative peak in multiple levels.

ERR 03/05/15 : TVH14_L4 low point out high, reran for better fit.

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Name : tvh/BFB_062
Calnum : 315090403001 Cal Date : 04-MAR-2015

ICV 315090403030 (062_030 04-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9289	ng	-7	15	

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 GCVOA Soil: EPA 8021B

Inst : GC05
Calnum : 315193517003
Units : ng

Name : MBTXE_bfb134b
Date : 15-MAY-2015 00:24
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	134_023	315193517023	BTXE_1	15-MAY-2015 00:24	S27217 (1000X), S27207 (5000X)
L2	134_024	315193517024	MBTXE_2	15-MAY-2015 01:02	S27216 (1250X), S27207 (5000X)
L3	134_025	315193517025	MBTXE_3	15-MAY-2015 01:40	S27216 (500X), S27207 (5000X)
L4	134_026	315193517026	MBTXE_4	15-MAY-2015 02:17	S27216 (125X), S27207 (5000X)
L5	134_027	315193517027	MBTXE_5	15-MAY-2015 02:55	S27215 (1000X), S27207 (5000X)
L6	134_028	315193517028	MBTXE_6	15-MAY-2015 03:32	S27215 (500X), S27207 (5000X)
L7	134_029	315193517029	MBTXE_7	15-MAY-2015 04:10	S27215 (250X), S27207 (5000X)
L8	134_030	315193517030	MBTBE_7	15-MAY-2015 04:48	S27153 (500X), S27207 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
MTBE	B		6369.6	6029.6	5188.6	5846.9	5403.7	5156.1	4556.2	AVRG		1.82E-4		5507.3	11	0.995	20	
Benzene	B	16546	16593	17587	19152	20946	19672	19066		AVRG		5.40E-5		18509	9	0.995	20	
Toluene	B	24550	17982	17094	18195	19597	17740	17450		AVRG		5.28E-5		18944	14	0.995	20	
Ethylbenzene	B	13392	12869	13683	15919	17640	15364	14763		AVRG		6.75E-5		14804	11	0.995	20	
m,p-Xylenes	B	16714	17203	18718	19922	20825	18355	18028		AVRG		5.39E-5		18538	8	0.995	20	
o-Xylene	B	14104	13946	15435	16780	18047	15661	15118		AVRG		6.42E-5		15584	9	0.995	20	
Bromofluorobenzene (PID)	B	11582	12100	12379	12590	11984	11253	10691	9422.6	AVRG		8.70E-5		11500	9	0.995	20	
MTBE	C		4124.6	4458.4	3924.1	4261.0	4025.5	3850.5	3356.5	AVRG		2.50E-4		4000.1	9	0.995	20	
Benzene	C	11472	12420	13345	13714	14426	13762	13425		AVRG		7.56E-5		13224	7	0.995	20	
Toluene	C	12851	11119	11621	12280	13658	12773	12678		AVRG		8.05E-5		12426	7	0.995	20	
Ethylbenzene	C	8431.6	9195.1	9787.4	10831	12653	11520	11409		AVRG		9.48E-5		10547	14	0.995	20	
m,p-Xylenes	C	8852.4	11232	11907	13164	14859	13481	13413		AVRG		8.05E-5		12416	16	0.995	20	
o-Xylene	C	8502.8	9515.7	10207	11058	13064	11788	11703		AVRG		9.23E-5		10834	14	0.995	20	
Bromofluorobenzene (PID)	C	8083.0	8351.4	8522.0	8692.8	8753.1	8542.2	8523.7	7281.7	AVRG		1.20E-4		8343.7	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
MTBE	B			10.000	16	25.000	9	100.00	-6	500.00	6	1000.0	-2	2000.0	-6	5000.0	-17
Benzene	B	2.5000	-11	10.000	-10	25.000	-5	100.00	3	500.00	13	1000.0	6	2000.0	3		
Toluene	B	2.5000	**30**	10.000	-5	25.000	-10	100.00	-4	500.00	3	1000.0	-6	2000.0	-8		
Ethylbenzene	B	2.5000	-10	10.000	-13	25.000	-8	100.00	8	500.00	19	1000.0	4	2000.0	0		
m,p-Xylenes	B	2.5000	-10	10.000	-7	25.000	1	100.00	7	500.00	12	1000.0	-1	2000.0	-3		
o-Xylene	B	2.5000	-9	10.000	-11	25.000	-1	100.00	8	500.00	16	1000.0	0	2000.0	-3		
Bromofluorobenzene (PID)	B	900.00	1	900.00	5	900.00	8	900.00	9	900.00	4	900.00	-2	900.00	-7	900.00	-18
MTBE	C			10.000	3	25.000	11	100.00	-2	500.00	7	1000.0	1	2000.0	-4	5000.0	-16
Benzene	C	2.5000	-13	10.000	-6	25.000	1	100.00	4	500.00	9	1000.0	4	2000.0	2		
Toluene	C	2.5000	3	10.000	-11	25.000	-6	100.00	-1	500.00	10	1000.0	3	2000.0	2		
Ethylbenzene	C	2.5000	-20	10.000	-13	25.000	-7	100.00	3	500.00	20	1000.0	9	2000.0	8		
m,p-Xylenes	C	2.5000	**-29**	10.000	-10	25.000	-4	100.00	6	500.00	20	1000.0	9	2000.0	8		
o-Xylene	C	2.5000	**-22**	10.000	-12	25.000	-6	100.00	2	500.00	**21**	1000.0	9	2000.0	8		
Bromofluorobenzene (PID)	C	900.00	-3	900.00	0	900.00	2	900.00	4	900.00	5	900.00	2	900.00	2	900.00	-13

ERR 05/18/15 [Toluene B]: Separated from coeluting peak for Ch. B in BTXE_1 (134_023).

ERR 05/18/15 [Ethylbenzene C]: Corrected automatically drawn baseline for Ch. C in multiple levels.

ERR 05/18/15 [m,p-Xylenes C]: Corrected automatically drawn baseline for Ch. C in all levels.

ERR 05/18/15 : X'ed out ICVs runs 32 and 33, prepped from bad vial. Run 35 ICV prepped from new vial.

ERR 05/18/15 : CALIB used for blank in batch 223179. ICAL reported without CALIB per CB.

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Name : MBTXE_bfb134b
Calnum : 315193517003 Cal Date : 15-MAY-2015

ICV 315193517035 (134_035 15-MAY-2015) stds: S26659 (1000X), S27207 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
MTBE	B	100.0	85.96	ng	-14	15	
Benzene	B	100.0	97.18	ng	-3	15	
Toluene	B	100.0	91.32	ng	-9	15	
Ethylbenzene	B	100.0	97.95	ng	-2	15	
m,p-Xylenes	B	200.0	205.3	ng	3	15	
o-Xylene	B	100.0	100.9	ng	1	15	
MTBE	C	100.0	99.25	ng	-1	15	
Benzene	C	100.0	107.4	ng	7	15	
Toluene	C	100.0	103.4	ng	3	15	
Ethylbenzene	C	100.0	108.4	ng	8	15	
m,p-Xylenes	C	200.0	215.9	ng	8	15	
o-Xylene	C	100.0	101.1	ng	1	15	

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : QC788351 IDF : 1.0
Seqnum : 315199249002.6 File : 138_002 Time : 18-MAY-2015 09:27
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5789.6	50.00	52.56	ng	5	15	u
MTBE	C	4000.1	3422.8	50.00	42.78	ng	-14	15	
Benzene	C	13224	11784	50.00	44.56	ng	-11	15	u
Benzene	B	18509	19521	50.00	52.73	ng	5	15	
Toluene	B	18944	18810	50.00	49.65	ng	-1	15	u
Toluene	C	12426	10499	50.00	42.25	ng	**-16**	15	c- ***
Ethylbenzene	C	10547	9147.1	50.00	43.37	ng	-13	15	u
Ethylbenzene	B	14804	16341	50.00	55.19	ng	10	15	
m,p-Xylenes	C	12416	10978	50.00	44.21	ng	-12	15	u
m,p-Xylenes	B	18538	21225	50.00	57.25	ng	14	15	
o-Xylene	C	10834	9433.8	50.00	43.54	ng	-13	15	u
o-Xylene	B	15584	18063	50.00	57.95	ng	**16**	15	c+ ***
Bromofluorobenzene (PID)	B	11500	13210	900.0	1034	ng	15	15	u
Bromofluorobenzene (PID)	C	8343.7	7443.9	900.0	802.9	ng	-11	15	

ETP 05/18/15 : ccv/bs,qc788351,223262 [general version]

ETP 05/18/15 : Toluene out low on channel C, used to confirm. O-xylene out high on channel B, used to confirm. [general version]

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

+=high bias -=low bias c=CCV u=use

CURTIS & TOMPKINS SPIKE USER REPORT FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : QC788350 IDF : 1.0
Seqnum : 315199249003.6 File : 138_003 Time : 18-MAY-2015 10:04
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2842.4	5000	5058	ng	1	15	u
Bromofluorobenzene (FID)	A	2155.2	2488.5	900.0	1039	ng	15	15	u

ETP 05/18/15 : ccv/lcs,qc788350,223262 [general version]

ETP 05/18/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A. [general version]

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249008 File : 138_008 Time : 18-MAY-2015 15:57
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	6174.9	100.0	112.1	ng	12	15	
Benzene	B	18509	21434	100.0	115.8	ng	**16**	15	c+ ***
Toluene	B	18944	20058	100.0	105.9	ng	6	15	
Ethylbenzene	B	14804	17488	100.0	118.1	ng	**18**	15	c+ ***
m,p-Xylenes	B	18538	21734	100.0	117.2	ng	**17**	15	c+ ***
o-Xylene	B	15584	18522	100.0	118.8	ng	**19**	15	c+ ***
Bromofluorobenzene (PID)	B	11500	13204	900.0	1033	ng	15	15	
MTBE	C	4000.1	4215.8	100.0	105.4	ng	5	15	
Benzene	C	13224	13758	100.0	104.0	ng	4	15	
Toluene	C	12426	12395	100.0	99.75	ng	0	15	
Ethylbenzene	C	10547	10927	100.0	103.6	ng	4	15	
m,p-Xylenes	C	12416	12940	100.0	104.2	ng	4	15	
o-Xylene	C	10834	11067	100.0	102.1	ng	2	15	
Bromofluorobenzene (PID)	C	8343.7	8235.1	900.0	888.3	ng	-1	15	

Analyst: ETP Date: 05/18/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249009 File : 138_009 Time : 18-MAY-2015 16:34
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2636.7	10000	9384	ng	-6	15	
Bromofluorobenzene (FID)	A	2155.2	2269.4	900.0	947.7	ng	5	15	

Analyst: ETP Date: 05/18/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249012 File : 138_012 Time : 18-MAY-2015 18:27
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2854.9	10000	10160	ng	2	15	
Bromofluorobenzene (FID)	A	2155.2	2502.1	900.0	1045	ng	**16**	15	c+

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249024 File : 138_024 Time : 19-MAY-2015 01:58
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5504.6	150.0	149.9	ng	0	15	
Benzene	B	18509	18821	150.0	152.5	ng	2	15	
Toluene	B	18944	17474	150.0	138.4	ng	-8	15	
Ethylbenzene	B	14804	14667	150.0	148.6	ng	-1	15	
m,p-Xylenes	B	18538	19372	150.0	156.8	ng	5	15	
o-Xylene	B	15584	16459	150.0	158.4	ng	6	15	
Bromofluorobenzene (PID)	B	11500	12830	900.0	1004	ng	12	15	
MTBE	C	4000.1	3871.9	150.0	145.2	ng	-3	15	
Benzene	C	13224	12450	150.0	141.2	ng	-6	15	
Toluene	C	12426	11011	150.0	132.9	ng	-11	15	
Ethylbenzene	C	10547	9502.5	150.0	135.1	ng	-10	15	
m,p-Xylenes	C	12416	11155	150.0	134.8	ng	-10	15	
o-Xylene	C	10834	9730.0	150.0	134.7	ng	-10	15	
Bromofluorobenzene (PID)	C	8343.7	7773.7	900.0	838.5	ng	-7	15	

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249025.1 File : 138_025 Time : 19-MAY-2015 02:36
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2678.0	15000	14300	ng	-5	15	
Bromofluorobenzene (FID)	A	2155.2	2540.4	900.0	1061	ng	**18**	15	c+

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249027 File : 138_027 Time : 19-MAY-2015 03:51
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5579.9	150.0	152.0	ng	1	15	
Benzene	B	18509	19411	150.0	157.3	ng	5	15	
Toluene	B	18944	18048	150.0	142.9	ng	-5	15	
Ethylbenzene	B	14804	15387	150.0	155.9	ng	4	15	
m,p-Xylenes	B	18538	19365	150.0	156.7	ng	4	15	
o-Xylene	B	15584	16735	150.0	161.1	ng	7	15	
Bromofluorobenzene (PID)	B	11500	12763	900.0	998.8	ng	11	15	
MTBE	C	4000.1	3973.2	150.0	149.0	ng	-1	15	
Benzene	C	13224	12579	150.0	142.7	ng	-5	15	
Toluene	C	12426	11198	150.0	135.2	ng	-10	15	
Ethylbenzene	C	10547	9641.8	150.0	137.1	ng	-9	15	
m,p-Xylenes	C	12416	11325	150.0	136.8	ng	-9	15	
o-Xylene	C	10834	9886.9	150.0	136.9	ng	-9	15	
Bromofluorobenzene (PID)	C	8343.7	7851.9	900.0	847.0	ng	-6	15	

Analyst: ERR Date: 05/19/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249028 File : 138_028 Time : 19-MAY-2015 04:29
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2515.5	15000	13430	ng	-10	15	
Bromofluorobenzene (FID)	A	2155.2	2348.7	900.0	980.8	ng	9	15	

ERR 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

EAH 05/19/15 : resign.

Analyst: ETP Date: 05/20/15 Reviewer: EAH Date: 05/21/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315199249039 File : 138_039 Time : 19-MAY-2015 11:22
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5769.3	100.0	104.8	ng	5	15	
Benzene	B	18509	19455	100.0	105.1	ng	5	15	
Toluene	B	18944	18204	100.0	96.09	ng	-4	15	
Ethylbenzene	B	14804	15469	100.0	104.5	ng	4	15	
m,p-Xylenes	B	18538	19663	100.0	106.1	ng	6	15	
o-Xylene	B	15584	17059	100.0	109.5	ng	9	15	
Bromofluorobenzene (PID)	B	11500	12960	900.0	1014	ng	13	15	
MTBE	C	4000.1	3777.7	100.0	94.44	ng	-6	15	
Benzene	C	13224	12140	100.0	91.81	ng	-8	15	
Toluene	C	12426	10683	100.0	85.98	ng	-14	15	
Ethylbenzene	C	10547	9289.2	100.0	88.08	ng	-12	15	
m,p-Xylenes	C	12416	10791	100.0	86.91	ng	-13	15	
o-Xylene	C	10834	9529.1	100.0	87.96	ng	-12	15	
Bromofluorobenzene (PID)	C	8343.7	7587.5	900.0	818.4	ng	-9	15	

Analyst: ETP Date: 05/19/15 Reviewer: EAH Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCVOA Soil
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315199249040 File : 138_040 Time : 19-MAY-2015 12:00
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2611.3	10000	9294	ng	-7	15	
Bromofluorobenzene (FID)	A	2155.2	2556.2	900.0	1067	ng	**19**	15	c+

ETP 05/19/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ETP 05/19/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ETP Date: 05/19/15 Reviewer: EAH Date: 05/19/15

+=high bias c=CCV

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315090403

Instrument : GC05 Begun : 03/03/15 18:43
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	062_001	X	IB			03/03/15 18:43	1.0	1	
002	062_002	X	IB			03/03/15 19:21	1.0	1	
003	062_003	IB	CALIB			03/03/15 19:58	1.0	1	
004	062_004	ICAL	BTXE_1			03/03/15 20:36	1.0	2 1	
005	062_005	ICAL	MBTXE_2			03/03/15 21:14	1.0	3 1	
006	062_006	ICAL	MBTXE_3			03/03/15 21:51	1.0	3 1	
007	062_007	ICAL	MBTXE_4			03/03/15 22:29	1.0	3 1	
008	062_008	ICAL	MBTXE_5			03/03/15 23:06	1.0	4 1	
009	062_009	ICAL	MBTXE_6			03/03/15 23:44	1.0	4 1	
010	062_010	ICAL	MBTXE_7			03/04/15 00:22	1.0	4 1	
011	062_011	ICAL	MBTBE_7			03/04/15 00:59	1.0	5 1	
012	062_012	X	IB			03/04/15 01:37	1.0	1	
013	062_013	ICV	MBTXE			03/04/15 02:15	1.0	6 1	
014	062_014	ICV	MBTXE			03/04/15 02:52	1.0	6 1	
015	062_015	X	IB			03/04/15 03:30	1.0	1	
016	062_016	X	IB			03/04/15 04:07	1.0	1	
017	062_017	IB	CALIB			03/04/15 04:45	1.0	1	
018	062_018	X	X			03/04/15 05:23	1.0	7 1	
019	062_019	ICAL	TVH_15			03/04/15 06:00	1.0	8 1	
020	062_020	ICAL	TVH_16			03/04/15 06:38	1.0	9 1	
021	062_021	ICAL	TVH_17			03/04/15 07:16	1.0	10 1	
022	062_022	ICAL	TVH_18			03/04/15 07:53	1.0	10 1	
023	062_023	X	IB			03/04/15 08:31	1.0	1	
024	062_024	ICV	TVH			03/04/15 09:08	1.0	11 1	
025	062_025	X	ICV			03/04/15 09:46	1.0	11 1	
026	062_026	CMARKER	CMARK			03/04/15 10:23	1.0	12 1	
027	062_027	X	CMARKER			03/04/15 11:01	1.0	12 1	
028	062_028	ICAL	TVH_14			03/04/15 12:44	1.0	7 1	
029	062_029	X	IB			03/04/15 13:21	1.0	1	
030	062_030	ICV	TVH			03/04/15 13:59	1.0	11 1	
031	062_031	X	ICV			03/04/15 14:37	1.0	11 1	
032	062_032	X	CMARKER			03/04/15 15:14	1.0	12 1	

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 03/04/15

Standards used: 1=S26658 2=S26340 3=S26339 4=S26338 5=S26368 6=S26659 7=S26765 8=S26764 9=S26763 10=S26761 11=S26760 12=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315193517

Instrument : GC05 Begun : 05/14/15 09:17
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	134_001	CCV	BTXE			05/14/15 09:17	1.0	1 2	
003	134_003	CCV	BTXE			05/14/15 10:56	1.0	1 2	
004	134_004	CCV	BTXE			05/14/15 11:34	1.0	1 2	
005	134_005	CCV	BTXE			05/14/15 12:11	1.0	1 2	
006	134_006	CCV	BTXE			05/14/15 12:49	1.0	1 2	
007	134_007	X	CMARKER			05/14/15 13:26	1.0	3 2	
008	134_008	CCV/LCS	QC787998	Soil	223179	05/14/15 15:00	1.0	4 2	
009	134_009	BLANK	QC787999	Soil	223179	05/14/15 15:38	1.0	2	
010	134_010	X	AVGAS			05/14/15 16:15	1.0	5 2	
011	134_011	ICAL	AVGAS			05/14/15 16:53	1.0	5 2	
012	134_012	X	IB	Soil		05/14/15 17:31	1.0	2	
013	134_013	MSS	266659-001	Soil	223179	05/14/15 18:08	1.0	2	
014	134_014	MS	QC788000	Soil	223179	05/14/15 18:46	1.0	4 2	
015	134_015	MSD	QC788001	Soil	223179	05/14/15 19:24	1.0	4 2	
016	134_016	SAMPLE	266659-002	Soil	223179	05/14/15 20:01	1.0	2	
017	134_017	CCV	TVH			05/14/15 20:39	1.0	4 2	
018	134_018	CCV	AVGAS			05/14/15 21:16	1.0	5 2	
019	134_019	CCV	TVH			05/14/15 21:54	1.0	4 2	
020	134_020	X	CMARKER			05/14/15 22:32	1.0	3 2	
021	134_021	CCV	AVGAS			05/14/15 23:09	1.0	5 2	
022	134_022	BLANK	QC787999	Soil	223179	05/14/15 23:47	1.0	2	
023	134_023	ICAL	BTXE_1			05/15/15 00:24	1.0	6 2	
024	134_024	ICAL	MBTXE_2			05/15/15 01:02	1.0	7 2	
025	134_025	ICAL	MBTXE_3			05/15/15 01:40	1.0	7 2	
026	134_026	ICAL	MBTXE_4			05/15/15 02:17	1.0	7 2	
027	134_027	ICAL	MBTXE_5			05/15/15 02:55	1.0	8 2	
028	134_028	ICAL	MBTXE_6			05/15/15 03:32	1.0	8 2	
029	134_029	ICAL	MBTXE_7			05/15/15 04:10	1.0	8 2	
030	134_030	ICAL	MBTBE_7			05/15/15 04:48	1.0	9 2	
031	134_031	X	IB			05/15/15 05:25	1.0	2	
032	134_032	X	MBTXE			05/15/15 06:03	1.0	10 2	
033	134_033	X	MBTXE			05/15/15 06:40	1.0	10 2	
034	134_034	CCV	AVGAS			05/15/15 10:24	1.0	5 2	
035	134_035	ICV	MBTXE			05/15/15 13:32	1.0	10 2	

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 33.

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 34 through 35.

Reviewed by: ERR Date: 05/15/15

Standards used: 1=S27205 2=S27207 3=S26730 4=S27195 5=S27256 6=S27217 7=S27216 8=S27215 9=S27153 10=S26659

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315199249

Instrument : GC05 Begun : 05/18/15 08:49
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	138_001	X	CMARKER				05/18/15 08:49	1.0	1 2	
002	138_002	CCV/BS	QC788351		Soil	223262	05/18/15 09:27	1.0	3 2	
003	138_003	CCV/LCS	QC788350		Soil	223262	05/18/15 10:04	1.0	4 2	
004	138_004	BSD	QC788352		Soil	223262	05/18/15 10:42	1.0	3 2	
005	138_005	BLANK	QC788349		Soil	223262	05/18/15 11:20	1.0	2	
006	138_006	SAMPLE	266748-001	M	Soil	223262	05/18/15 14:41	25.0	2	
007	138_007	SAMPLE	266748-002	M	Soil	223262	05/18/15 15:19	25.0	2	
008	138_008	CCV	BTXE				05/18/15 15:57	1.0	3 2	
009	138_009	CCV	TVH				05/18/15 16:34	1.0	4 2	
010	138_010	X	CMARKER				05/18/15 17:12	1.0	1 2	
011	138_011	CCV	BTXE				05/18/15 17:50	1.0	3 2	
012	138_012	CCV	TVH				05/18/15 18:27	1.0	4 2	
013	138_013	PREPBLK	QC788355	M	Soil	223262	05/18/15 19:05	25.0	2	
014	138_014	MSS	266816-001		Soil	223262	05/18/15 19:42	1.0	2	
015	138_015	MS	QC788353		Soil	223262	05/18/15 20:20	1.0	4 2	
016	138_016	MSD	QC788354		Soil	223262	05/18/15 20:58	1.0	4 2	
017	138_017	SAMPLE	266803-001		Soil	223262	05/18/15 21:35	1.0	2	
018	138_018	SAMPLE	266803-002		Soil	223262	05/18/15 22:13	1.0	2	3:GAS:7-12=330000
019	138_019	SAMPLE	266803-003		Soil	223262	05/18/15 22:51	1.0	2	
020	138_020	SAMPLE	266803-004		Soil	223262	05/18/15 23:28	1.0	2	
021	138_021	SAMPLE	266815-001		Soil	223262	05/19/15 00:06	1.0	2	
022	138_022	SAMPLE	266814-001	M	Soil	223262	05/19/15 00:43	50.0	2	
023	138_023	X	IB				05/19/15 01:21	1.0	2	
024	138_024	CCV	BTXE				05/19/15 01:58	1.0	3 2	
025	138_025	CCV	TVH				05/19/15 02:36	1.0	4 2	
026	138_026	X	CMARKER				05/19/15 03:14	1.0	1 2	
027	138_027	CCV	BTXE				05/19/15 03:51	1.0	3 2	
028	138_028	CCV	TVH				05/19/15 04:29	1.0	4 2	
029	138_029	SAMPLE	266816-002		Soil	223262	05/19/15 05:06	1.0	2	diluted (odor)
030	138_030	SAMPLE	266816-003		Soil	223262	05/19/15 05:44	1.0	2	
031	138_031	SAMPLE	266816-006		Soil	223262	05/19/15 06:22	1.0	2	
032	138_032	SAMPLE	266820-001		Soil	223262	05/19/15 06:59	1.0	2	
033	138_033	SAMPLE	266820-002		Soil	223262	05/19/15 07:37	1.0	2	
034	138_034	SAMPLE	266831-017		Soil	223262	05/19/15 08:14	1.0	2	
035	138_035	SAMPLE	266831-018		Soil	223262	05/19/15 08:52	1.0	2	
036	138_036	SAMPLE	266831-019		Soil	223262	05/19/15 09:29	1.0	2	
037	138_037	SAMPLE	266831-020		Soil	223262	05/19/15 10:07	1.0	2	
038	138_038	SAMPLE	266845-001		Soil	223262	05/19/15 10:45	1.0	2	
039	138_039	CCV	BTXE				05/19/15 11:22	1.0	3 2	
040	138_040	CCV	TVH				05/19/15 12:00	1.0	4 2	
041	138_041	CCV	BTXE				05/19/15 12:37	1.0	3 2	
042	138_042	X	CMARKER				05/19/15 13:15	1.0	1 2	

ERR 05/18/15 : Increased channel C lamp by 1 after run 2

ETP 05/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

ERR 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 28.

ETP 05/19/15 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315199249

Instrument : GC05 Begun : 05/18/15 08:49
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

sequence data entry, for runs 29 through 42.

Reviewed by: ETP Date: 05/18/15

Standards used: 1=S26730 2=S27207 3=S27205 4=S27195

Sample	ID	Weight (g)	MeOH Lot#	MeOH mL	Comments
PREPBLK	—	—	DL535	5.0	ETP 5/11/15
266731-001	B (ALIAS: 266505-7B)	5.11	DL535	5.0	ETP 5/12/15
PREPBLK	—	—	↓	↓	↓
266704-002	A	5.00	↓	↓	↓
266719-001	A	1.00	DL535	10.0	ETP 5/14/15
266643-001	A	6.22	↓	5.0	↓
↓ 3	↓	5.81	↓	↓	↓
266728-001	↓	6.18	↓	↓	↓
↓ 3	↓	5.94	↓	↓	↓
PREPBLK	—	—	↓	↓	↓
266814-001	B	5.56	DL535	5.0	ETP 5/18/15
PREPBLK	—	—	↓	↓	↓

Continued on Page

Read and Understood By

Signed Date Signed Date

BK3656 - 16
BOOK PAGE

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample	ID		Weight (g)	Na_2SO_4	Comments
266649-9	G		1.00	No	ERR 5-14-15
266608-017	A		1.00	No	ETP 5/14/15 for 5/13/15
↓	17MS		0.92	↓	↓
↓	17MSD		0.94	↓	↓
266771-001	C	(aliq 266505-7C)	5.84	↓	↓
266666-001	A		1.01	↓	ETP 5/14/15
↓	1MS		0.91	↓	↓
↓	1MSD		0.98	↓	↓
266775-001	A		1.07	↓	↓
266608-017	A		1.00	↓	↓
266783-001	C		5.25	↓	↓
266790-001	A		1.03	↓	↓
266794-001	A	38.52 - 31.202 - 0.25 = 7.07		↓	↓
266783-001	C		5.99	No	ETP 5/15/15
266817-001	A		0.94	↓	↓
↓	MS		0.92	↓	↓
↓	MSD		0.92	↓	↓
↓	2		3.97	↓	↓
↓	3		0.97	↓	↓
↓	4		0.98	↓	↓
↓	5		0.98	↓	↓
↓	1	A	1.04	No	MS 5/17/15
266659-1	A	0.93 ~~+.05~~ ERR 5-13-15		No	ERR 5-18-15 for 5-14-15
-1	MS	A	1.05	↓	↓
-1	MSD	A	1.01	↓	↓
-2		A	1.04	↓	↓
266816-001		A	0.92	No	ETP 5/18/15
↓	1MS		0.96	↓	↓
↓	1MSD		1.03	↓	↓
↓	2		0.59	↓	↓
↓	3		0.96	↓	↓
↓	6		0.99	↓	↓
266831-017	A	Comp 1-4	1.08	↓	↓
↓	18	Comp. 5-8	0.99	↓	↓
↓	19	Comp. 9-12	1.01	↓	↓
↓	20	Comp. 13-16	1.08	↓	↓
266803-001	A	36.38 - 30.950 - 0.29 = 5.18 - 0.17 = 5.01		↓	↓
↓	2	38.31 - 31.448 - 0.29 = 6.90 - 0.17 = 6.73		↓	↓
↓	3	E	35.95 - 30.762 - 0.29 = 4.94 - 0.17 = 4.77	↓	↓
↓	4	↓	37.10 - 30.754 - 0.25 = 6.10 - 0.17 = 5.93	↓	↓
266870-001	E		36.56 - 30.776 - 0.25 = 0.17 = 5.36	↓	↓
↓	2	↓	37.00 - 30.835 - 0.25 - 0.17 = 5.75	↓	↓
266815-1	A		0.91	No	ERR 5-19-15 ~~Continued to page~~ for ETP 5-18-15

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE SOIL ALIQUOT TVH/BTXE **PROJECT** **DATE**

Continued from page

Sample	ID		Weight(g)	Na_2SO_4	Comments
266877-001	A		1.04	No	ETP 5/18/15
266845-001	↓		096	↓	↓
266803-4	D	37.52-31.174-0.25=6.10		No	ERR 5-19-15
266871-1MS	A		1.08	No	ERR 5-19-15
↓ -1MSD	↓		0.99	↓	↓
266877-001	✱		1.076	No	ETP 5/19/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

REPORTING SUMMARY FOR 266820 GCVOA Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
266820-001	Gasoline C7-C12	GC05	A	05/19/15 06:59
266820-001	MTBE	GC05	B	05/19/15 06:59
266820-001	Benzene	GC05	B	05/19/15 06:59
266820-001	Toluene	GC05	B	05/19/15 06:59
266820-001	Ethylbenzene	GC05	B	05/19/15 06:59
266820-001	m,p-Xylenes	GC05	B	05/19/15 06:59
266820-001	o-Xylene	GC05	B	05/19/15 06:59
266820-001	Bromofluorobenzene (FID)	GC05	A	05/19/15 06:59
266820-001	Bromofluorobenzene (PID)	GC05	B	05/19/15 06:59
266820-002	Gasoline C7-C12	GC05	A	05/19/15 07:37
266820-002	MTBE	GC05	B	05/19/15 07:37
266820-002	Benzene	GC05	B	05/19/15 07:37
266820-002	Toluene	GC05	B	05/19/15 07:37
266820-002	Ethylbenzene	GC05	B	05/19/15 07:37
266820-002	m,p-Xylenes	GC05	B	05/19/15 07:37
266820-002	o-Xylene	GC05	B	05/19/15 07:37
266820-002	Bromofluorobenzene (FID)	GC05	A	05/19/15 07:37
266820-002	Bromofluorobenzene (PID)	GC05	B	05/19/15 07:37
QC788349	Gasoline C7-C12	GC05	A	05/18/15 11:20
QC788349	MTBE	GC05	B	05/18/15 11:20
QC788349	Benzene	GC05	C	05/18/15 11:20
QC788349	Toluene	GC05	B	05/18/15 11:20
QC788349	Ethylbenzene	GC05	C	05/18/15 11:20
QC788349	m,p-Xylenes	GC05	C	05/18/15 11:20
QC788349	o-Xylene	GC05	C	05/18/15 11:20
QC788349	Bromofluorobenzene (FID)	GC05	A	05/18/15 11:20
QC788349	Bromofluorobenzene (PID)	GC05	B	05/18/15 11:20
QC788350	Gasoline C7-C12	GC05	A	05/18/15 10:04
QC788350	Bromofluorobenzene (FID)	GC05	A	05/18/15 10:04
QC788351	MTBE	GC05	B	05/18/15 09:27
QC788351	Benzene	GC05	C	05/18/15 09:27
QC788351	Toluene	GC05	B	05/18/15 09:27
QC788351	Ethylbenzene	GC05	C	05/18/15 09:27
QC788351	m,p-Xylenes	GC05	C	05/18/15 09:27
QC788351	o-Xylene	GC05	C	05/18/15 09:27
QC788351	Bromofluorobenzene (PID)	GC05	B	05/18/15 09:27
QC788352	MTBE	GC05	B	05/18/15 10:42
QC788352	Benzene	GC05	C	05/18/15 10:42
QC788352	Toluene	GC05	B	05/18/15 10:42
QC788352	Ethylbenzene	GC05	C	05/18/15 10:42
QC788352	m,p-Xylenes	GC05	C	05/18/15 10:42
QC788352	o-Xylene	GC05	C	05/18/15 10:42
QC788352	Bromofluorobenzene (PID)	GC05	B	05/18/15 10:42
QC788353	Gasoline C7-C12	GC05	A	05/18/15 20:20
QC788353	Bromofluorobenzene (FID)	GC05	A	05/18/15 20:20
QC788354	Gasoline C7-C12	GC05	A	05/18/15 20:58
QC788354	Bromofluorobenzene (FID)	GC05	A	05/18/15 20:58

Laboratory Job Number 266820

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/15/15
Units:	mg/Kg	Received:	05/15/15
Basis:	dry	Prepared:	05/15/15
Batch#:	223220	Analyzed:	05/16/15

Field ID: APLMW-2(4.5) Moisture: 4%
Type: SAMPLE Diln Fac: 5.000
Lab ID: 266820-001

Analyte	Result	RL
Diesel C10-C24	380	5.2
Motor Oil C24-C36	220	26

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Field ID: APLMW-2(8.2) Moisture: 17%
Type: SAMPLE Diln Fac: 1.000
Lab ID: 266820-002

Analyte	Result	RL
Diesel C10-C24	3.2 Y	1.2
Motor Oil C24-C36	8.4	6.0

Surrogate	%REC	Limits
o-Terphenyl	109	59-140

Type: BLANK Diln Fac: 1.000
Lab ID: QC788169

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	111	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788170	Batch#:	223220
Matrix:	Soil	Prepared:	05/15/15
Units:	mg/Kg	Analyzed:	05/16/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.79	47.88	96	58-137

Surrogate	%REC	Limits
o-Terphenyl	113	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	223220
MSS Lab ID:	266815-001	Sampled:	05/14/15
Matrix:	Soil	Received:	05/15/15
Units:	mg/Kg	Prepared:	05/15/15
Basis:	dry	Analyzed:	05/16/15
Diln Fac:	1.000		

Type: MS Moisture: 20%
Lab ID: QC788171

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	292.4	62.21	765.9 >LR	761 NM	46-154

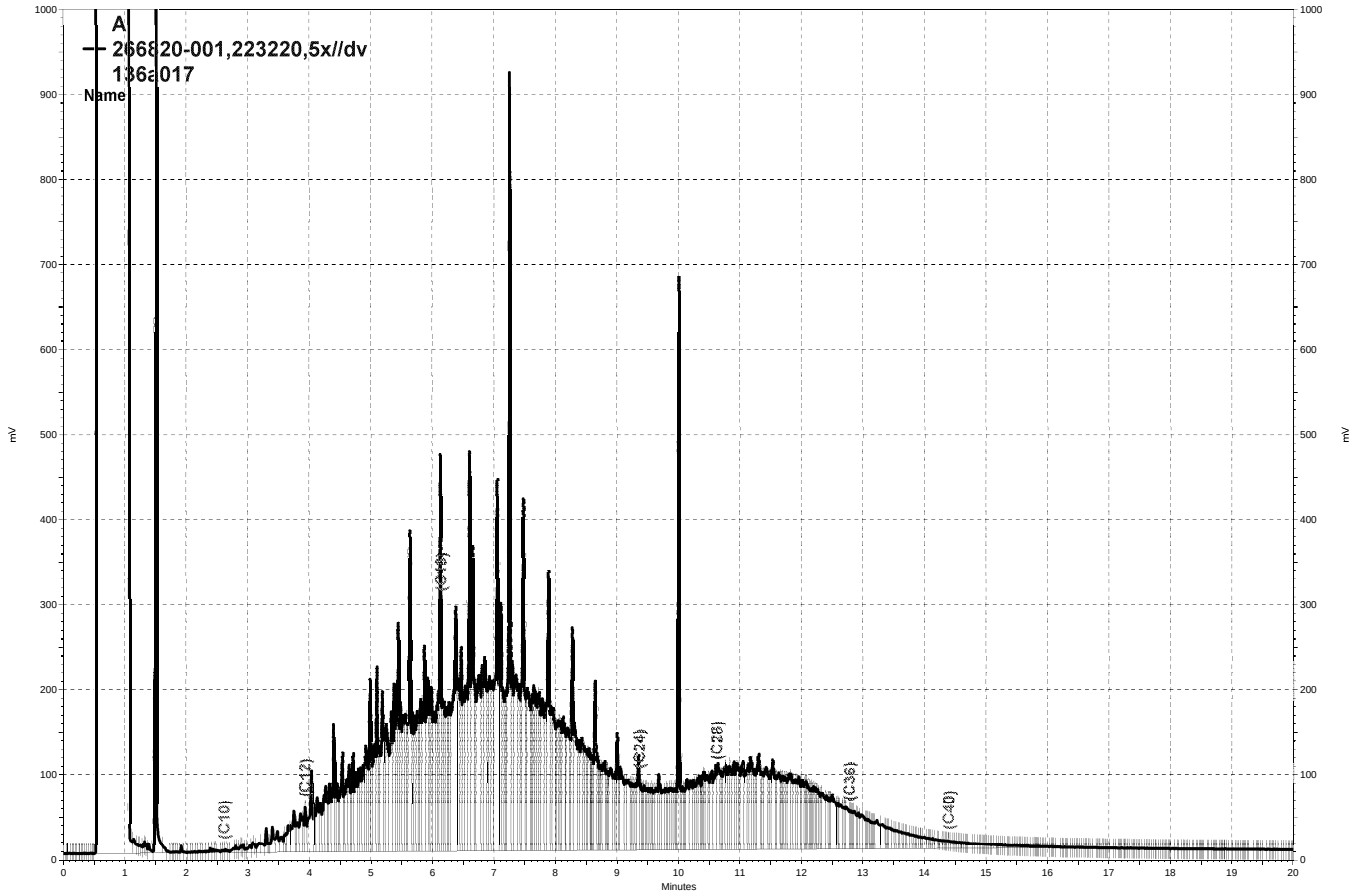
Surrogate	%REC	Limits
o-Terphenyl	119	59-140

Type: MSD Moisture: 20%
Lab ID: QC788172

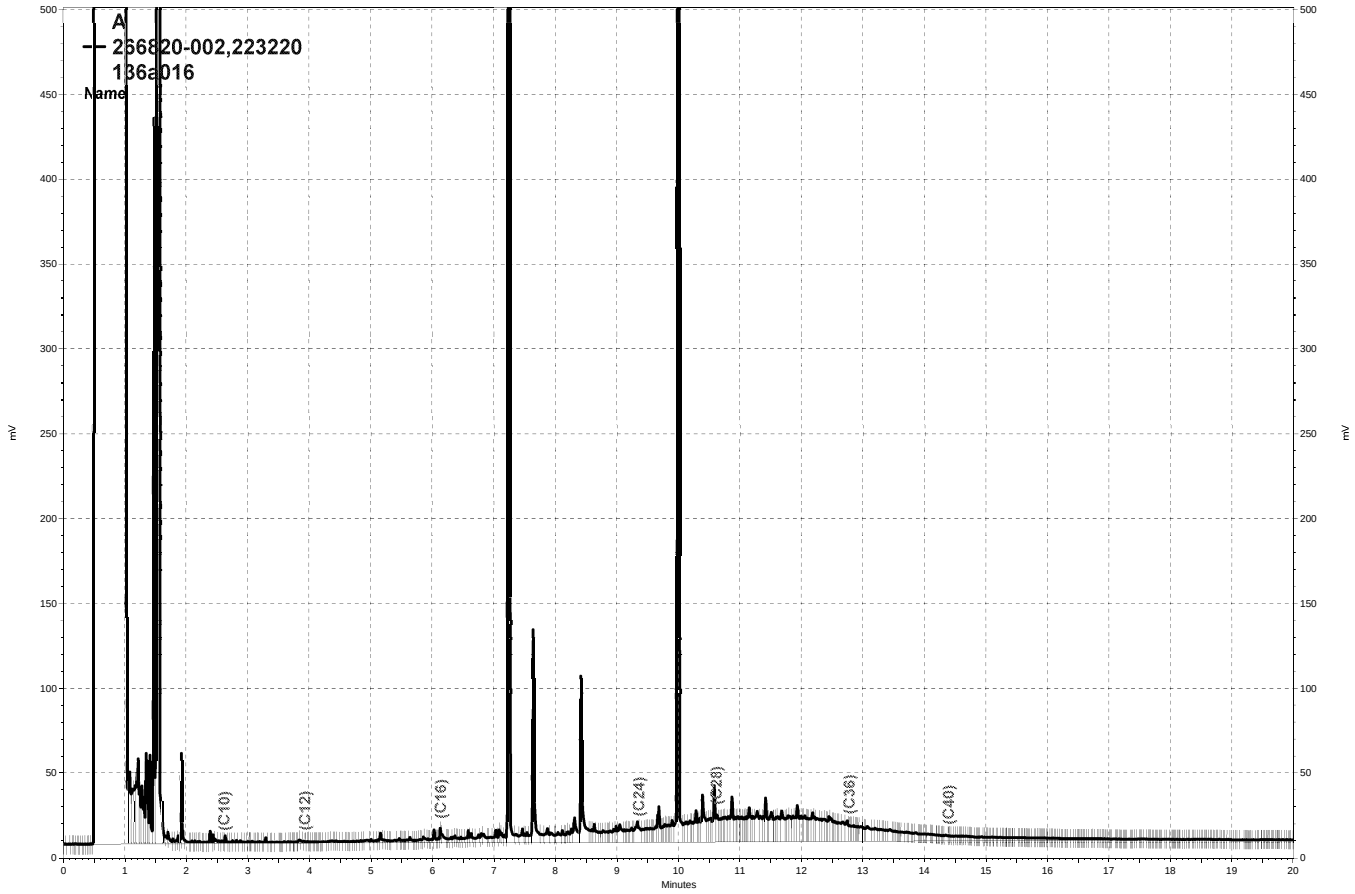
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	62.41	93.48	-319 NM	46-154	NC	50

Surrogate	%REC	Limits
o-Terphenyl	107	59-140

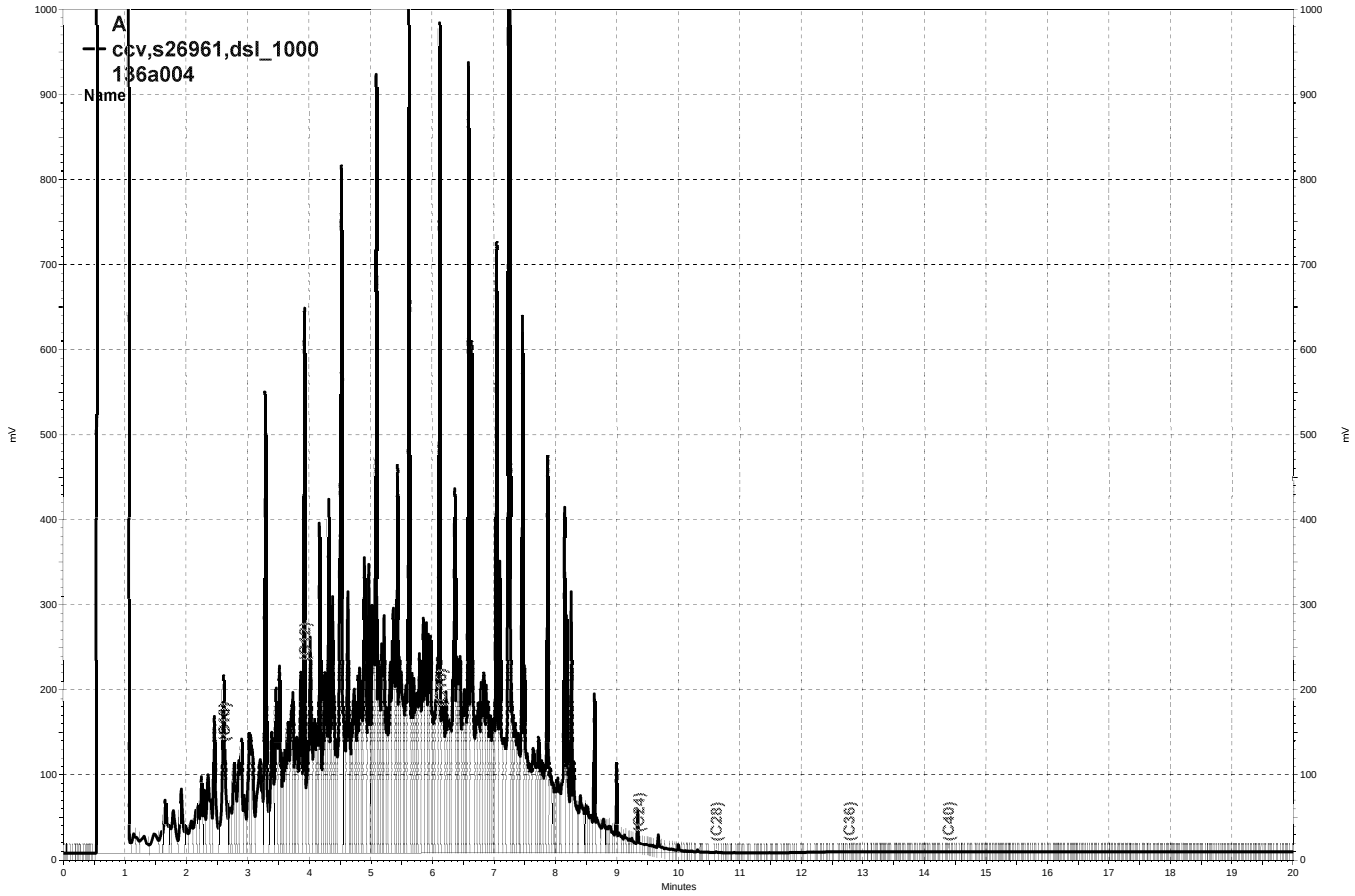
NC= Not Calculated
NM= Not Meaningful: Sample concentration > 4X spike concentration
>LR= Response exceeds instrument's linear range
RPD= Relative Percent Difference



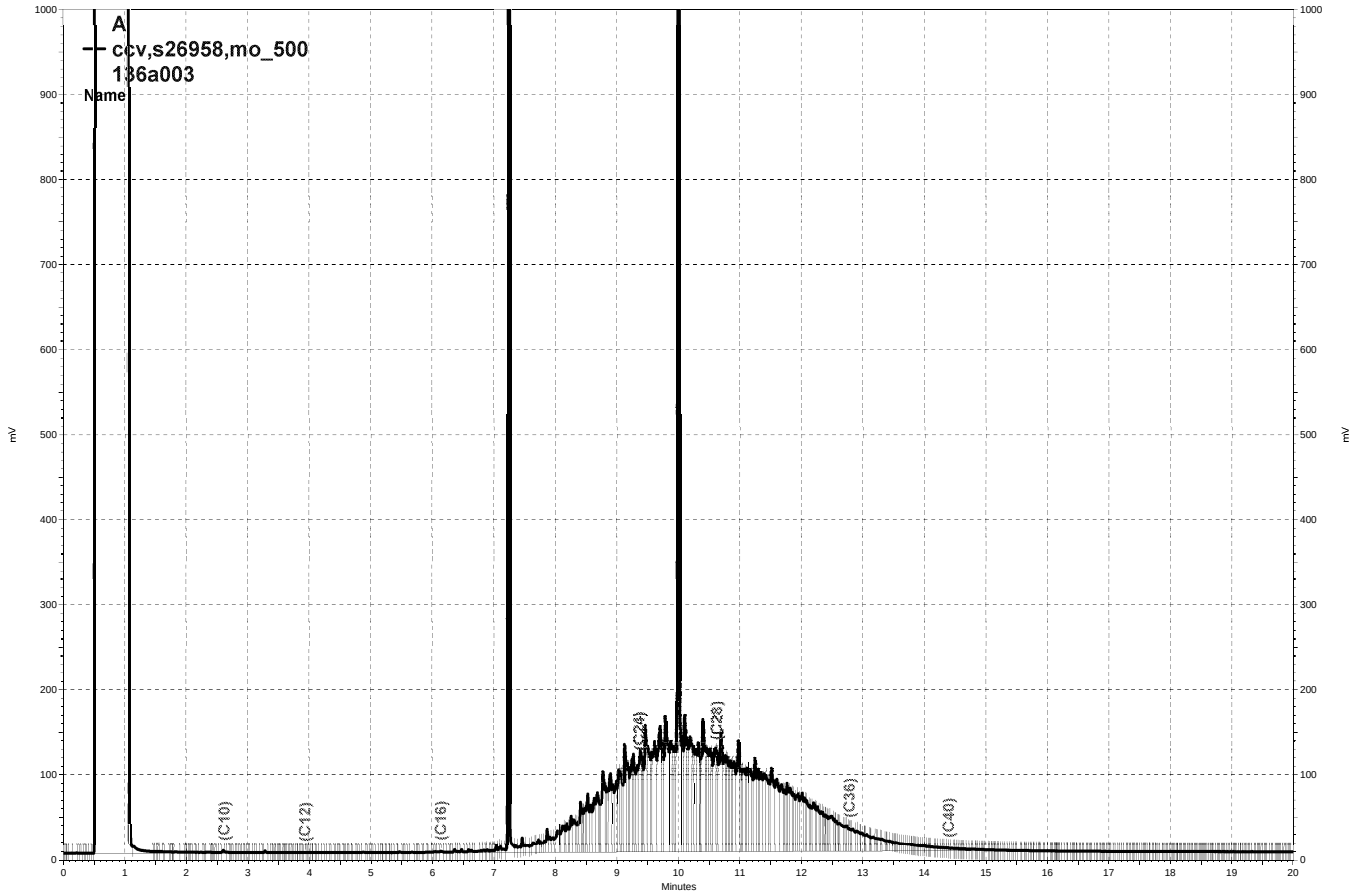
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a017, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a016, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a004, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\136a003, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439001
Units : mg/L

Name : OTPHEX_125
Date : 05-MAY-2015 12:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a007	175180439007	HEXOTP_5	05-MAY-2015 12:49	S26468
L2	125a008	175180439008	HEXOTP_10	05-MAY-2015 13:17	S26469
L3	125a009	175180439009	HEXOTP_25	05-MAY-2015 13:45	S26470
L4	125a010	175180439010	HEXOTP_50	05-MAY-2015 14:13	S26471
L5	125a011	175180439011	HEXOTP_100	05-MAY-2015 14:41	S26472
L6	125a012	175180439012	HEXOTP_200	05-MAY-2015 15:09	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71436	72399	70812	70604	71499	69719	AVRG		1.41E-5		71078	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	1	10.000	2	25.000	0	50.000	-1	100.00	1	200.00	-2

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439002
Units : mg/L

Name : DSL_125
Date : 05-MAY-2015 16:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a014	175180439014	DSL_10	05-MAY-2015 16:05	S27111
L2	125a015	175180439015	DSL_100	05-MAY-2015 16:33	S27112
L3	125a016	175180439016	DSL_500	05-MAY-2015 17:01	S27113
L4	125a017	175180439017	DSL_1000	05-MAY-2015 17:29	S27114
L5	125a018	175180439018	DSL_5000	05-MAY-2015 17:56	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	76763	63180	62015	63432	62838	AVRG		1.52E-5		65646	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	17	100.00	-4	500.00	-6	1000.0	-3	5000.0	-4

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266820 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_125
Calnum : 175180439002 Cal Date : 05-MAY-2015

ICV 175180439020 (125a020 05-MAY-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	514.3	mg/L	3	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 175180439003
Units : mg/L

Name : MO_500
Date : 05-MAY-2015 20:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a023	175180439023	MO_50	05-MAY-2015 20:16	S26392
L2	125a024	175180439024	MO_250	05-MAY-2015 20:44	S26393
L3	125a025	175180439025	MO_500	05-MAY-2015 21:12	S26394
L4	125a026	175180439026	MO_1000	05-MAY-2015 21:40	S26395
L5	125a027	175180439027	MO_2500	05-MAY-2015 22:08	S26389 (2X)
L6	125a028	175180439028	MO_5000	05-MAY-2015 22:36	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	43142	43279	40585	39032	34696	33194	AVRG		2.56E-5		38988	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	11	250.00	11	500.00	4	1000.0	0	2500.0	-11	5000.0	-15

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175196380003 File : 136a003 Time : 16-MAY-2015 09:56
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	38245	500.0	490.5	mg/L	-2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	73109	50.00	51.43	mg/L	3	15	

Analyst: SFL Date: 05/16/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175196380004 File : 136a004 Time : 16-MAY-2015 10:24
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	61531	1000	937.3	mg/L	-6	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	76622	50.00	53.90	mg/L	8	15	

SFL 05/16/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/16/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175196380018 File : 136a018 Time : 16-MAY-2015 17:11
Standards: S26958

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	40154	500.0	514.9	mg/L	3	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	77190	50.00	54.30	mg/L	9	15	

JDG 05/18/15 : Manually integrated fuel hump.

Analyst: JDG Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175196380019 File : 136a019 Time : 16-MAY-2015 17:38
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	63862	500.0	486.4	mg/L	-3	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	76078	50.00	53.52	mg/L	7	15	

JDG 05/18/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/18/15 Reviewer: EAH Date: 05/18/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175180439

Instrument : GC17A
Method : EPA 8015B
Begun : 05/05/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 07:19	1.0		
002	125a002	CHECK	CMARKER			05/05/15 07:48	1.0	1	
003	125a003	CHECK	CMARKER			05/05/15 08:46	1.0	1	
004	125a004	CHECK	CMARKER			05/05/15 11:25	1.0	1	
005	125a005	X	IB			05/05/15 11:53	1.0		
006	125a006	IB	CALIB			05/05/15 12:21	1.0		
007	125a007	ICAL	HEXOTP_5			05/05/15 12:49	1.0	2	
008	125a008	ICAL	HEXOTP_10			05/05/15 13:17	1.0	3	
009	125a009	ICAL	HEXOTP_25			05/05/15 13:45	1.0	4	
010	125a010	ICAL	HEXOTP_50			05/05/15 14:13	1.0	5	
011	125a011	ICAL	HEXOTP_100			05/05/15 14:41	1.0	6	
012	125a012	ICAL	HEXOTP_200			05/05/15 15:09	1.0	7	
013	125a013	IB	CALIB			05/05/15 15:37	1.0		
014	125a014	ICAL	DSL_10			05/05/15 16:05	1.0	8	
015	125a015	ICAL	DSL_100			05/05/15 16:33	1.0	9	
016	125a016	ICAL	DSL_500			05/05/15 17:01	1.0	10	
017	125a017	ICAL	DSL_1000			05/05/15 17:29	1.0	11	
018	125a018	ICAL	DSL_5000			05/05/15 17:56	1.0	12	
019	125a019	IB	CALIB			05/05/15 18:24	1.0		
020	125a020	ICV	DSL_500			05/05/15 18:52	1.0	13	
021	125a021	X	ICV			05/05/15 19:20	1.0	13	
022	125a022	IB	CALIB			05/05/15 19:48	1.0		
023	125a023	ICAL	MO_50			05/05/15 20:16	1.0	14	
024	125a024	ICAL	MO_250			05/05/15 20:44	1.0	15	
025	125a025	ICAL	MO_500			05/05/15 21:12	1.0	16	
026	125a026	ICAL	MO_1000			05/05/15 21:40	1.0	17	
027	125a027	ICAL	MO_2500			05/05/15 22:08	1.0	18	
028	125a028	ICAL	MO_5000			05/05/15 22:36	1.0	18	
029	125a029	IB	CALIB			05/05/15 23:05	1.0		
030	125a030	CMARKER	C8-C50			05/05/15 23:33	1.0	1	
031	125a031	IB	CALIB			05/06/15 00:01	1.0		

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S26646 2=S26468 3=S26469 4=S26470 5=S26471 6=S26472 7=S26473 8=S27111 9=S27112 10=S27113 11=S27114 12=S27110 13=S26960 14=S26392 15=S26393 16=S26394 17=S26395 18=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175196380

Instrument : GC17A
Method : EPA 8015B

Begun : 05/16/15 09:00
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	136a001	X	IB			05/16/15 09:00	1.0		
002	136a002	X	CMARKER			05/16/15 09:28	1.0	1	
003	136a003	CCV	MO_500			05/16/15 09:56	1.0	2	
004	136a004	CCV	DSL_1000			05/16/15 10:24	1.0	3	
005	136a005	CCV	BUNK_500			05/16/15 10:51	1.0	4	
006	136a006	BLANK	QC788169	Soil	223220	05/16/15 11:38	1.0		
007	136a007	LCS	QC788170	Soil	223220	05/16/15 12:06	1.0		
008	136a008	MSS	266815-001	Soil	223220	05/16/15 12:34	1.0		2:BUNKC:12-40=10000
009	136a009	MS	QC788171	Soil	223220	05/16/15 13:01	1.0		9:BUNKC:12-40=23000
010	136a010	MSD	QC788172	Soil	223220	05/16/15 13:29	1.0		
011	136a011	SAMPLE	266826-001	Soil	223220	05/16/15 13:57	1.0		
012	136a012	SAMPLE	266826-002	Soil	223220	05/16/15 14:25	1.0		
013	136a013	SAMPLE	266826-003	Soil	223220	05/16/15 14:53	1.0		
014	136a014	SAMPLE	266826-004	Soil	223220	05/16/15 15:20	1.0		
015	136a015	SAMPLE	266814-001	Soil	223220	05/16/15 15:48	1.0		
016	136a016	SAMPLE	266820-002	Soil	223220	05/16/15 16:16	1.0		
017	136a017	SAMPLE	266820-001	Soil	223220	05/16/15 16:43	5.0		
018	136a018	CCV	MO_500			05/16/15 17:11	1.0	2	
019	136a019	CCV	DSL_500			05/16/15 17:38	1.0	5	
020	136a020	CCV	BUNK_500			05/16/15 18:06	1.0	4	
021	136a021	X	CCV			05/16/15 18:33	1.0	2	
022	136a022	X	CCV			05/16/15 19:01	1.0	5	
023	136a023	X	CCV			05/16/15 19:29	1.0	4	
024	136a024	SAMPLE	266803-001	Soil	223220	05/16/15 19:57	1.0		
025	136a025	SAMPLE	266803-002	Soil	223220	05/16/15 20:25	1.0		3:BUNKC:10-40=15000
026	136a026	SAMPLE	266803-004	Soil	223220	05/16/15 20:52	1.0		8:BUNKC:12-40=21000
027	136a027	SAMPLE	266817-001	Soil	223220	05/16/15 21:20	1.0		
028	136a028	SAMPLE	266817-002	Soil	223220	05/16/15 21:48	1.0		
029	136a029	SAMPLE	266817-003	Soil	223220	05/16/15 22:17	1.0		
030	136a030	SAMPLE	266817-004	Soil	223220	05/16/15 22:45	1.0		
031	136a031	SAMPLE	266817-005	Soil	223220	05/16/15 23:13	1.0		
032	136a032	SAMPLE	266803-003	Soil	223220	05/16/15 23:41	10.0		
033	136a033	X	CMARKER			05/17/15 00:09	1.0	1	
034	136a034	CCV	MO_500			05/17/15 00:36	1.0	2	
035	136a035	CCV	DSL_250			05/17/15 01:04	1.0	6	
036	136a036	X	CCV			05/17/15 01:32	1.0	2	
037	136a037	X	CCV			05/17/15 02:00	1.0	6	

JDG 05/18/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S26646 2=S26958 3=S26961 4=S26288 5=S26960 6=S26959

SAMPLE PREPARATION SUMMARY

Batch # : 223220
Started By : KKL
Method : 3550B
Spike #1 ID : S27144
Prep Date : 15-MAY-2015 16:00
Spike #2 ID : S26964
Analysis : TEHM
Finished By : KKL
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266803-001		Soil	49.85	5	1	0.1003		1				TEHM	
266803-002		Soil	49.92	5	1	0.1002		1				TEHM	
266803-003		Soil	49.84	5	1	0.1003		1				TEHM	
266803-004		Soil	50.08	5	1	0.09984		1				TEHM	
266814-001		Soil	49.99	5	1	0.1000		1				TEHM	
266815-001		Soil	49.71	5	1	0.1006		1				TEHM	
266817-001		Soil	49.85	5	1	0.1003		1				TEHM	Prepped 15-MAY-2015 17:55
266817-002		Soil	49.89	5	1	0.1002		1				TEHM	Prepped 15-MAY-2015 17:55
266817-003		Soil	50.08	5	1	0.09984		1				TEHM	Prepped 15-MAY-2015 17:55
266817-004		Soil	50.19	5	1	0.09962		1				TEHM	Prepped 15-MAY-2015 17:55
266817-005		Soil	50.51	5	1	0.09899		1				TEHM	Prepped 15-MAY-2015 17:55
266820-001		Soil	49.98	5	1	0.1000		1				TEHM	
266820-002		Soil	49.94	5	1	0.1001		1				TEHM	
266826-001		Soil	49.91	5	1	0.1002		1				TEH	Prepped 15-MAY-2015 17:30
266826-002		Soil	50.17	5	1	0.09966		1				TEH	Prepped 15-MAY-2015 17:30
266826-003		Soil	50.24	5	1	0.09952		1				TEH	Prepped 15-MAY-2015 17:30
266826-004		Soil	50.09	5	1	0.09982		1				TEH	Prepped 15-MAY-2015 17:30
QC788169	BLANK	Soil	50.42	5	1	0.09917		1				TEHM	
QC788170	LCS	Soil	50.21	5	1	0.09958		1	1			TEHM	
QC788171	MS	Soil	50.23	5	1	0.09954		1	1			TEHM	
QC788172	MSD	Soil	50.07	5	1	0.09986		1	1			TEHM	

Analyst: SFL Date: 05/18/15 Reviewer: EAH Date: 05/18/15

TITLE Soil Aliquot **PROJECT** **DATE**

Continued from page

Sample ID	Weight (g)	Analysis	Batch #	Scale Used	Comments
266803-001 G	49.85	TEH/M		WetChem	
2	49.92				
3	49.84				
4	50.08				
266814-001 E	49.99				
266815-001 C	49.71				MSS
266820-001 G	49.98				
2	49.94				
MB N/A	50.42				EMXF27F
LCS	50.21				↓
MS	50.23				266815-001C
MSD	50.07				↓

KKL 5/15/15

266826-001 A	49.91	TEH/M		DISH 1	
2	50.17				
3	50.24				
4	50.09				
266815-001 B	29.79	PLPD			LMSJ
266816-001 A	29.99				
266829-002	29.85				
3	30.29				
LMB	30.07				EMXF27F
LCJ	29.78				↓
LMS	30.12				266815-001
LMSD	29.68				↓

APW 5/15/15

266803-001 G	30.36	8270.SIM		DISH 1	
-2	30.06				
-3	30.30				
-4	30.26				
266815-001 C	30.12				
266817-001	30.02				
-2	30.47				MSS
-3	29.99				
-4	30.28				
-5	30.28				
266820-001 G	30.02				
-2 G	30.25				
MB N/A	29.78				EMXF27F
LCS	30.44				↓
MS	30.01				266817-002
MSD	30.33				↓

GDM 5/15/15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

BK3652 - 160
BOOK PAGE

TITLE Soil Aliquot **PROJECT** D

Continued from page

Sample ID		Weight (g)	Analysis	Batch #	Scale Used	Comments
266817-001	A	49.85	TEH/M		Dish 1	MIS-NO DRY
	2	49.89				
	3	50.08				
	4	50.19				
	5	50.51				
266826-001		49.91				
	2	50.17				
	3	50.24				
	4	50.09				

KKL 5/15/15

SIGNATURE DATE

Continued to pag

DISCLOSED TO AND UNDERSTOOD BY DATE

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3647 Page 58

LIMS Batch No: 223220
LIMS Analysis TEH/M
Date Extracted: 5/15/15

Extraction Method:
☐ Shaker Table
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☐ EPA 3630 Silica Gel

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	266803-001	G	49.85	☑5.0 ☐		
	2		49.92	☑5.0 ☐		
	3		49.84	☑5.0 ☐		
	4		50.08	☑5.0 ☐		
5	266814-001	E	49.99	☑5.0 ☐		
	266815-001	C	49.71	☑5.0 ☐		MSS
	266817-001	A	49.85	☑5.0 ☐		a/o @ 17:55, 5/15/15
	2		49.89	☑5.0 ☐		
	3		50.08	☑5.0 ☐		
10	4		50.19	☑5.0 ☐		
	5		50.51	☑5.0 ☐		
	266820-001	G	49.98	☑5.0 ☐		
	2		49.94	☑5.0 ☐		
	266826-001	A	49.91	☑5.0 ☐		a/o @ 17:30, 5/15/15
15	2		50.17	☑5.0 ☐		
	3		50.24	☑5.0 ☐		
	4		50.09	☑5.0 ☐		
	MB QC788169	N/A	50.42	☑5.0 ☐		
	LCS 70		50.21	☑5.0 ☐		
20	MS 71		50.23	☑5.0 ☐		
	MSD 72		50.07	☑5.0 ☐		
				☐ 5.0 ☐		
				☐ 5.0 ☐		
				☐ 5.0 ☐		
				☐ 5.0 ☐		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EMXF27F	KKL 5/15/15
Samples were dried with CH2Cl2-rinsed ~~powdered~~ granular Na2SO4	↓	↓
1.0 mL of Surrogate solution was added to all samples	527144C	
1.0 mL of Spike solution was added to all spikes	526964B	
1:1 CH_2Cl_2 (lot# EM54351):Acetone(lot# EM54318) was added to all	✓	
Solvent added at (time)	16:00 / 17:30 / 17:55	
☑ Sonicated 3 times w/ ≥100mL ☐ placed on Shaker Table at:	✓	
taken off Shaker Table at:	N/A	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM1604C509	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	✓	↓

Kristin Low 5/15/15
Extraction Chemist / Date

Continued from page _____
Continued on page 1

SFU 5/18/15
Reviewed by / Date

Laboratory Job Number 266820

ANALYTICAL REPORT

Semivolatile Organics by GC/MS SIM

Matrix: Soil

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-2(4.5)	Batch#:	223246
Lab ID:	266820-001	Sampled:	05/15/15
Matrix:	Soil	Received:	05/15/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15
Diln Fac:	1.000		

Moisture: 4%

Analyte	Result	RL
Naphthalene	11	5.2
Acenaphthylene	17	5.2
Acenaphthene	ND	5.2
Fluorene	28	5.2
Phenanthrene	78	5.2
Anthracene	ND	5.2
Fluoranthene	26	5.2
Pyrene	52	5.2
Benzo(a)anthracene	13	5.2
Chrysene	26	5.2
Benzo(b)fluoranthene	39	5.2
Benzo(k)fluoranthene	11	5.2
Benzo(a)pyrene	34	5.2
Indeno(1,2,3-cd)pyrene	22	5.2
Dibenz(a,h)anthracene	ND	5.2
Benzo(g,h,i)perylene	31	5.2

Surrogate	%REC	Limits
Nitrobenzene-d5	68	40-120
2-Fluorobiphenyl	63	46-120
Terphenyl-d14	70	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-2(8.2)	Batch#:	223246
Lab ID:	266820-002	Sampled:	05/15/15
Matrix:	Soil	Received:	05/15/15
Units:	ug/Kg	Prepared:	05/19/15
Basis:	dry	Analyzed:	05/19/15
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL
Naphthalene	ND	6.0
Acenaphthylene	ND	6.0
Acenaphthene	ND	6.0
Fluorene	ND	6.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	6.0
Pyrene	ND	6.0
Benzo(a)anthracene	ND	6.0
Chrysene	ND	6.0
Benzo(b)fluoranthene	ND	6.0
Benzo(k)fluoranthene	ND	6.0
Benzo(a)pyrene	ND	6.0
Indeno(1,2,3-cd)pyrene	ND	6.0
Dibenz(a,h)anthracene	ND	6.0
Benzo(g,h,i)perylene	6.2	6.0

Surrogate	%REC	Limits
Nitrobenzene-d5	71	40-120
2-Fluorobiphenyl	75	46-120
Terphenyl-d14	59	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC788271	Batch#:	223246
Matrix:	Soil	Prepared:	05/18/15
Units:	ug/Kg	Analyzed:	05/18/15

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	72	40-120
2-Fluorobiphenyl	72	46-120
Terphenyl-d14	67	43-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC788272	Batch#:	223246
Matrix:	Soil	Prepared:	05/18/15
Units:	ug/Kg	Analyzed:	05/18/15

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	32.85	23.94	73	49-120
Pyrene	32.85	21.99	67	48-120

Surrogate	%REC	Limits
Nitrobenzene-d5	75	40-120
2-Fluorobiphenyl	82	46-120
Terphenyl-d14	69	43-120

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3550B
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	223246
MSS Lab ID:	266817-002	Sampled:	05/13/15
Matrix:	Soil	Received:	05/15/15
Units:	ug/Kg	Prepared:	05/18/15
Basis:	dry	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: MS Moisture: 31%
Lab ID: QC788273

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<1.448	48.29	29.60	61	43-120
Pyrene	<1.448	48.29	29.98	62	18-144

Surrogate	%REC	Limits
Nitrobenzene-d5	78	40-120
2-Fluorobiphenyl	71	46-120
Terphenyl-d14	68	43-120

Type: MSD Moisture: 31%
Lab ID: QC788274

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	47.78	25.04	52	43-120	16	45
Pyrene	47.78	27.36	57	18-144	8	72

Surrogate	%REC	Limits
Nitrobenzene-d5	65	40-120
2-Fluorobiphenyl	60	46-120
Terphenyl-d14	61	43-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 266820 MSSIM Soil
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525131701005 File : vd105 Time : 01-APR-2015 12:58

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	144572	42.83	
68	< 2% of mass 69	0	0.00	
69		166261	100.00	
70	< 2% of mass 69	1218	0.73	
127	40% - 60% of mass 198	186729	55.32	
197	< 1% of mass 198	0	0.00	
198		337514	100.00	
199	5% - 9% of mass 198	24104	7.14	
275	10% - 30% of mass 198	74893	22.19	
365	> 1% of mass 198	12658	3.75	
441	Present, < mass 443	47405	74.51	
442	> 40% and < 100% of mass 198	315029	93.34	
443	17% - 23% of mass 442	63621	20.20	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266820 MSSIM Soil
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525199322003 File : vei03 Time : 18-MAY-2015 10:41

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	110765	50.58	
68	< 2% of mass 69	426	0.43	
69		100080	100.00	
70	< 2% of mass 69	203	0.20	
127	40% - 60% of mass 198	98858	45.14	
197	< 1% of mass 198	0	0.00	
198		218986	100.00	
199	5% - 9% of mass 198	14298	6.53	
275	10% - 30% of mass 198	58661	26.79	
365	> 1% of mass 198	16617	7.59	
441	Present, < mass 443	26626	71.99	
442	> 40% and < 100% of mass 198	204130	93.22	
443	17% - 23% of mass 442	36984	18.12	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/18/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266820 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535173399006 File : wdu06 Time : 30-APR-2015 12:21

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	119897	50.67	
68	< 2% of mass 69	0	0.00	
69		120026	100.00	
70	< 2% of mass 69	444	0.37	
127	40% - 60% of mass 198	127069	53.70	
197	< 1% of mass 198	0	0.00	
198		236608	100.00	
199	5% - 9% of mass 198	15931	6.73	
275	10% - 30% of mass 198	47293	19.99	
365	> 1% of mass 198	4596	1.94	
441	Present, < mass 443	20379	75.05	
442	> 40% and < 100% of mass 198	142029	60.03	
443	17% - 23% of mass 442	27155	19.12	

Analyst: KMH Date: 04/30/15 Reviewer: LW Date: 05/01/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266820 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535199333004 File : wei04 Time : 18-MAY-2015 11:11

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	89797	55.38	
68	< 2% of mass 69	0	0.00	
69		84330	100.00	
70	< 2% of mass 69	402	0.48	
127	40% - 60% of mass 198	92642	57.14	
197	< 1% of mass 198	0	0.00	
198		162141	100.00	
199	5% - 9% of mass 198	10877	6.71	
275	10% - 30% of mass 198	33112	20.42	
365	> 1% of mass 198	3826	2.36	
441	Present, < mass 443	13175	75.24	
442	> 40% and < 100% of mass 198	92045	56.77	
443	17% - 23% of mass 442	17510	19.02	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS DFTPP TUNE FOR 266820 MSSIM Soil
EPA 8270C

Inst : MSBNA04 Run Name : DFTPP IDF : 1.0
Seqnum : 535200772002 File : wej02 Time : 19-MAY-2015 10:37

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	79120	55.64	
68	< 2% of mass 69	0	0.00	
69		73997	100.00	
70	< 2% of mass 69	339	0.46	
127	40% - 60% of mass 198	81594	57.38	
197	< 1% of mass 198	0	0.00	
198		142202	100.00	
199	5% - 9% of mass 198	9594	6.75	
275	10% - 30% of mass 198	29554	20.78	
365	> 1% of mass 198	3534	2.49	
441	Present, < mass 443	11703	75.55	
442	> 40% and < 100% of mass 198	81938	57.62	
443	17% - 23% of mass 442	15490	18.90	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 MSSIM Soil: EPA 8270C-SIM

Inst : MSBNA03
Calnum : 525131701001
Units : ug/mL

Name : 3PAHSIM
Date : 01-APR-2015 13:17
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	vd106	525131701006	ICAL	01-APR-2015 13:17	S26126
L2	vd107	525131701007	ICAL	01-APR-2015 13:50	S26127
L3	vd108	525131701008	ICAL	01-APR-2015 14:24	S26919
L4	vd109	525131701009	ICAL	01-APR-2015 14:57	S26920
L5	vd110	525131701010	ICAL	01-APR-2015 15:30	S26130
L6	vd111	525131701011	ICAL	01-APR-2015 16:03	S26131
L7	vd112	525131701012	ICAL	01-APR-2015 16:36	S26132

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.0149	1.0289	1.0641	1.0871	1.0618	1.0776	1.1597	AVRG		0.93405		1.0706	4	15	0.05	0.99	
Acenaphthylene	1.7445	1.7619	2.0357	2.0852	1.8385	1.8877	2.0244	AVRG		0.52325		1.9111	7	15	0.05	0.99	
Acenaphthene	1.1518	1.1546	1.3343	1.3635	1.2251	1.2296	1.3413	AVRG		0.79544		1.2572	7	15	0.05	0.99	
Fluorene	1.2852	1.3126	1.5176	1.5180	1.3771	1.4726	1.6612	AVRG		0.69005		1.4492	9	15	0.05	0.99	
Phenanthrene	1.0751	1.0919	1.1075	1.1303	1.1292	1.1693	1.2351	AVRG		0.88179		1.1341	5	15	0.05	0.99	
Anthracene	1.0472	1.0715	1.0845	1.0926	1.1015	1.1636	1.2267	AVRG		0.89886		1.1125	6	15	0.05	0.99	
Fluoranthene	1.2044	1.2242	1.2327	1.2515	1.2696	1.3195	1.4104	AVRG		0.78542		1.2732	6	15	0.05	0.99	
Pyrene	1.2698	1.2713	1.3017	1.2862	1.2973	1.2606	1.3668	AVRG		0.77316		1.2934	3	15	0.05	0.99	
Benzo(a)anthracene	1.1612	1.1342	1.1513	1.1677	1.1912	1.2423	1.3566	AVRG		0.83290		1.2006	6	15	0.05	0.99	
Chrysene	1.0584	1.0738	1.0954	1.1042	1.1142	1.1056	1.1762	AVRG		0.90581		1.1040	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.0931	1.1271	1.1614	1.1894	1.2318	1.3145	1.4314	AVRG		0.81883		1.2213	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0825	1.1143	1.1019	1.2027	1.2171	1.2750	1.4384	AVRG		0.83017		1.2046	10	15	0.05	0.99	
Benzo(a)pyrene	0.9393	0.9772	1.0307	1.0484	1.0950	1.1681	1.2650	AVRG		0.93039		1.0748	10	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.1076	1.1400	1.1697	1.2539	1.3238	1.4807		AVRG		0.80260		1.2459	11	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8945	0.9304	0.9427	1.0116	1.0792	1.2108		AVRG		0.98859		1.0115	12	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9997	1.0119	1.0071	1.0727	1.1105	1.1724	1.2619	AVRG		0.91668		1.0909	9	15	0.05	0.99	
Nitrobenzene-d5	0.2927	0.2862	0.3037	0.3172	0.3142	0.3243	0.3460	AVRG		3.20468		0.3120	6	15	0.05	0.99	
2-Fluorobiphenyl	1.5354	1.5623	1.8123	1.8183	1.6439	1.6800	1.8067	AVRG		0.59027		1.6941	7	15	0.05	0.99	
Terphenyl-d14	0.9490	0.9736	0.9598	0.9801	0.9874	0.9955	1.0694	AVRG		1.01233		0.9878	4	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	-5	0.2000	-4	0.5000	-1	1.0000	2	2.0000	-1	5.0000	1	10.000	8
Acenaphthylene	0.1000	-9	0.2000	-8	0.5000	7	1.0000	9	2.0000	-4	5.0000	-1	10.000	6
Acenaphthene	0.1000	-8	0.2000	-8	0.5000	6	1.0000	8	2.0000	-3	5.0000	-2	10.000	7
Fluorene	0.1000	-11	0.2000	-9	0.5000	5	1.0000	5	2.0000	-5	5.0000	2	10.000	15
Phenanthrene	0.1000	-5	0.2000	-4	0.5000	-2	1.0000	0	2.0000	0	5.0000	3	10.000	9
Anthracene	0.1000	-6	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	-1	5.0000	5	10.000	10
Fluoranthene	0.1000	-5	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	0	5.0000	4	10.000	11
Pyrene	0.1000	-2	0.2000	-2	0.5000	1	1.0000	-1	2.0000	0	5.0000	-3	10.000	6
Benzo(a)anthracene	0.1000	-3	0.2000	-6	0.5000	-4	1.0000	-3	2.0000	-1	5.0000	3	10.000	13
Chrysene	0.1000	-4	0.2000	-3	0.5000	-1	1.0000	0	2.0000	1	5.0000	0	10.000	7
Benzo(b)fluoranthene	0.1000	-10	0.2000	-8	0.5000	-5	1.0000	-3	2.0000	1	5.0000	8	10.000	17
Benzo(k)fluoranthene	0.1000	-10	0.2000	-7	0.5000	-9	1.0000	0	2.0000	1	5.0000	6	10.000	19
Benzo(a)pyrene	0.1000	-13	0.2000	-9	0.5000	-4	1.0000	-2	2.0000	2	5.0000	9	10.000	18
Indeno(1,2,3-cd)pyrene	0.1000	-11	0.2000	-9	0.5000	-6	1.0000	1	2.0000	6	5.0000	19		
Dibenz(a,h)anthracene	0.1000	-12	0.2000	-8	0.5000	-7	1.0000	0	2.0000	7	5.0000	20		
Benzo(g,h,i)perylene	0.1000	-8	0.2000	-7	0.5000	-8	1.0000	-2	2.0000	2	5.0000	7	10.000	16
Nitrobenzene-d5	0.1000	-6	0.2000	-8	0.5000	-3	1.0000	2	2.0000	1	5.0000	4	10.000	11
2-Fluorobiphenyl	0.1000	-9	0.2000	-8	0.5000	7	1.0000	7	2.0000	-3	5.0000	-1	10.000	7
Terphenyl-d14	0.1000	-4	0.2000	-1	0.5000	-3	1.0000	-1	2.0000	0	5.0000	1	10.000	8

KMH 04/02/15 [1,4-Dioxane]: Corrected automatically drawn baseline in multiple levels.

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

525131701001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266820 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA03 Name : 3PAHSIM
Calnum : 525131701001 Cal Date : 01-APR-2015

ICV 525131701013 (vd113 01-APR-2015) stds: S26530

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.8880	ug/mL	-11	30	
Acenaphthylene	1.000	0.9299	ug/mL	-7	30	
Acenaphthene	1.000	0.8706	ug/mL	-13	20	
Fluorene	1.000	0.8700	ug/mL	-13	30	
Phenanthrene	1.000	0.9112	ug/mL	-9	30	
Anthracene	1.000	0.9398	ug/mL	-6	30	
Fluoranthene	1.000	0.9169	ug/mL	-8	20	
Pyrene	1.000	1.016	ug/mL	2	30	
Benzo(a)anthracene	1.000	0.8835	ug/mL	-12	30	
Chrysene	1.000	0.9391	ug/mL	-6	30	
Benzo(b)fluoranthene	1.000	0.9116	ug/mL	-9	30	
Benzo(k)fluoranthene	1.000	0.8596	ug/mL	-14	30	
Benzo(a)pyrene	1.000	0.9589	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9374	ug/mL	-6	30	
Dibenz(a,h)anthracene	1.000	0.9568	ug/mL	-4	30	
Benzo(g,h,i)perylene	1.000	0.9333	ug/mL	-7	30	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 266820 MSSIM Soil: EPA 8270C-SIM

Inst : MSBNA04
Calnum : 535173399001
Units : ug/mL

Name : 4PAHSIM
Date : 30-APR-2015 12:48
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	wdu07	535173399007	ICAL	30-APR-2015 12:48	S26126
L2	wdu08	535173399008	ICAL	30-APR-2015 13:20	S26127
L3	wdu09	535173399009	ICAL	30-APR-2015 13:51	S26919
L4	wdu10	535173399010	ICAL	30-APR-2015 14:23	S26920
L5	wdu11	535173399011	ICAL	30-APR-2015 14:54	S26130
L6	wdu12	535173399012	ICAL	30-APR-2015 15:25	S26131
L7	wdu13	535173399013	ICAL	30-APR-2015 15:56	S26132

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.0742	1.0808	1.1222	1.1352	1.0883	1.0501	1.0241	AVRG		0.92410		1.0821	4	15	0.05	0.99	
Acenaphthylene	1.6908	1.7135	2.0088	2.0495	1.8428	1.7983	1.7765	AVRG		0.54347		1.8400	8	15	0.05	0.99	
Acenaphthene	1.0728	1.0943	1.2602	1.2868	1.1341	1.1160	1.1123	AVRG		0.86670		1.1538	7	15	0.05	0.99	
Fluorene	1.1161	1.1363	1.3318	1.3535	1.1960	1.1748	1.1678	AVRG		0.82582		1.2109	8	15	0.05	0.99	
Phenanthrene	1.0832	1.1044	1.1148	1.1331	1.1284	1.1087	1.0729	AVRG		0.90376		1.1065	2	15	0.05	0.99	
Anthracene	0.9745	1.0044	1.0338	1.0620	1.0380	1.0276	1.0692	AVRG		0.97094		1.0299	3	15	0.05	0.99	
Fluoranthene	1.0129	1.0287	1.0470	1.0803	1.0956	1.0782	1.0682	AVRG		0.94457		1.0587	3	15	0.05	0.99	
Pyrene	1.5592	1.5523	1.5953	1.6372	1.6414	1.5994	1.5374	AVRG		0.62937		1.5889	3	15	0.05	0.99	
Benzo(a)anthracene	1.0734	1.0706	1.0819	1.1139	1.1171	1.0944	1.0779	AVRG		0.91753		1.0899	2	15	0.05	0.99	
Chrysene	1.0492	1.0722	1.1026	1.1026	1.1062	1.0727	1.0523	AVRG		0.92621		1.0797	2	15	0.05	0.99	
Benzo(b)fluoranthene	1.1318	1.1163	1.1767	1.1728	1.2245	1.2109	1.1879	AVRG		0.85149		1.1744	3	15	0.05	0.99	
Benzo(k)fluoranthene	1.1138m	1.1823m	1.1836m	1.2277	1.1863	1.1561	1.1557	AVRG		0.85309		1.1722	3	15	0.05	0.99	
Benzo(a)pyrene	0.9258	0.9453	0.9865	1.0180	1.0397	1.0444	1.0402	AVRG		1.00003		1.0000	5	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0117	1.0708	1.1378	1.1893	1.2371	1.2363	1.2423	AVRG		0.86150		1.1608	8	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8056	0.8534	0.9252	0.9759	1.0044	1.0172	1.0266	AVRG		1.05926		0.9441	9	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9384	0.9824	1.0157	1.0439	1.0720	1.0735	1.0739	AVRG		0.97224		1.0286	5	15	0.05	0.99	
Nitrobenzene-d5	0.2835	0.2810	0.2939	0.2992	0.2990	0.2896	0.2922	AVRG		3.43404		0.2912	2	15	0.05	0.99	
2-Fluorobiphenyl	1.4050	1.4119	1.6289	1.6332	1.4211	1.3821	1.3500	AVRG		0.68412		1.4617	8	15	0.05	0.99	
Terphenyl-d14	1.1432	1.1626	1.1728	1.1986	1.2029	1.1765	1.1748	AVRG		0.85040		1.1759	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	-1	0.2000	0	0.5000	4	1.0000	5	2.0000	1	5.0000	-3	10.000	-5
Acenaphthylene	0.1000	-8	0.2000	-7	0.5000	9	1.0000	11	2.0000	0	5.0000	-2	10.000	-3
Acenaphthene	0.1000	-7	0.2000	-5	0.5000	9	1.0000	12	2.0000	-2	5.0000	-3	10.000	-4
Fluorene	0.1000	-8	0.2000	-6	0.5000	10	1.0000	12	2.0000	-1	5.0000	-3	10.000	-4
Phenanthrene	0.1000	-2	0.2000	0	0.5000	1	1.0000	2	2.0000	2	5.0000	0	10.000	-3
Anthracene	0.1000	-5	0.2000	-2	0.5000	0	1.0000	3	2.0000	1	5.0000	0	10.000	4
Fluoranthene	0.1000	-4	0.2000	-3	0.5000	-1	1.0000	2	2.0000	3	5.0000	2	10.000	1
Pyrene	0.1000	-2	0.2000	-2	0.5000	0	1.0000	3	2.0000	3	5.0000	1	10.000	-3
Benzo(a)anthracene	0.1000	-2	0.2000	-2	0.5000	-1	1.0000	2	2.0000	2	5.0000	0	10.000	-1
Chrysene	0.1000	-3	0.2000	-1	0.5000	2	1.0000	2	2.0000	2	5.0000	-1	10.000	-3
Benzo(b)fluoranthene	0.1000	-4	0.2000	-5	0.5000	0	1.0000	0	2.0000	4	5.0000	3	10.000	1
Benzo(k)fluoranthene	0.1000	-5	0.2000	1	0.5000	1	1.0000	5	2.0000	1	5.0000	-1	10.000	-1
Benzo(a)pyrene	0.1000	-7	0.2000	-5	0.5000	-1	1.0000	2	2.0000	4	5.0000	4	10.000	4
Indeno(1,2,3-cd)pyrene	0.1000	-13	0.2000	-8	0.5000	-2	1.0000	2	2.0000	7	5.0000	7	10.000	7
Dibenz(a,h)anthracene	0.1000	-15	0.2000	-10	0.5000	-2	1.0000	3	2.0000	6	5.0000	8	10.000	9
Benzo(g,h,i)perylene	0.1000	-9	0.2000	-4	0.5000	-1	1.0000	1	2.0000	4	5.0000	4	10.000	4
Nitrobenzene-d5	0.1000	-3	0.2000	-4	0.5000	1	1.0000	3	2.0000	3	5.0000	-1	10.000	0
2-Fluorobiphenyl	0.1000	-4	0.2000	-3	0.5000	11	1.0000	12	2.0000	-3	5.0000	-5	10.000	-8
Terphenyl-d14	0.1000	-3	0.2000	-1	0.5000	0	1.0000	2	2.0000	2	5.0000	0	10.000	0

NPM 05/01/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

NPM 05/01/15 [1,4-Dioxane]: Corrected automatically drawn baseline in ICAL (wdu08).

Analyst: NPM Date: 05/01/15 Reviewer: LW Date: 05/04/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

535173399001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 266820 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Name : 4PAHSIM
Calnum : 535173399001 Cal Date : 30-APR-2015

ICV 535173399014 (wdu14 30-APR-2015) stds: S26530

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.9251	ug/mL	-7	30	
Acenaphthylene	1.000	0.9749	ug/mL	-3	30	
Acenaphthene	1.000	0.9050	ug/mL	-9	20	
Fluorene	1.000	0.9169	ug/mL	-8	30	
Phenanthrene	1.000	0.9512	ug/mL	-5	30	
Anthracene	1.000	0.9644	ug/mL	-4	30	
Fluoranthene	1.000	0.9456	ug/mL	-5	20	
Pyrene	1.000	1.027	ug/mL	3	30	
Benzo(a)anthracene	1.000	0.9380	ug/mL	-6	30	
Chrysene	1.000	0.9709	ug/mL	-3	30	
Benzo(b)fluoranthene	1.000	0.9299	ug/mL	-7	30	
Benzo(k)fluoranthene	1.000	0.9242	ug/mL	-8	30	
Benzo(a)pyrene	1.000	0.9908	ug/mL	-1	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9531	ug/mL	-5	30	
Dibenz(a,h)anthracene	1.000	0.9823	ug/mL	-2	30	
Benzo(g,h,i)perylene	1.000	0.9711	ug/mL	-3	30	

Analyst: NPM Date: 05/01/15 Reviewer: LW Date: 05/04/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA03 IDF : 1.0
Seqnum : 525199322004 File : vei04 Time : 18-MAY-2015 11:00
Cal : 525131701001 Caldate : 01-APR-2015
Standards: S26920

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0706	1.1336	1.000	1.059	ug/mL	6	30	0.0500	
Acenaphthylene	1.9111	2.0289	1.000	1.062	ug/mL	6	30	0.0500	
Acenaphthene	1.2572	1.3400	1.000	1.066	ug/mL	7	20	0.0500	
Fluorene	1.4492	1.4600	1.000	1.008	ug/mL	1	30	0.0500	
Phenanthrene	1.1341	1.1067	1.000	0.9759	ug/mL	-2	30	0.0500	
Anthracene	1.1125	1.0218	1.000	0.9185	ug/mL	-8	30	0.0500	
Fluoranthene	1.2732	1.4678	1.000	1.153	ug/mL	15	20	0.0500	
Pyrene	1.2934	1.2171	1.000	0.9410	ug/mL	-6	30	0.0500	
Benzo(a)anthracene	1.2006	1.1645	1.000	0.9699	ug/mL	-3	30	0.0500	
Chrysene	1.1040	1.1689	1.000	1.059	ug/mL	6	30	0.0500	
Benzo(b)fluoranthene	1.2213	1.3258	1.000	1.086	ug/mL	9	30	0.0500	
Benzo(k)fluoranthene	1.2046	1.2727	1.000	1.057	ug/mL	6	30	0.0500	
Benzo(a)pyrene	1.0748	1.1159	1.000	1.038	ug/mL	4	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2459	1.2940	1.000	1.039	ug/mL	4	30	0.0500	
Dibenz(a,h)anthracene	1.0115	1.0873	1.000	1.075	ug/mL	7	30	0.0500	
Benzo(g,h,i)perylene	1.0909	1.0752	1.000	0.9856	ug/mL	-1	30	0.0500	
Nitrobenzene-d5	0.3120	0.3363	1.000	1.078	ug/mL	8	30	0.0500	
2-Fluorobiphenyl	1.6941	1.9474	1.000	1.150	ug/mL	15	30	0.0500	
Terphenyl-d14	0.9878	0.9691	1.000	0.9810	ug/mL	-2	30	0.0500	

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Run Name : PAHDIOX IDF : 1.0
Seqnum : 535199333005 File : wei05 Time : 18-MAY-2015 11:33
Cal : 535173399001 Caldate : 30-APR-2015
Standards: S26920

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0821	1.1143	1.000	1.030	ug/mL	3	30	0.0500	
Acenaphthylene	1.8400	2.0084	1.000	1.092	ug/mL	9	30	0.0500	
Acenaphthene	1.1538	1.2485	1.000	1.082	ug/mL	8	20	0.0500	
Fluorene	1.2109	1.3650	1.000	1.127	ug/mL	13	30	0.0500	
Phenanthrene	1.1065	1.1229	1.000	1.015	ug/mL	1	30	0.0500	
Anthracene	1.0299	1.0665	1.000	1.036	ug/mL	4	30	0.0500	
Fluoranthene	1.0587	1.1046	1.000	1.043	ug/mL	4	20	0.0500	
Pyrene	1.5889	1.5571	1.000	0.9800	ug/mL	-2	30	0.0500	
Benzo(a)anthracene	1.0899	1.1179	1.000	1.026	ug/mL	3	30	0.0500	
Chrysene	1.0797	1.0939	1.000	1.013	ug/mL	1	30	0.0500	
Benzo(b)fluoranthene	1.1744	1.2613	1.000	1.074	ug/mL	7	30	0.0500	
Benzo(k)fluoranthene	1.1722	1.2320	1.000	1.051	ug/mL	5	30	0.0500	
Benzo(a)pyrene	1.0000	1.0191	1.000	1.019	ug/mL	2	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.1608	1.1902	1.000	1.025	ug/mL	3	30	0.0500	
Dibenz(a,h)anthracene	0.9441	0.9498	1.000	1.006	ug/mL	1	30	0.0500	
Benzo(g,h,i)perylene	1.0286	1.0873	1.000	1.057	ug/mL	6	30	0.0500	
Nitrobenzene-d5	0.2912	0.3210	1.000	1.102	ug/mL	10	30	0.0500	
2-Fluorobiphenyl	1.4617	1.6281	1.000	1.114	ug/mL	11	30	0.0500	
Terphenyl-d14	1.1759	1.1636	1.000	0.9895	ug/mL	-1	30	0.0500	

KMH 05/18/15 [1,4-Dioxane]: Corrected automatically drawn baseline.

Analyst: KMH Date: 05/18/15 Reviewer: LW Date: 05/19/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 266820 MSSIM Soil
EPA 8270C-SIM

Inst : MSBNA04 Run Name : PAHDIOX IDF : 1.0
Seqnum : 535200772004 File : wej04 Time : 19-MAY-2015 12:34
Cal : 535173399001 Caldate : 30-APR-2015
Standards: S26130

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0821	1.0797	2.000	1.996	ug/mL	0	30	0.0500	
Acenaphthylene	1.8400	1.7765	2.000	1.931	ug/mL	-3	30	0.0500	
Acenaphthene	1.1538	1.1019	2.000	1.910	ug/mL	-4	20	0.0500	
Fluorene	1.2109	1.2294	2.000	2.031	ug/mL	2	30	0.0500	
Phenanthrene	1.1065	1.1438	2.000	2.068	ug/mL	3	30	0.0500	
Anthracene	1.0299	1.0614	2.000	2.061	ug/mL	3	30	0.0500	
Fluoranthene	1.0587	1.1000	2.000	2.078	ug/mL	4	20	0.0500	
Pyrene	1.5889	1.6430	2.000	2.068	ug/mL	3	30	0.0500	
Benzo(a)anthracene	1.0899	1.1266	2.000	2.067	ug/mL	3	30	0.0500	
Chrysene	1.0797	1.1166	2.000	2.069	ug/mL	3	30	0.0500	
Benzo(b)fluoranthene	1.1744	1.2023	2.000	2.048	ug/mL	2	30	0.0500	
Benzo(k)fluoranthene	1.1722	1.2103	2.000	2.065	ug/mL	3	30	0.0500	
Benzo(a)pyrene	1.0000	1.0537	2.000	2.108	ug/mL	5	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.1608	1.2299	2.000	2.119	ug/mL	6	30	0.0500	
Dibenz(a,h)anthracene	0.9441	0.9721	2.000	2.059	ug/mL	3	30	0.0500	
Benzo(g,h,i)perylene	1.0286	1.0969	2.000	2.133	ug/mL	7	30	0.0500	
Nitrobenzene-d5	0.2912	0.3206	2.000	2.202	ug/mL	10	30	0.0500	
2-Fluorobiphenyl	1.4617	1.4384	2.000	1.968	ug/mL	-2	30	0.0500	
Terphenyl-d14	1.1759	1.2291	2.000	2.091	ug/mL	5	30	0.0500	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 525199322

Date : 05/18/15
Sequence : MSBNA03 vei

Reference : vei04
Analyzed : 05/18/15 11:00

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	9559	7.29	37141	8.92	13603	11.22	26419	13.17	33832	16.61	30403	18.33
		LOWER LIMIT	4780	6.79	18571	8.42	6802	10.72	13210	12.67	16916	16.11	15202	17.83
		UPPER LIMIT	19118	7.79	74282	9.42	27206	11.72	52838	13.67	67664	17.11	60806	18.83
004	CCV		9559	7.29	37141	8.92	13603	11.22	26419	13.17	33832	16.61	30403	18.33
005	SAMPLE	266813-001	10753	7.30	42274	8.92	16109	11.22	33421	13.17	41997	16.61	37280	18.33
006	SAMPLE	266808-001	10706	7.30	42789	8.93	16144	11.22	36137	13.17	38942	16.61	34909	18.33
007	SAMPLE	266809-001	11078	7.29	44680	8.92	19429	11.23	35555	13.17	131693 *	16.65	126857 *	18.39
008	SAMPLE	266808-001	8127	7.30	33284	8.93	13160	11.22	29104	13.17	39967	16.61	38962	18.33
009	SAMPLE	266809-001	9218	7.30	36874	8.92	15884	11.22	34504	13.16	52861	16.61	51839	18.34
010	SAMPLE	266808-001	9409	7.30	38328	8.92	14865	11.22	31633	13.17	39894	16.60	37431	18.33
011	SAMPLE	266812-001	10892	7.29	41541	8.92	16495	11.22	33711	13.17	40551	16.61	36924	18.33
012	SAMPLE	266733-001	10694	7.29	42090	8.92	17052	11.22	28125	13.17	34114	16.60	33801	18.33
013	SAMPLE	266817-003	9082	7.30	37666	8.92	15170	11.22	35369	13.16	38199	16.61	36504	18.33
014	SAMPLE	266817-004	9127	7.30	37669	8.92	15382	11.22	33986	13.16	39834	16.60	36154	18.33
015	SAMPLE	266817-001	10396	7.30	42052	8.92	17775	11.22	41065	13.17	39842	16.61	35988	18.33
016	MSS	266817-002	8917	7.30	36807	8.92	15560	11.22	37948	13.17	37294	16.61	34884	18.33
017	SAMPLE	266817-005	8798	7.30	36258	8.93	17378	11.22	35665	13.17	40210	16.61	39417	18.33
018	MS	QC788273	9097	7.30	36714	8.92	15362	11.22	37327	13.17	37762	16.61	33825	18.33
019	MSD	QC788274	9192	7.30	37352	8.92	15946	11.22	37402	13.17	37048	16.61	34919	18.33

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 535199333

Date : 05/18/15 Reference : wei05
Sequence : MSBNA04 wei Analyzed : 05/18/15 11:33

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	35018	7.85	137953	9.42	65214	11.69	104230	13.65	74955	17.20	61133	19.13
		LOWER LIMIT	17509	7.35	68977	8.92	32607	11.19	52115	13.15	37478	16.70	30567	18.63
		UPPER LIMIT	70036	8.35	275906	9.92	130428	12.19	208460	14.15	149910	17.70	122266	19.63
005	CCV	PAHDIOX	35018	7.85	137953	9.42	65214	11.69	104230	13.65	74955	17.20	61133	19.13
006	BLANK	QC788271	28740	7.86	117787	9.43	53500	11.70	92298	13.65	57864	17.21	47499	19.14
007	LCS	QC788272	29992	7.85	118052	9.42	55240	11.69	96604	13.64	64670	17.20	54649	19.13

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 535200772

Date : 05/19/15 Reference : wej04
Sequence : MSBNA04 wej Analyzed : 05/19/15 12:34

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	36966	7.86	149938	9.43	79973	11.70	113864	13.65	77526	17.21	65920	19.14
		LOWER LIMIT	18483	7.36	74969	8.93	39987	11.20	56932	13.15	38763	16.71	32960	18.64
		UPPER LIMIT	73932	8.36	299876	9.93	159946	12.20	227728	14.15	155052	17.71	131840	19.64
004	CCV	PAHDIOX	36966	7.86	149938	9.43	79973	11.70	113864	13.65	77526	17.21	65920	19.14
005	BLANK	QC788339	34188	7.85	133109	9.42	64487	11.69	107221	13.65	71408	17.20	59046	19.13
006	BS	QC788340	31932	7.85	127863	9.42	63601	11.69	105336	13.64	76264	17.20	61966	19.13
007	BSD	QC788341	35813	7.85	141492	9.42	70809	11.69	114430	13.65	79765	17.20	66826	19.13
008	SAMPLE	266827-001	32334	7.85	126976	9.42	59495	11.69	106768	13.64	82131	17.20	76344	19.14
009	SAMPLE	266827-002	38684	7.85	157524	9.42	75588	11.69	131255	13.65	86168	17.20	80013	19.13
010	SAMPLE	266827-003	36319	7.85	145341	9.42	68280	11.69	117033	13.65	85530	17.21	71809	19.13
011	SAMPLE	266820-002	32930	7.85	137937	9.42	64109	11.69	113258	13.65	80777	17.20	75616	19.13
012	SAMPLE	266803-002	33671	7.85	140197	9.42	69569	11.69	126700	13.65	88345	17.20	83820	19.14
013	SAMPLE	266803-001	34436	7.85	140086	9.42	67641	11.69	112330	13.65	80421	17.21	73271	19.14
014	SAMPLE	266815-001	36631	7.85	149719	9.42	77388	11.69	153262	13.66	153860	17.24	113974	19.17
015	SAMPLE	266803-004	35584	7.85	147475	9.42	76653	11.69	151786	13.65	128308	17.23	106819	19.19
016	SAMPLE	266820-001	36763	7.85	166601	9.42	104300	11.70	190832	13.67	111623	17.22	94517	19.15
017	SAMPLE	266803-003	37605	7.86	155274	9.42	75149	11.69	131705	13.65	89163	17.21	75600	19.14
018	SAMPLE	266815-001	34835	7.85	144125	9.42	70114	11.69	124644	13.65	93924	17.21	74837	19.14
019	SAMPLE	266803-004	36234	7.85	148481	9.42	72504	11.69	132542	13.65	95590	17.21	84267	19.15

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525131701

Instrument : MSBNA03 Begun : 04/01/15 11:01
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	vd101	TUN	DFTPP			04/01/15 11:01	1.0	1	
002	vd102	TUN	DFTPP			04/01/15 11:35	1.0	1	
003	vd103	CCV	RTCHECK			04/01/15 11:55	1.0	2	
004	vd104	IB	IB			04/01/15 12:32	1.0		
005	vd105	TUN	DFTPP			04/01/15 12:58	1.0	1	
006	vd106	ICAL	ICAL			04/01/15 13:17	1.0	3	
007	vd107	ICAL	ICAL			04/01/15 13:50	1.0	4	
008	vd108	ICAL	ICAL			04/01/15 14:24	1.0	5	
009	vd109	ICAL	ICAL			04/01/15 14:57	1.0	6	
010	vd110	ICAL	ICAL			04/01/15 15:30	1.0	7	
011	vd111	ICAL	ICAL			04/01/15 16:03	1.0	8	
012	vd112	ICAL	ICAL			04/01/15 16:36	1.0	9	
013	vd113	ICV	ICV			04/01/15 17:08	1.0	10	
014	vd114	CCV	PAHDIOX			04/01/15 17:42	1.0	6	
015	vd115	LOD	209076-066	Soil	221583	04/01/15 18:14	1.0	11	
016	vd116	LOD	209076-067	Soil	221583	04/01/15 18:47	1.0	11	
017	vd117	LOD	209076-068	Soil	221583	04/01/15 19:21	1.0	11	

KMH 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

Standards used: 1=S26814 2=S26129 3=S26126 4=S26127 5=S26919 6=S26920 7=S26130 8=S26131 9=S26132 10=S26530 11=S26588

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525199322

Instrument : MSBNA03 Begun : 05/18/15 10:02
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	vei01	IB	IB			05/18/15 10:02	1.0		?t
002	vei02	TUN	DFTPP			05/18/15 10:27	1.0	1	t
003	vei03	TUN	DFTPP			05/18/15 10:41	1.0	1	
004	vei04	CCV				05/18/15 11:00	1.0	2	
005	vei05	SAMPLE	266813-001	Water	223170	05/18/15 11:36	1.0	3	
006	vei06	SAMPLE	266808-001	Water	223170	05/18/15 12:12	1.0	3	
007	vei07	SAMPLE	266809-001	Water	223170	05/18/15 12:48	1.0	3	
008	vei08	SAMPLE	266808-001	Water	223170	05/18/15 13:24	10.0	3	high NT
009	vei09	SAMPLE	266809-001	Water	223170	05/18/15 13:59	10.0	3	high NT
010	vei10	SAMPLE	266808-001	Water	223170	05/18/15 14:35	5.0	3	high NT
011	vei11	SAMPLE	266812-001	Water	223170	05/18/15 15:11	1.0	3	
012	vei12	SAMPLE	266733-001	Water	223170	05/18/15 15:47	8.33	3	high NT
013	vei13	SAMPLE	266817-003	Soil	223246	05/18/15 16:22	1.0	3	
014	vei14	SAMPLE	266817-004	Soil	223246	05/18/15 16:57	1.0	3	
015	vei15	SAMPLE	266817-001	Soil	223246	05/18/15 17:32	1.0	3	
016	vei16	MSS	266817-002	Soil	223246	05/18/15 18:06	1.0	3	
017	vei17	SAMPLE	266817-005	Soil	223246	05/18/15 18:40	1.0	3	
018	vei18	MS	QC788273	Soil	223246	05/18/15 19:15	1.0	3	
019	vei19	MSD	QC788274	Soil	223246	05/18/15 19:50	1.0	3	

KMH 05/18/15 : adjusted tune after run 2

KMH 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S26920 3=S26952
Flags used: ?t=missing tune t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535173399

Instrument : MSBNA04 Begun : 04/30/15 09:59
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wdu01	TUN	DFTPP			04/30/15 09:59	1.0	1	t
002	wdu02	CCV	RTCHECK			04/30/15 10:19	1.0	2	t cc-
003	wdu03	TUN	DFTPP			04/30/15 10:45	1.0	1	
004	wdu04	CCV	RTCHECK			04/30/15 11:06	1.0	3	
005	wdu05	IB	IB			04/30/15 11:53	1.0		
006	wdu06	TUN	DFTPP			04/30/15 12:21	1.0	1	
007	wdu07	ICAL	ICAL			04/30/15 12:48	1.0	4	
008	wdu08	ICAL	ICAL			04/30/15 13:20	1.0	5	
009	wdu09	ICAL	ICAL			04/30/15 13:51	1.0	6	
010	wdu10	ICAL	ICAL			04/30/15 14:23	1.0	7	
011	wdu11	ICAL	ICAL			04/30/15 14:54	1.0	8	
012	wdu12	ICAL	ICAL			04/30/15 15:25	1.0	3	
013	wdu13	ICAL	ICAL			04/30/15 15:56	1.0	9	
014	wdu14	ICV	ICV			04/30/15 16:28	1.0	10	

KMH 04/30/15 : adjusted tune after runs 1 & 3

NPM 05/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

Standards used: 1=S26814 2=S26128 3=S26131 4=S26126 5=S26127 6=S26919 7=S26920 8=S26130 9=S26132 10=S26530
Flags used: -=low bias cc=CCV CCC failure t=tune failure

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535199333

Instrument : MSBNA04 Begun : 05/18/15 10:13
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wei01	IB	IB			05/18/15 10:13	1.0		?t
002	wei02	TUN	DFTPP			05/18/15 10:39	1.0	1	t
003	wei03	TUN	DFTPP			05/18/15 10:54	1.0	1	t
004	wei04	TUN	DFTPP			05/18/15 11:11	1.0	1	
005	wei05	CCV	PAHDIOX			05/18/15 11:33	1.0	2	
006	wei06	BLANK	QC788271	Soil	223246	05/18/15 14:59	1.0	3	
007	wei07	LCS	QC788272	Soil	223246	05/18/15 15:32	1.0	3	

KMH 05/18/15 : adjusted tune after run 3

NPM 05/19/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 7.

Standards used: 1=S26814 2=S26920 3=S26952
Flags used: ?t=missing tune t=tune failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 535200772

Instrument : MSBNA04 Begun : 05/19/15 10:12
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	wej01	IB	IB			05/19/15 10:12	1.0		?t
002	wej02	TUN	DFTPP			05/19/15 10:37	1.0	1	
003	wej03	CCV	PAHDIOX			05/19/15 10:59	1.0	2	
004	wej04	CCV	PAHDIOX			05/19/15 12:34	1.0	2	
005	wej05	BLANK	QC788339	Miscell.	223259	05/19/15 13:07	1.0	3	
006	wej06	BS	QC788340	Miscell.	223259	05/19/15 13:39	1.0	3	
007	wej07	BSD	QC788341	Miscell.	223259	05/19/15 14:12	1.0	3	
008	wej08	SAMPLE	266827-001	Miscell.	223259	05/19/15 14:44	50.0	3	high NT
009	wej09	SAMPLE	266827-002	Miscell.	223259	05/19/15 15:15	200.0	3	
010	wej10	SAMPLE	266827-003	Miscell.	223259	05/19/15 15:48	100.0	3	
011	wej11	SAMPLE	266820-002	Soil	223246	05/19/15 16:20	1.0	3	
012	wej12	SAMPLE	266803-002	Soil	223246	05/19/15 16:53	1.0	3	
013	wej13	SAMPLE	266803-001	Soil	223246	05/19/15 17:25	1.0	3	
014	wej14	SAMPLE	266815-001	Soil	223246	05/19/15 17:58	1.0	3	11:FLA=100
015	wej15	SAMPLE	266803-004	Soil	223246	05/19/15 18:31	1.0	3	
016	wej16	SAMPLE	266820-001	Soil	223246	05/19/15 19:04	1.0	3	
017	wej17	SAMPLE	266803-003	Soil	223246	05/19/15 19:37	100.0	3	
018	wej18	SAMPLE	266815-001	Soil	223246	05/19/15 20:11	20.0	3	
019	wej19	SAMPLE	266803-004	Soil	223246	05/19/15 20:43	5.0	3	

KMH 05/19/15 : ran second ccv by mistake

KMH 05/20/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S26130 3=S26952

Flags used: ?t=missing tune

SAMPLE PREPARATION SUMMARY

Batch # : 223246 Analysis : 8270-SIM
Started By : JCD Prep Date : 18-MAY-2015 11:05 Finished By : JCD
Method : 3550B SOP Version : 8270-SIM_3550_rv5 Units : g
Spike #1 ID : S26499 Spike #2 ID : S26609

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
266803-001		Soil	29.76	1	1	0.0336		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-002		Soil	29.79	1	1	0.03357		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-003		Soil	30.22	1	1	0.03309		1				8270-SIM	Prepped 19-MAY-2015 10:55
266803-004		Soil	29.89	1	1	0.03346		1				8270-SIM	Prepped 19-MAY-2015 10:55
266815-001		Soil	30.28	1	1	0.03303		1				8270-SIM	Prepped 19-MAY-2015 10:55
266817-001		Soil	30.16	1	1	0.03316		1				8270-SIM	
266817-002		Soil	30.03	1	1	0.0333		1				8270-SIM	
266817-003		Soil	30.47	1	1	0.03282		1				8270-SIM	
266817-004		Soil	30.24	1	1	0.03307		1				8270-SIM	
266817-005		Soil	30.18	1	1	0.03313		1				8270-SIM	
266820-001		Soil	30	1	1	0.03333		1				8270-SIM	Prepped 19-MAY-2015 10:55
266820-002		Soil	29.93	1	1	0.03341		1				8270-SIM	Prepped 19-MAY-2015 10:55
QC788271	BLANK	Soil	29.78	1	1	0.03358		1				8270-SIM	
QC788272	LCS	Soil	30.44	1	1	0.03285		1	1			8270-SIM	
QC788273	MS	Soil	30.01	1	1	0.03332		1	1			8270-SIM	
QC788274	MSD	Soil	30.33	1	1	0.03297		1	1			8270-SIM	

Analyst: KMH Date: 05/19/15 Reviewer: LW Date: 05/19/15

TITLE Soil Aliquot PROJECT DATE

Continued from page

Sample ID	(Weighted)	Analysis	Batch #	Surveyed	Comments
265286-001 comp	49.69	TEHim		Dish 1	comp 286-1 B-6
↓ 2 ↓	49.60				↓ -2 ↓
265346-001 A	50.41				
↓ 2 ↓	49.55				
265381-001 B	50.11				
↓ 2	49.60				
265384-001	49.79				
4	50.20				
5	50.44				
7 C	50.02				
8 ↓	49.62				
265385-001 ↓	49.69				
		JM 3-18-15			
265389-003 J	50.12	TEHim			
↓ 5 A	50.37	↓		Dish 1	
		JM 3-18-15		↓	
265341-001 A	29.83	8270-SIM		Dish-1	
3	30.26				
5	30.23				
↓ 8 ↓	15.06				limited sample
265389-001 A	29.84				
3 H	29.76				
↓ 6 A	30.21				(MS)
265402-001 F	29.87				
↓ 2 ↓	30.06				
3 D	30.02				
4 ↓	29.84				
265403-006 comp	29.59				comp of 265403-01-05@30g
MB MA	29.77				EMXF21B
LCS	30.15				↓
MS	30.18				265389-006
MSD	30.04				↓
					APW 3/17/2015
266817-001 B	30.16	8270 SIM		DISH 1	
2	30.08				MSS
3	30.07				
4	30.24				
↓ 5 ↓	30.18				
MB MA	29.78				EMXF 27F
LCS	30.44				↓
MS	30.01				266817002
MSD	30.33				↓
		JCD 5/18/15			

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE PROJECT DATE

Continued from page

Sample ID		Weight(g)	Analysis Batch #	Scale-used	Comments
265722-006	MA	29.86	8081	DISH 1	LOQ
7		30.50			
8		30.20			
265780-007	E	30.19			
8		29.60			
9		30.24			
10		30.02			
11		29.61			
265788-001	B	29.69			
LV		30.00			
IDOC	MA	29.96			EMXF27F
IDOC		29.70			
IDOC		29.93			
IDOC		29.67			
MB		29.91			
LCS		29.71			
MS		29.78			265780-009
MSD		29.75			

JM1 4/3/15

265722-006	N/A	30.25	PCB	Dish 1	LOQ	
7		29.91				
8		29.94				
9		30.09				
10		29.99				
265780-005	E	30.09			MSS	
6		30.25				
IDOC	N/A	29.93			EMXF27F	
IDOC		29.91				
IDOC		29.94			EMXF27F	
MB		29.97				
LCS		29.84			265780-005E	
MS		29.91				
MSD		30.18				

KKL 4/3/15

266803-001	G	29.76	8270-SIM	22824p	DISH 1
2		29.79			
3		30.22			
4		29.89			
266815-001	C	30.28			
266820-001	G	30.00			
2		29.93			

JCO 5-18-15

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

BNA Soil Prep Log

Curtis & Tompkins, Ltd.

Page: 76 **BK 3666**

LIMS Batch No: 223246
LIMS Analysis 8270-SIM
Date Extracted: 5/18/15

Extraction Method:
☒ EPA 3550b Sonication
☐ Other _____

Cleanup Method (if necessary):
☐ EPA 3640a GPC
☐ Other _____

	Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
	2666817-001	B	30.16	☒1.0 ☐___		
	2		30.03	☒1.0 ☐___		
	3		30.47	☒1.0 ☐___		
	4		30.24	☒1.0 ☐___		
5	5	↓	30.18	☒1.0 ☐___		
	MB QC788271	VA	29.78	☒1.0 ☐___		
	LCS 2		30.44	☒1.0 ☐___		
	MS 3		30.01	☒1.0 ☐___		
	MSD 4	↓	30.33	☒1.0 ☐___		
10	2666803-001	G	29.76	☒1.0 ☐___		AIO @1055 5/19/20
	2		29.79	☒1.0 ☐___		
	3		30.22	☒1.0 ☐___		
	4	↓	29.89	☒1.0 ☐___		
	2666815-001	C	30.28	☒1.0 ☐___		
15	2666820-001	G	30.00	☒1.0 ☐___		
	↓ 2	↓	29.93	☒1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
20				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		
				☐ 1.0 ☐___		

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, CH_2Cl_2-rinsed granular Na_2SO_4 used for QC & to dry samples	EMXF27F	JCD 5.18.15
1.0 mL of surrogate solution was added to all samples	S266499 B	
1.0 mL of matrix spiking solution was added to all spikes	S266609 F	
≥100mL 1:1 CH_2Cl_2:Acetone was added to all: CH_2Cl_2	EM54275	
Acetone	EM55015	
Solvent was added at (time)	1105	1055
☒ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	~~55015~~ 1000 5.18.15	✓
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	

Stamie Daughtry 5/18/15
Extraction Chemist / Date

Continued from page ___
Continued on page ___

Kmk 5/19/15
Reviewed by / Date

Laboratory Job Number 266820

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Batch#:	223280
Matrix:	Soil	Sampled:	05/15/15
Units:	%	Received:	05/15/15
Diln Fac:	1.000	Analyzed:	05/18/15

Field ID	Lab ID	Result	RL
APLMW-2(4.5)	266820-001	4	1
APLMW-2(8.2)	266820-002	17	1

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Moisture

Lab #:	266820	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	APLMW-2(8.2)	Diln Fac:	1.000
Type:	SDUP	Batch#:	223280
MSS Lab ID:	266820-002	Sampled:	05/15/15
Lab ID:	QC788427	Received:	05/15/15
Matrix:	Soil	Analyzed:	05/18/15

MSS Result	Result	RL	RPD	Lim
16.86	16.90	1.000	0	26

RL= Reporting Limit
RPD= Relative Percent Difference

Percent Moisture Summary Report

Batch: 223280
Date: 05/18/15
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
266803-001	10.8902	16.4039	16.1010	95	5
266803-002	11.3428	17.4523	16.9419	92	8
266803-003	11.3007	16.4675	15.9329	90	10
266803-004	11.0233	16.6127	15.3235	77	23
266815-001	11.0474	18.1990	16.7636	80	20
266817-001	11.3391	18.9690	16.4623	67	33
266817-002	11.3437	17.9984	15.9500	69	31
266817-003	11.4017	18.4411	16.7237	76	24
266817-004	11.3605	16.9083	15.3314	72	28
266817-005	10.8807	18.1272	16.5642	78	22
266820-001	11.3559	18.3658	18.1031	96	4
266820-002	11.2268	18.1792	17.0070	83	17
QC788427	11.3417	16.8635	15.9301	83	17
of 266820-002			RPD:	0.1%	0.3%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 223280
Date: 5-18-15

Page: 96
Benchbook#: **BK 3643**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	94	11.3563	Ø	11.3563	
266803-001 G	72	10.8902	16.4039	16.1010	
-002	93	11.3428	17.4523	16.9419	
-003	95	11.3007	16.4675	15.9329	
-004	34	11.0233	16.6127	15.3235	
266815-001 C	62	11.0474	18.1990	16.7636	
266817-001 B	19	11.3391	18.9690	16.4623	
-002	41	11.3437	17.9984	15.9500	
-003	11	11.4017	18.4411	16.7237	
-004	56	11.3605	16.9083	15.3314	
-005	42	10.8807	18.1272	16.5642	
266820-001 G	81	11.3559	18.3658	18.1031	
-002	83	11.2268	18.1792	17.0070	
DUP -002	50	11.3417	16.8635	15.9301	

5-19-15

Date/ Time IN: 5-18-15 2100
Temp (C) IN: 105
Date/ Time OUT: 5-19-15 10:30
Temp (C) OUT: 105°C

5-18-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE 163 METTLER Notebook No. BK 2394 65

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
~~4-05-15~~	SL			
4-06-15	SL	0.2001	99.9996	10827
4-07-15	SL	0.2000	99.9997	10827
4-08-15	SL	0.2000	99.9992	10827
4-09-15	SL	0.2000	99.9996	10827
4-10-15	SL	0.2000	99.9995	10827
4-14-15	MN	0.2000	100.0003	10827
4-15-15	MN	0.2000	100.0002	10827
4-16-15	MN	0.2000	100.002	10827
4-17-15	MN	0.2001	99.9999	10827
4-20-15	MN	0.2000	99.9998	10827
4-21-15	VV	0.2000	100.0001	10827
4-22-15	VV	0.2000	99.9996	10827
4-24-15	MN	0.2000	99.9998	10827
4-27-15	MN	0.2001	99.9999	10827
4-28-15	MN	0.2000	99.9998	10827
4-29-15	MN	0.2000	99.9998	10827
4-30-15	JB	0.2000	99.9999	10827
5-1-15	MN	0.2000	99.9999	10827
5-2-15	MN	0.2000	99.9998	10827
5-7-15	MN	0.2000	99.9999	10827
5-8-15	MN	0.2001	100.0001	10827
5-9-15	MN	0.2001	100.0000	10827
5-10-15	VV	0.2000	100.0000	10827
5-12-15	MN	0.2000	99.9999	10827
5-13-15	VV	0.1999	99.9999	10827
5-14-15	MN	0.2000	99.9998	10827
5-18-15	MN	0.2001	99.9999	10827
5-19-15	VV	0.1999	99.9992	10827

Continued on Page

Read and Understood By

Signed Date Signed Date


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 267026
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : Port of Oakland Former APC Terminal
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLMW-1(GW)	267026-001
APLMW-2(GW)	267026-002
DUP052315	267026-003
TB052315	267026-004
APLMW-3(GW)	267026-005
RW052315	267026-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Will Rice Date: 06/05/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**267026**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**Port of Oakland Former APC Terminal**
Request Date:	**05/26/15**
Samples Received:	**05/23/15**

This data package contains sample and QC results for six water samples, requested for the above referenced project on 05/26/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

Some sample preservation was done upon receipt; see the attached receipt form.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
RW052315 (lab # 267026-006) was diluted due to foaming.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
High response was observed for N-nitrosodimethylamine in the CCV analyzed 05/27/15 11:30.

RW052315 (lab # 267026-006) was diluted due to the viscous nature of the sample extract.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
APLMW-2(GW) (lab # 267026-002), DUP052315 (lab # 267026-003), and APLMW-3(GW) (lab # 267026-005) were diluted due to high non-target analytes.

No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A):
No analytical problems were encountered.

Chain of Custody

Seq. No. 3171

Lab: CST

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

2670226

amec

Samplers: Bill Keck

Job Number: 14170810.03

Name/Location: Part of onland for AIL terminal

Project Manager: May Jo Hearle

Recorder: (Signature Required)

MATRIX				# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED																				
Water	Soil	Air		Unpres.	H2SO4	HNO3	HCL				YR	MO	DAY	TIME		DEPTH	8260 BTEX/MTBE	8270 C	TITLE 22 METALS	BTEX/MTBE (8021B)	PAH + naphthalene (8270 SIM)	Perchlorate (314.0)	TPH-d (8015M)	TPH-g (8015M)		Cam 17 metals	Total Cr									
X				3			6			APLMW-1 (6W)	15	05	23	0927						X	X		X	X												
X				3			6			APLMW-2 (6W)	15	05	23	1057						X	X		X	X												
X				3			6			DUP05231545	15	05	23	1105						X	X		X	X												
X							6			TB05231515	15	05	23	1115			X							X												
X				3			6			APLMW-3 (6W)	15	05	23	1220						X	X		X	X												
X				4			6			RW05231515	15	05	23	1305			X	X					X	X	X												

ADDITIONAL INFORMATION

REPORT TO: May Jo Hearle

PO#:

TAT:

Comments: Field Filtered Y/N Total metals - Not Filtered

CHAIN OF CUSTODY RECORD

Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
	Bill Keck	AMEC	5/23/15 1420
Received By (Signature):	**(Print Name)**	**(Company)**	**(Date/Time)**
	Shane Lawton	C+T	5/26/15 1000
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Cook ARCC

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 167026 Date Received 5/23/15 Number of coolers 2
Client Amec Project 60414170810.03

Date Opened _____ By (print) SL (sign) _____
Date Logged in 5/26 By (print) FB (sign) _____

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.5°, 4.9°

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES (NO) N/A
16. Did you check preservatives for all bottles for each sample? _____ (YES) NO N/A
17. Did you document your preservative check? _____ (YES) NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called? _____ By _____ Date: _____

COMMENTS
(5) Transferred & Preserved 40ml w/ HNO_3 (102053) on 5/26/15 @ 1440 to pH<2

Rev 10, 9/12

Curtis & Tompkins Sample Preservation for 267026

Sample	pH: <2	>9	>12	Other
-006a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[ ]	[ ]	[ ]	_____
e	[ ]	[ ]	[ ]	_____
f	[ ]	[ ]	[ ]	_____
g	[ ]	[ ]	[ ]	_____
h	[ ]	[ ]	[ ]	_____
i	[ ]	[ ]	[ ]	_____
j	[ ]	[ ]	[ ]	_____
k	[X]	[ ]	[ ]	_____

Analyst: FJ
Date: 5/20/15

Curtis & Tompkins, Ltd.

Detections Summary for 267026

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : Port of Oakland Former APC Terminal

Client Sample ID : APLMW-1(GW) Laboratory Sample ID : 267026-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	420	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	400	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acenaphthene	0.2		0.1	ug/L	As Recd	1.000	EPA 8270C-SIM	EPA 3520C
Fluorene	0.1		0.1	ug/L	As Recd	1.000	EPA 8270C-SIM	EPA 3520C
Pyrene	0.1		0.1	ug/L	As Recd	1.000	EPA 8270C-SIM	EPA 3520C

Client Sample ID : APLMW-2(GW) Laboratory Sample ID : 267026-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	100	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	3,100	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,400		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acenaphthene	0.2		0.2	ug/L	As Recd	2.000	EPA 8270C-SIM	EPA 3520C

Client Sample ID : DUP052315 Laboratory Sample ID : 267026-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	86	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	3,600	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,800		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acenaphthene	0.2		0.2	ug/L	As Recd	2.000	EPA 8270C-SIM	EPA 3520C

Client Sample ID : TB052315 Laboratory Sample ID : 267026-004

No Detections

Client Sample ID : APLMW-3(GW) Laboratory Sample ID : 267026-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2,700	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	1,900		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Curtis & Tompkins, Ltd.

Client Sample ID : RW052315 Laboratory Sample ID : 267026-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	64	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	1,500	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Motor Oil C24-C36	810		300	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Acetone	28		20	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Barium	71		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Chromium	37		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Cobalt	6.5		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Copper	8.8		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Molybdenum	30		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Nickel	9.3		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Vanadium	26		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Zinc	24		20	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 267026

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03		
Matrix:	Water	Batch#:	223569
Units:	ug/L	Sampled:	05/23/15
Diln Fac:	1.000	Received:	05/23/15

Field ID: APLMW-1(GW) Lab ID: 267026-001
Type: SAMPLE Analyzed: 05/27/15

Analyte	Result	RL	Analysis
Gasoline C7-C12	420 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	119	80-132	EPA 8015B
Bromofluorobenzene (PID)	118	71-141	EPA 8021B

Field ID: APLMW-2(GW) Lab ID: 267026-002
Type: SAMPLE Analyzed: 05/27/15

Analyte	Result	RL	Analysis
Gasoline C7-C12	100 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	103	80-132	EPA 8015B
Bromofluorobenzene (PID)	102	71-141	EPA 8021B

Field ID: DUP052315 Lab ID: 267026-003
Type: SAMPLE Analyzed: 05/27/15

Analyte	Result	RL	Analysis
Gasoline C7-C12	86 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	97	80-132	EPA 8015B
Bromofluorobenzene (PID)	95	71-141	EPA 8021B

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03		
Matrix:	Water	Batch#:	223569
Units:	ug/L	Sampled:	05/23/15
Diln Fac:	1.000	Received:	05/23/15

Field ID: TB052315 Analyzed: 05/27/15
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 267026-004

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	80-132

Field ID: APLMW-3(GW) Lab ID: 267026-005
Type: SAMPLE Analyzed: 05/27/15

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	93	80-132	EPA 8015B
Bromofluorobenzene (PID)	96	71-141	EPA 8021B

Field ID: RW052315 Analyzed: 05/28/15
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 267026-006

Analyte	Result	RL
Gasoline C7-C12	64 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	80-132

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03		
Matrix:	Water	Batch#:	223569
Units:	ug/L	Sampled:	05/23/15
Diln Fac:	1.000	Received:	05/23/15

Type: BLANK
Lab ID: QC789529

Analyzed: 05/27/15

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	107	80-132	EPA 8015B
Bromofluorobenzene (PID)	105	71-141	EPA 8021B

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	223569
Units:	ug/L	Analyzed:	05/27/15
Diln Fac:	1.000		

Type: BS Lab ID: QC789530

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.796	98	74-137
Benzene	10.00	9.986	100	80-120
Toluene	10.00	9.289	93	80-120
Ethylbenzene	10.00	10.34	103	80-120
m,p-Xylenes	10.00	11.32	113	80-120
o-Xylene	10.00	11.24	112	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	108	71-141

Type: BSD Lab ID: QC789531

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	9.547	95	74-137	3	37
Benzene	10.00	9.790	98	80-120	2	20
Toluene	10.00	9.093	91	80-120	2	20
Ethylbenzene	10.00	10.23	102	80-120	1	20
m,p-Xylenes	10.00	11.16	112	80-120	1	20
o-Xylene	10.00	11.17	112	80-120	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	106	71-141

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	223569
MSS Lab ID:	267007-001	Sampled:	05/22/15
Matrix:	Water	Received:	05/22/15
Units:	ug/L	Analyzed:	05/28/15
Diln Fac:	1.000		

Type: MS Lab ID: QC789532

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	122.2	2,000	1,982	93	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	120	80-132

Type: MSD Lab ID: QC789533

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,936	91	76-120	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	119	80-132

RPD= Relative Percent Difference

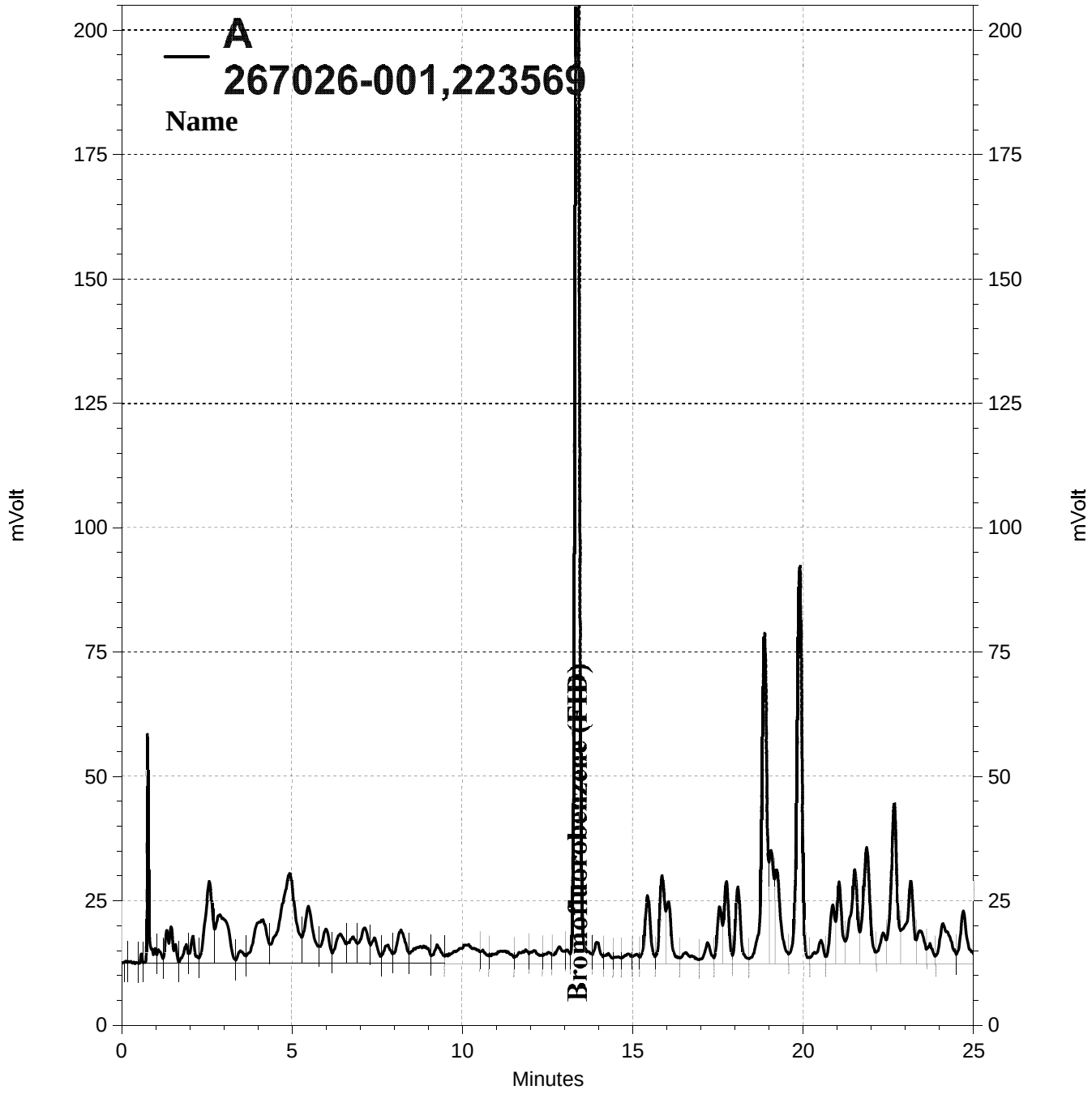
Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

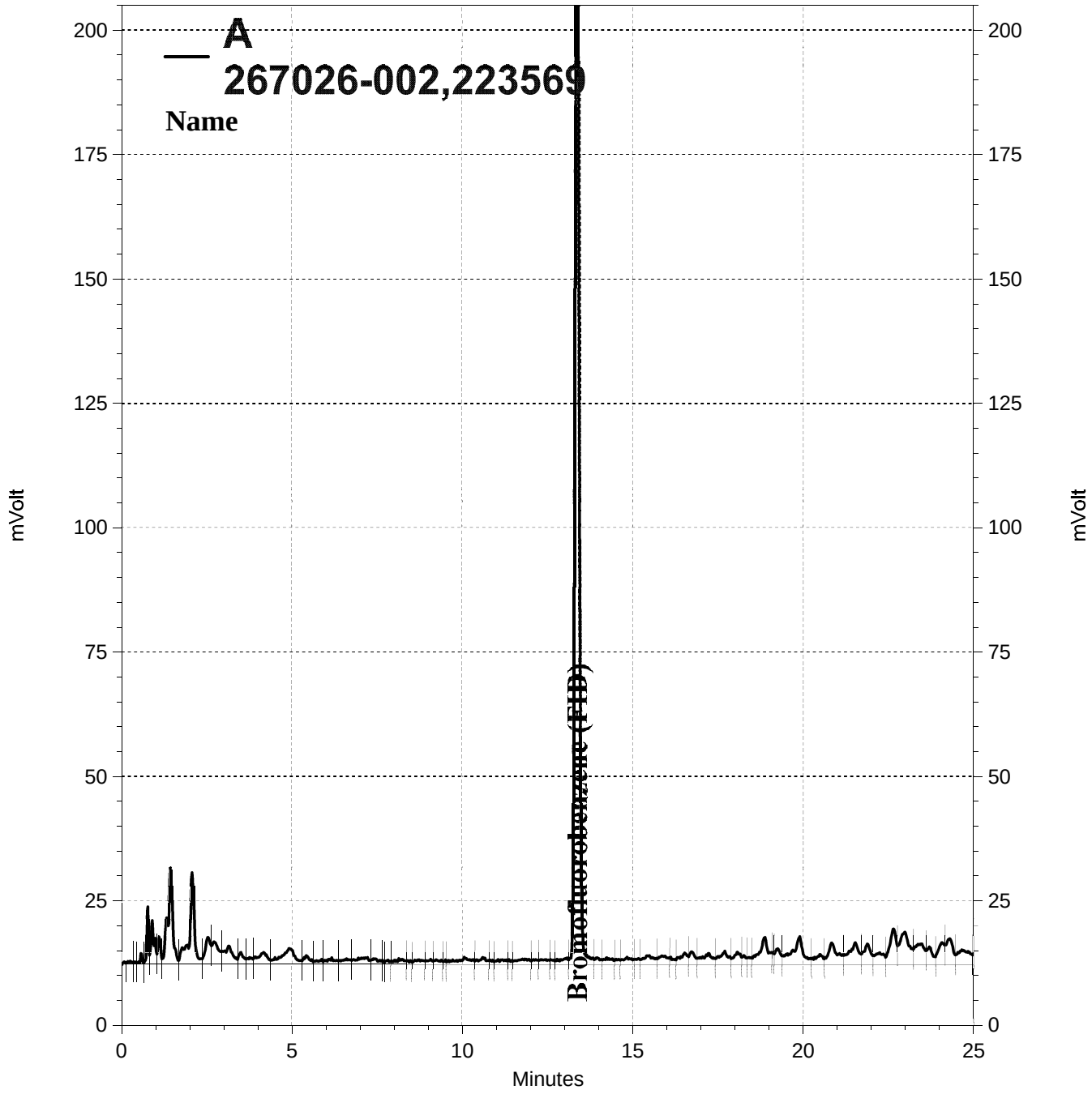
Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC789534	Batch#:	223569
Matrix:	Water	Analyzed:	05/27/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	986.8	99	80-120

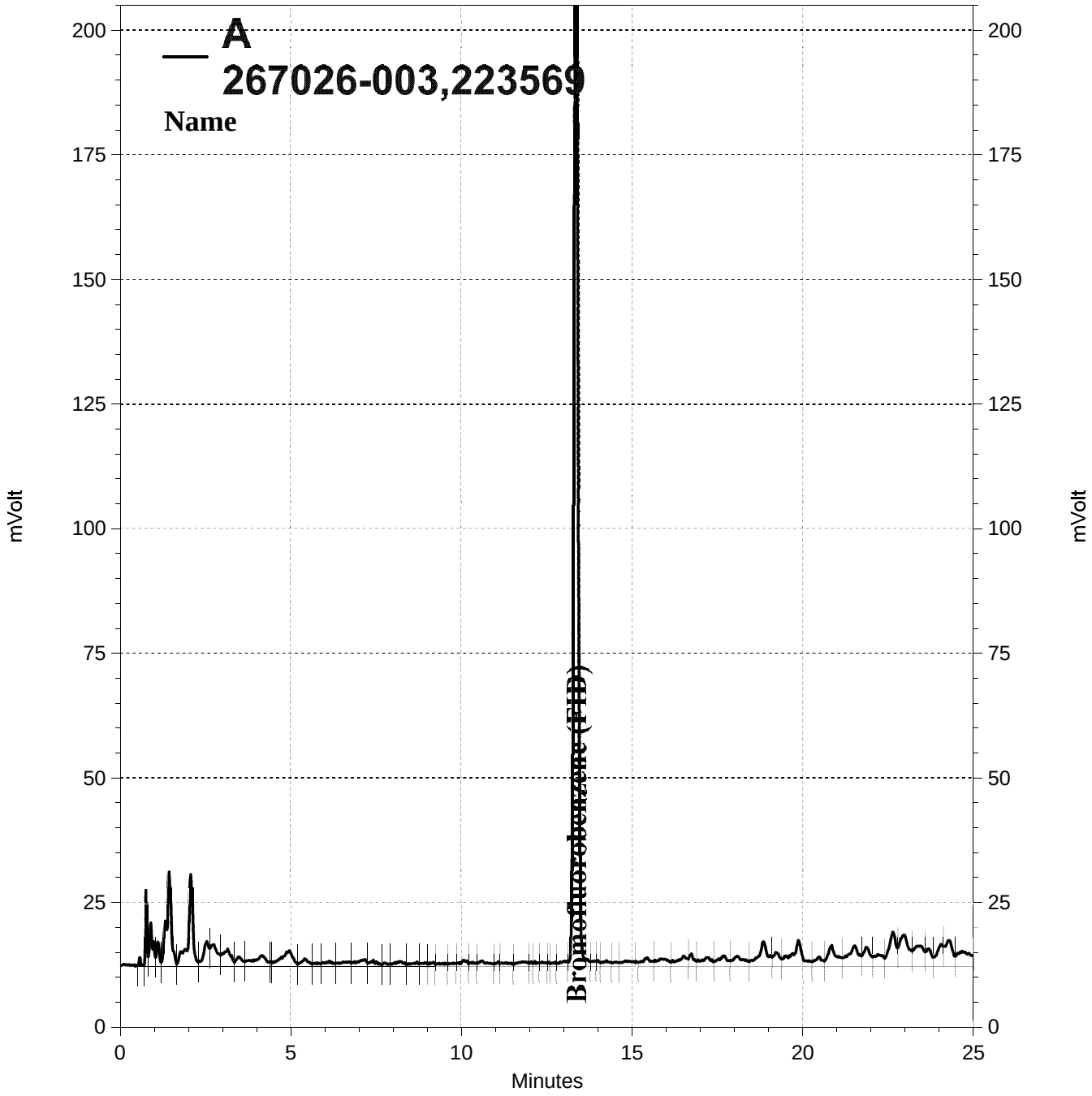
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	80-132



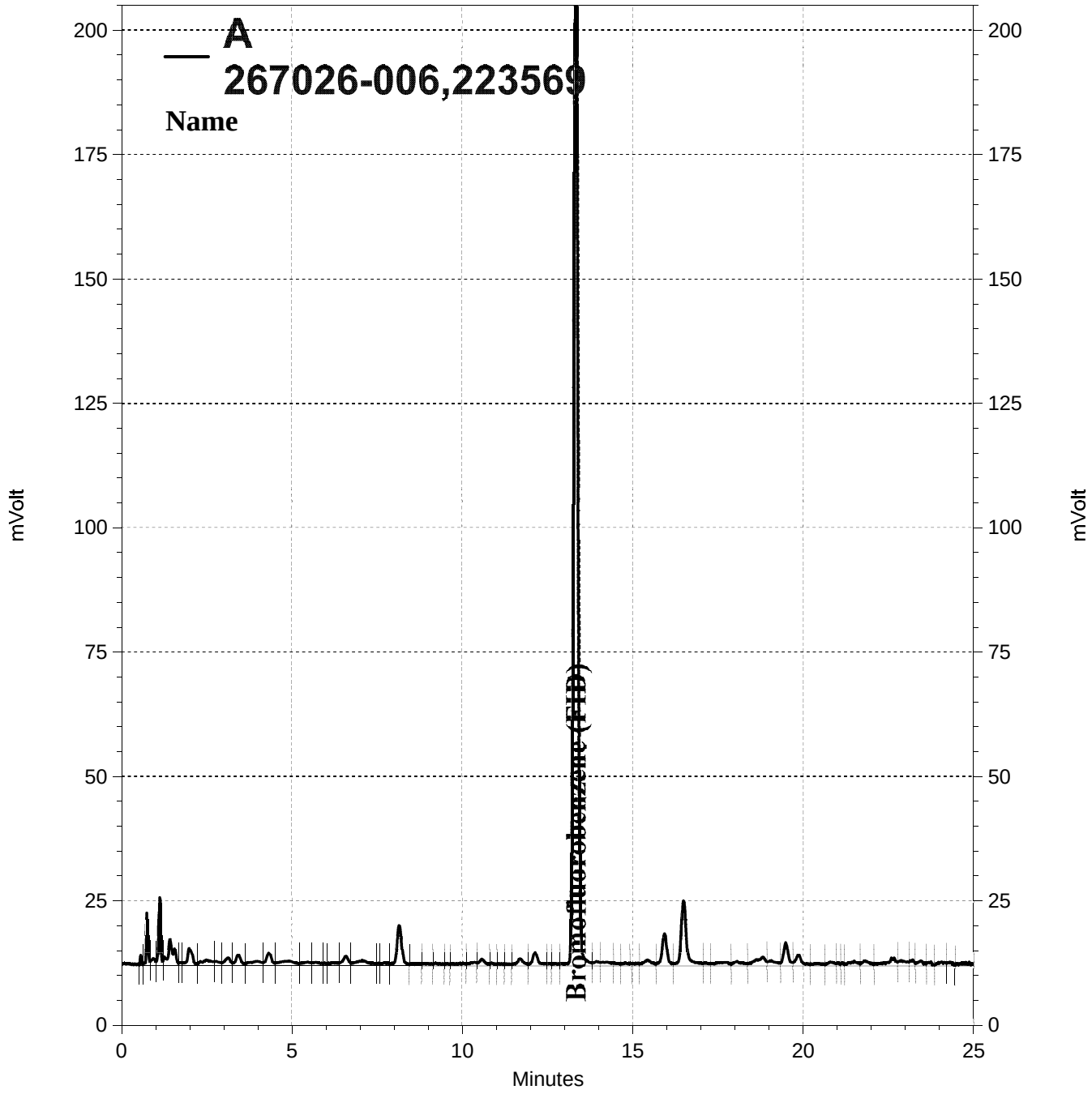
\\Lims\gdrive\ezchrom\Projects\GC05\Data\147-008, A



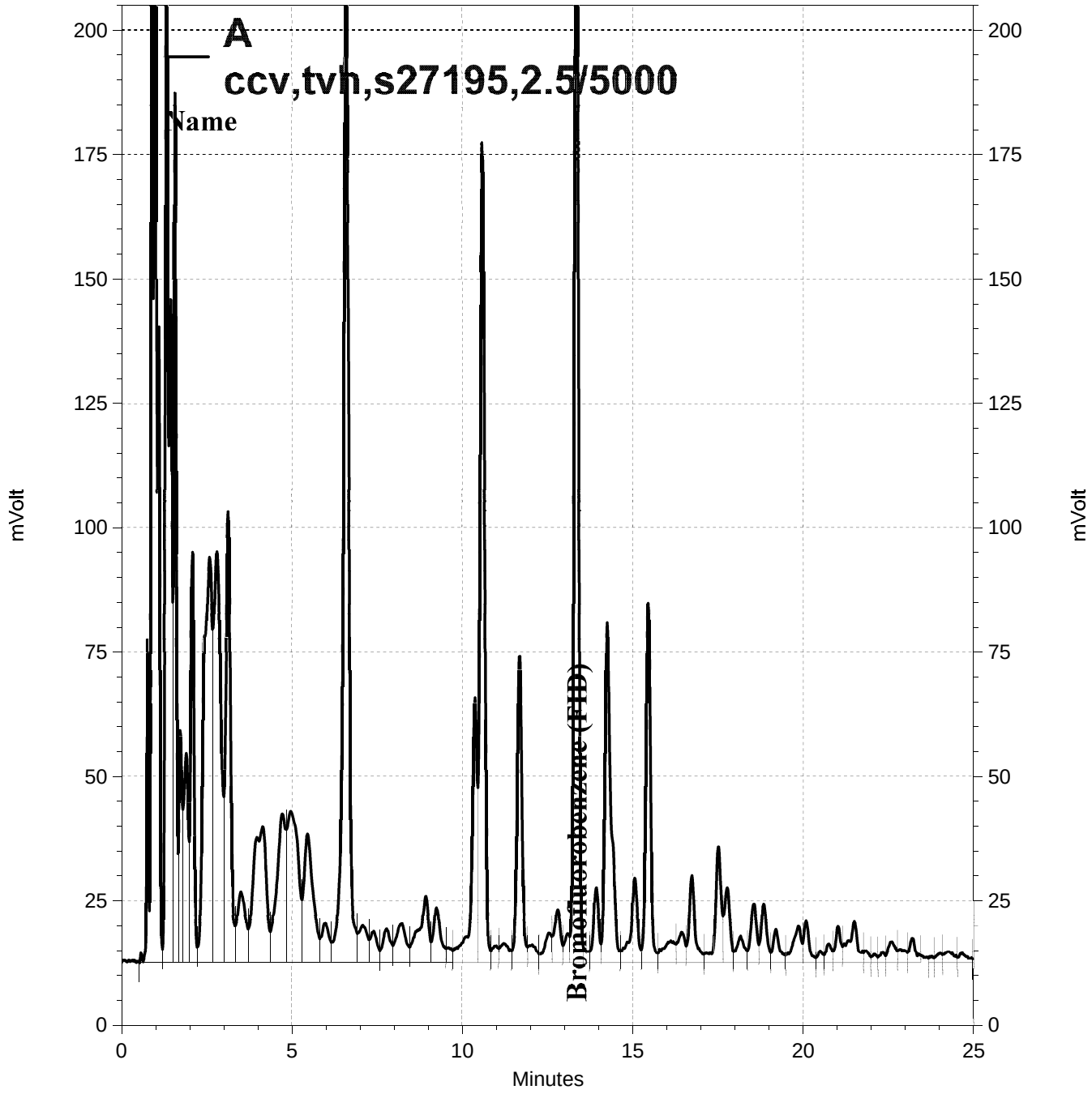
\\Lims\gdrive\ezchrom\Projects\GC05\Data\147-009, A



\\Lims\gdrive\ezchrom\Projects\GC05\Data\147-010, A



\\Lims\gdrive\ezchrom\Projects\GC05\Data\147-021, A


A
ccv,tvh,s27195,2.5/5000
Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
25
50
75
100
125
150
175
200
0
5
10
15
20
25
\\Lims\gdrive\ezchrom\Projects\GC05\Data\147-002, A

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCVOA Water: EPA 8015B

Inst : GC05
Calnum : 315090403001
Units : ng

Name : tvh/BFB_062
Date : 04-MAR-2015 06:00
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	062_019	315090403019	TVH_15	04-MAR-2015 06:00	S26764 (1000X), S26658 (5000X)
L2	062_020	315090403020	TVH_16	04-MAR-2015 06:38	S26763 (1000X), S26658 (5000X)
L3	062_021	315090403021	TVH_17	04-MAR-2015 07:16	S26761 (2000X), S26658 (5000X)
L4	062_022	315090403022	TVH_18	04-MAR-2015 07:53	S26761 (1000X), S26658 (5000X)
L5	062_028	315090403028	TVH_14	04-MAR-2015 12:44	S26765 (1000X), S26658 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	3071.8	2632.6	2316.7	2473.8	3553.9	AVRG		3.56E-4		2809.8	18	0.995	20	
Bromofluorobenzene (FID)	A	2056.4	1960.4	1953.0	2504.9	2301.1	AVRG		4.64E-4		2155.2	11	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	2500.0	9	10000	-6	25000	-18	50000	-12	250.00	**26**
Bromofluorobenzene (FID)	A	900.00	-5	900.00	-9	900.00	-9	900.00	16	900.00	7

ERR 03/05/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak in multiple levels.

ERR 03/05/15 : Corrected baseline noise or negative peak in multiple levels.

ERR 03/05/15 : TVH14_L4 low point out high, reran for better fit.

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 GCVOA Water
EPA 8015B

Inst : GC05 Name : tvh/BFB_062
Calnum : 315090403001 Cal Date : 04-MAR-2015

ICV 315090403030 (062_030 04-MAR-2015) stds: S26760 (1000X), S26658 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Gasoline C7-C12	A	10000	9289	ng	-7	15	

Analyst: ERR Date: 03/05/15 Reviewer: EAH Date: 03/05/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCVOA Water: EPA 8021B

Inst : GC05
Calnum : 315193517003
Units : ng

Name : MBTXE_bfb134b
Date : 15-MAY-2015 00:24
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	134_023	315193517023	BTXE_1	15-MAY-2015 00:24	S27217 (1000X), S27207 (5000X)
L2	134_024	315193517024	MBTXE_2	15-MAY-2015 01:02	S27216 (1250X), S27207 (5000X)
L3	134_025	315193517025	MBTXE_3	15-MAY-2015 01:40	S27216 (500X), S27207 (5000X)
L4	134_026	315193517026	MBTXE_4	15-MAY-2015 02:17	S27216 (125X), S27207 (5000X)
L5	134_027	315193517027	MBTXE_5	15-MAY-2015 02:55	S27215 (1000X), S27207 (5000X)
L6	134_028	315193517028	MBTXE_6	15-MAY-2015 03:32	S27215 (500X), S27207 (5000X)
L7	134_029	315193517029	MBTXE_7	15-MAY-2015 04:10	S27215 (250X), S27207 (5000X)
L8	134_030	315193517030	MBTBE_7	15-MAY-2015 04:48	S27153 (500X), S27207 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
MTBE	B		6369.6	6029.6	5188.6	5846.9	5403.7	5156.1	4556.2	AVRG		1.82E-4		5507.3	11	0.995	20	
Benzene	B	16546	16593	17587	19152	20946	19672	19066		AVRG		5.40E-5		18509	9	0.995	20	
Toluene	B	24550	17982	17094	18195	19597	17740	17450		AVRG		5.28E-5		18944	14	0.995	20	
Ethylbenzene	B	13392	12869	13683	15919	17640	15364	14763		AVRG		6.75E-5		14804	11	0.995	20	
m,p-Xylenes	B	16714	17203	18718	19922	20825	18355	18028		AVRG		5.39E-5		18538	8	0.995	20	
o-Xylene	B	14104	13946	15435	16780	18047	15661	15118		AVRG		6.42E-5		15584	9	0.995	20	
Bromofluorobenzene (PID)	B	11582	12100	12379	12590	11984	11253	10691	9422.6	AVRG		8.70E-5		11500	9	0.995	20	
MTBE	C		4124.6	4458.4	3924.1	4261.0	4025.5	3850.5	3356.5	AVRG		2.50E-4		4000.1	9	0.995	20	
Benzene	C	11472	12420	13345	13714	14426	13762	13425		AVRG		7.56E-5		13224	7	0.995	20	
Toluene	C	12851	11119	11621	12280	13658	12773	12678		AVRG		8.05E-5		12426	7	0.995	20	
Ethylbenzene	C	8431.6	9195.1	9787.4	10831	12653	11520	11409		AVRG		9.48E-5		10547	14	0.995	20	
m,p-Xylenes	C	8852.4	11232	11907	13164	14859	13481	13413		AVRG		8.05E-5		12416	16	0.995	20	
o-Xylene	C	8502.8	9515.7	10207	11058	13064	11788	11703		AVRG		9.23E-5		10834	14	0.995	20	
Bromofluorobenzene (PID)	C	8083.0	8351.4	8522.0	8692.8	8753.1	8542.2	8523.7	7281.7	AVRG		1.20E-4		8343.7	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
MTBE	B			10.000	16	25.000	9	100.00	-6	500.00	6	1000.0	-2	2000.0	-6	5000.0	-17
Benzene	B	2.5000	-11	10.000	-10	25.000	-5	100.00	3	500.00	13	1000.0	6	2000.0	3		
Toluene	B	2.5000	**30**	10.000	-5	25.000	-10	100.00	-4	500.00	3	1000.0	-6	2000.0	-8		
Ethylbenzene	B	2.5000	-10	10.000	-13	25.000	-8	100.00	8	500.00	19	1000.0	4	2000.0	0		
m,p-Xylenes	B	2.5000	-10	10.000	-7	25.000	1	100.00	7	500.00	12	1000.0	-1	2000.0	-3		
o-Xylene	B	2.5000	-9	10.000	-11	25.000	-1	100.00	8	500.00	16	1000.0	0	2000.0	-3		
Bromofluorobenzene (PID)	B	900.00	1	900.00	5	900.00	8	900.00	9	900.00	4	900.00	-2	900.00	-7	900.00	-18
MTBE	C			10.000	3	25.000	11	100.00	-2	500.00	7	1000.0	1	2000.0	-4	5000.0	-16
Benzene	C	2.5000	-13	10.000	-6	25.000	1	100.00	4	500.00	9	1000.0	4	2000.0	2		
Toluene	C	2.5000	3	10.000	-11	25.000	-6	100.00	-1	500.00	10	1000.0	3	2000.0	2		
Ethylbenzene	C	2.5000	-20	10.000	-13	25.000	-7	100.00	3	500.00	20	1000.0	9	2000.0	8		
m,p-Xylenes	C	2.5000	**-29**	10.000	-10	25.000	-4	100.00	6	500.00	20	1000.0	9	2000.0	8		
o-Xylene	C	2.5000	**-22**	10.000	-12	25.000	-6	100.00	2	500.00	**21**	1000.0	9	2000.0	8		
Bromofluorobenzene (PID)	C	900.00	-3	900.00	0	900.00	2	900.00	4	900.00	5	900.00	2	900.00	2	900.00	-13

ERR 05/18/15 [Toluene B]: Separated from coeluting peak for Ch. B in BTXE_1 (134_023).

ERR 05/18/15 [Ethylbenzene C]: Corrected automatically drawn baseline for Ch. C in multiple levels.

ERR 05/18/15 [m,p-Xylenes C]: Corrected automatically drawn baseline for Ch. C in all levels.

ERR 05/18/15 : X'ed out ICVs runs 32 and 33, prepped from bad vial. Run 35 ICV prepped from new vial.

ERR 05/18/15 : CALIB used for blank in batch 223179. ICAL reported without CALIB per CB.

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 GCVOA Water
EPA 8021B

Inst : GC05 Name : MBTXE_bfb134b
Calnum : 315193517003 Cal Date : 15-MAY-2015

ICV 315193517035 (134_035 15-MAY-2015) stds: S26659 (1000X), S27207 (5000X)

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
MTBE	B	100.0	85.96	ng	-14	15	
Benzene	B	100.0	97.18	ng	-3	15	
Toluene	B	100.0	91.32	ng	-9	15	
Ethylbenzene	B	100.0	97.95	ng	-2	15	
m,p-Xylenes	B	200.0	205.3	ng	3	15	
o-Xylene	B	100.0	100.9	ng	1	15	
MTBE	C	100.0	99.25	ng	-1	15	
Benzene	C	100.0	107.4	ng	7	15	
Toluene	C	100.0	103.4	ng	3	15	
Ethylbenzene	C	100.0	108.4	ng	8	15	
m,p-Xylenes	C	200.0	215.9	ng	8	15	
o-Xylene	C	100.0	101.1	ng	1	15	

Analyst: ERR Date: 05/18/15 Reviewer: EAH Date: 05/18/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCVOA Water
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315212452001 File : 147_001 Time : 27-MAY-2015 12:52
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5075.9	50.00	46.08	ng	-8	15	
Benzene	B	18509	17306	50.00	46.75	ng	-6	15	
Toluene	B	18944	16680	50.00	44.02	ng	-12	15	
Ethylbenzene	B	14804	14784	50.00	49.93	ng	0	15	
m,p-Xylenes	B	18538	19804	50.00	53.42	ng	7	15	
o-Xylene	B	15584	16857	50.00	54.08	ng	8	15	
Bromofluorobenzene (PID)	B	11500	12889	900.0	1009	ng	12	15	
MTBE	C	4000.1	3167.5	50.00	39.59	ng	**-21**	15	c- ***
Benzene	C	13224	10976	50.00	41.50	ng	**-17**	15	c- ***
Toluene	C	12426	9842.7	50.00	39.61	ng	**-21**	15	c- ***
Ethylbenzene	C	10547	8737.6	50.00	41.42	ng	**-17**	15	c- ***
m,p-Xylenes	C	12416	10311	50.00	41.53	ng	**-17**	15	c- ***
o-Xylene	C	10834	8860.5	50.00	40.89	ng	**-18**	15	c- ***
Bromofluorobenzene (PID)	C	8343.7	6844.4	900.0	738.3	ng	**-18**	15	c-

Analyst: _____ Date: _____ Reviewer: _____ Date: _____

-=low bias c=CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 267026 GCVOA Water
EPA 8015B

Inst : GC05 Run Name : QC789534 IDF : 1.0
Seqnum : 315212452002.3 File : 147_002 Time : 27-MAY-2015 13:30
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2772.7	5000	4934	ng	-1	15	u
Bromofluorobenzene (FID)	A	2155.2	2287.5	900.0	955.2	ng	6	15	u

ERR 05/28/15 : ccv/lcs,qc789534,223569 [general version]

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

u=use

CURTIS & TOMPKINS SPIKE USER REPORT FOR 267026 GCVOA Water
EPA 8021B

Inst : GC05 Run Name : QC789530 IDF : 1.0
Seqnum : 315212452004.3 File : 147_004 Time : 27-MAY-2015 14:45
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (2000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5395.2	50.00	48.98	ng	-2	15	u
MTBE	C	4000.1	3417.2	50.00	42.71	ng	-15	15	
Benzene	B	18509	18482	50.00	49.93	ng	0	15	u
Benzene	C	13224	11779	50.00	44.54	ng	-11	15	
Toluene	B	18944	17596	50.00	46.44	ng	-7	15	u
Toluene	C	12426	10499	50.00	42.25	ng	**-16**	15	c- ***
Ethylbenzene	B	14804	15309	50.00	51.70	ng	3	15	u
Ethylbenzene	C	10547	9374.4	50.00	44.44	ng	-11	15	
m,p-Xylenes	B	18538	20990	50.00	56.61	ng	13	15	u
m,p-Xylenes	C	12416	11145	50.00	44.89	ng	-10	15	
o-Xylene	B	15584	17511	50.00	56.18	ng	12	15	u
o-Xylene	C	10834	9449.5	50.00	43.61	ng	-13	15	
Bromofluorobenzene (PID)	B	11500	12417	900.0	971.8	ng	8	15	u
Bromofluorobenzene (PID)	C	8343.7	6918.3	900.0	746.2	ng	**-17**	15	c-

ERR 05/28/15 [Bromofluorobenzene (PID) C]: Passes control limits. [general version]

ERR 05/28/15 : ccv/bs,qc789530,223569 [general version]

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

-=low bias c=CCV u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCVOA Water
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315212452012 File : 147_012 Time : 27-MAY-2015 19:46
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2764.8	15000	14760	ng	-2	15	
Bromofluorobenzene (FID)	A	2155.2	2633.6	900.0	1100	ng	**22**	15	c+

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCVOA Water
EPA 8021B

Inst : GC05 Run Name : BTXE IDF : 1.0
Seqnum : 315212452013 File : 147_013 Time : 27-MAY-2015 20:24
Cal : 315193517003 Caldate : 15-MAY-2015
Standards: S27205 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
MTBE	B	5507.3	5396.8	100.0	97.99	ng	-2	15	
Benzene	B	18509	19710	100.0	106.5	ng	6	15	
Toluene	B	18944	18449	100.0	97.38	ng	-3	15	
Ethylbenzene	B	14804	15857	100.0	107.1	ng	7	15	
m,p-Xylenes	B	18538	20870	100.0	112.6	ng	13	15	
o-Xylene	B	15584	17606	100.0	113.0	ng	13	15	
Bromofluorobenzene (PID)	B	11500	12392	900.0	969.8	ng	8	15	
MTBE	C	4000.1	3755.5	100.0	93.88	ng	-6	15	
Benzene	C	13224	12471	100.0	94.31	ng	-6	15	
Toluene	C	12426	11308	100.0	91.00	ng	-9	15	
Ethylbenzene	C	10547	9882.6	100.0	93.70	ng	-6	15	
m,p-Xylenes	C	12416	11643	100.0	93.78	ng	-6	15	
o-Xylene	C	10834	9921.2	100.0	91.57	ng	-8	15	
Bromofluorobenzene (PID)	C	8343.7	7214.8	900.0	778.2	ng	-14	15	

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCVOA Water
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315212452015 File : 147_015 Time : 27-MAY-2015 21:39
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (666.7X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2775.6	15000	14820	ng	-1	15	
Bromofluorobenzene (FID)	A	2155.2	2524.4	900.0	1054	ng	**17**	15	c+

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCVOA Water
EPA 8015B

Inst : GC05 Run Name : TVH IDF : 1.0
Seqnum : 315212452027 File : 147_027 Time : 28-MAY-2015 05:10
Cal : 315090403001 Caldate : 04-MAR-2015
Standards: S27195 (1000X), S27207 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	2809.8	2622.1	10000	9332	ng	-7	15	
Bromofluorobenzene (FID)	A	2155.2	2526.0	900.0	1055	ng	**17**	15	c+

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Separated from coeluting peak for Ch. A.

ERR 05/28/15 [Bromofluorobenzene (FID) A]: Passes control limits.

Analyst: ERR Date: 05/28/15 Reviewer: EAH Date: 06/01/15

+=high bias c=CCV

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315090403

Instrument : GC05 Begun : 03/03/15 18:43
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	062_001	X	IB			03/03/15 18:43	1.0	1	
002	062_002	X	IB			03/03/15 19:21	1.0	1	
003	062_003	IB	CALIB			03/03/15 19:58	1.0	1	
004	062_004	ICAL	BTXE_1			03/03/15 20:36	1.0	2 1	
005	062_005	ICAL	MBTXE_2			03/03/15 21:14	1.0	3 1	
006	062_006	ICAL	MBTXE_3			03/03/15 21:51	1.0	3 1	
007	062_007	ICAL	MBTXE_4			03/03/15 22:29	1.0	3 1	
008	062_008	ICAL	MBTXE_5			03/03/15 23:06	1.0	4 1	
009	062_009	ICAL	MBTXE_6			03/03/15 23:44	1.0	4 1	
010	062_010	ICAL	MBTXE_7			03/04/15 00:22	1.0	4 1	
011	062_011	ICAL	MBTBE_7			03/04/15 00:59	1.0	5 1	
012	062_012	X	IB			03/04/15 01:37	1.0	1	
013	062_013	ICV	MBTXE			03/04/15 02:15	1.0	6 1	
014	062_014	ICV	MBTXE			03/04/15 02:52	1.0	6 1	
015	062_015	X	IB			03/04/15 03:30	1.0	1	
016	062_016	X	IB			03/04/15 04:07	1.0	1	
017	062_017	IB	CALIB			03/04/15 04:45	1.0	1	
018	062_018	X	X			03/04/15 05:23	1.0	7 1	
019	062_019	ICAL	TVH_15			03/04/15 06:00	1.0	8 1	
020	062_020	ICAL	TVH_16			03/04/15 06:38	1.0	9 1	
021	062_021	ICAL	TVH_17			03/04/15 07:16	1.0	10 1	
022	062_022	ICAL	TVH_18			03/04/15 07:53	1.0	10 1	
023	062_023	X	IB			03/04/15 08:31	1.0	1	
024	062_024	ICV	TVH			03/04/15 09:08	1.0	11 1	
025	062_025	X	ICV			03/04/15 09:46	1.0	11 1	
026	062_026	CMARKER	CMARK			03/04/15 10:23	1.0	12 1	
027	062_027	X	CMARKER			03/04/15 11:01	1.0	12 1	
028	062_028	ICAL	TVH_14			03/04/15 12:44	1.0	7 1	
029	062_029	X	IB			03/04/15 13:21	1.0	1	
030	062_030	ICV	TVH			03/04/15 13:59	1.0	11 1	
031	062_031	X	ICV			03/04/15 14:37	1.0	11 1	
032	062_032	X	CMARKER			03/04/15 15:14	1.0	12 1	

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

ERR 03/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Reviewed by: ERR Date: 03/04/15

Standards used: 1=S26658 2=S26340 3=S26339 4=S26338 5=S26368 6=S26659 7=S26765 8=S26764 9=S26763 10=S26761 11=S26760 12=S26730

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315193517

Instrument : GC05 Begun : 05/14/15 09:17
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	134_001	CCV	BTXE			05/14/15 09:17	1.0	1 2	
003	134_003	CCV	BTXE			05/14/15 10:56	1.0	1 2	
004	134_004	CCV	BTXE			05/14/15 11:34	1.0	1 2	
005	134_005	CCV	BTXE			05/14/15 12:11	1.0	1 2	
006	134_006	CCV	BTXE			05/14/15 12:49	1.0	1 2	
007	134_007	X	CMARKER			05/14/15 13:26	1.0	3 2	
008	134_008	CCV/LCS	QC787998	Soil	223179	05/14/15 15:00	1.0	4 2	
009	134_009	BLANK	QC787999	Soil	223179	05/14/15 15:38	1.0	2	
010	134_010	X	AVGAS			05/14/15 16:15	1.0	5 2	
011	134_011	ICAL	AVGAS			05/14/15 16:53	1.0	5 2	
012	134_012	X	IB	Soil		05/14/15 17:31	1.0	2	
013	134_013	MSS	266659-001	Soil	223179	05/14/15 18:08	1.0	2	
014	134_014	MS	QC788000	Soil	223179	05/14/15 18:46	1.0	4 2	
015	134_015	MSD	QC788001	Soil	223179	05/14/15 19:24	1.0	4 2	
016	134_016	SAMPLE	266659-002	Soil	223179	05/14/15 20:01	1.0	2	
017	134_017	CCV	TVH			05/14/15 20:39	1.0	4 2	
018	134_018	CCV	AVGAS			05/14/15 21:16	1.0	5 2	
019	134_019	CCV	TVH			05/14/15 21:54	1.0	4 2	
020	134_020	X	CMARKER			05/14/15 22:32	1.0	3 2	
021	134_021	CCV	AVGAS			05/14/15 23:09	1.0	5 2	
022	134_022	BLANK	QC787999	Soil	223179	05/14/15 23:47	1.0	2	
023	134_023	ICAL	BTXE_1			05/15/15 00:24	1.0	6 2	
024	134_024	ICAL	MBTXE_2			05/15/15 01:02	1.0	7 2	
025	134_025	ICAL	MBTXE_3			05/15/15 01:40	1.0	7 2	
026	134_026	ICAL	MBTXE_4			05/15/15 02:17	1.0	7 2	
027	134_027	ICAL	MBTXE_5			05/15/15 02:55	1.0	8 2	
028	134_028	ICAL	MBTXE_6			05/15/15 03:32	1.0	8 2	
029	134_029	ICAL	MBTXE_7			05/15/15 04:10	1.0	8 2	
030	134_030	ICAL	MBTBE_7			05/15/15 04:48	1.0	9 2	
031	134_031	X	IB			05/15/15 05:25	1.0	2	
032	134_032	X	MBTXE			05/15/15 06:03	1.0	10 2	
033	134_033	X	MBTXE			05/15/15 06:40	1.0	10 2	
034	134_034	CCV	AVGAS			05/15/15 10:24	1.0	5 2	
035	134_035	ICV	MBTXE			05/15/15 13:32	1.0	10 2	

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 33.

ERR 05/15/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 34 through 35.

Reviewed by: ERR Date: 05/15/15

Standards used: 1=S27205 2=S27207 3=S26730 4=S27195 5=S27256 6=S27217 7=S27216 8=S27215 9=S27153 10=S26659

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 315212452

Instrument : GC05 Begun : 05/27/15 12:52
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv22

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	147_001	X	BTXE			05/27/15 12:52	1.0	1 2	
002	147_002	CCV/LCS	QC789534	Water	223569	05/27/15 13:30	1.0	3 2	
003	147_003	X	IB			05/27/15 14:07	1.0	2	
004	147_004	CCV/BS	QC789530	Water	223569	05/27/15 14:45	1.0	1 2	
005	147_005	BLANK	QC789529	Water	223569	05/27/15 15:23	1.0	2	
006	147_006	BSD	QC789531	Water	223569	05/27/15 16:00	1.0	1 2	
007	147_007	X	CMARKER			05/27/15 16:38	1.0	4 2	
008	147_008	SAMPLE	267026-001	Water	223569	05/27/15 17:16	1.0	2	
009	147_009	SAMPLE	267026-002	Water	223569	05/27/15 17:53	1.0	2	
010	147_010	SAMPLE	267026-003	Water	223569	05/27/15 18:31	1.0	2	
011	147_011	SAMPLE	267026-005	Water	223569	05/27/15 19:08	1.0	2	
012	147_012	CCV	TVH			05/27/15 19:46	1.0	3 2	
013	147_013	CCV	BTXE			05/27/15 20:24	1.0	1 2	
014	147_014	X	CMARKER			05/27/15 21:01	1.0	4 2	
015	147_015	CCV	TVH			05/27/15 21:39	1.0	3 2	
016	147_016	CCV	BTXE			05/27/15 22:17	1.0	1 2	
017	147_017	SAMPLE	267026-004	Water	223569	05/27/15 22:54	1.0	2	
018	147_018	MSS	267007-001	Water	223569	05/27/15 23:32	1.0	2	
019	147_019	MS	QC789532	Water	223569	05/28/15 00:09	1.0	3 2	
020	147_020	MSD	QC789533	Water	223569	05/28/15 00:47	1.0	3 2	
021	147_021	SAMPLE	267026-006	Water	223569	05/28/15 01:25	1.0	2	
022	147_022	SAMPLE	267055-008	Water	223569	05/28/15 02:02	1.0	2	7:GAS:7-12=110000
023	147_023	SAMPLE	267056-001	Water	223569	05/28/15 02:40	50.0	2	diluted (odor)
024	147_024	X	IB			05/28/15 03:17	1.0	2	
025	147_025	SAMPLE	267055-009	Water	223569	05/28/15 03:55	100.0	2	diluted (odor)
026	147_026	X	IB			05/28/15 04:33	1.0	2	
027	147_027	CCV	TVH			05/28/15 05:10	1.0	3 2	
028	147_028	CCV	TVH			05/28/15 05:48	1.0	3 2	
029	147_029	X	CMARKER			05/28/15 06:25	1.0	4 2	

ETP 05/27/15 : Increased channcel c lamp by 1, after run 3.

ERR 05/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 29.

ERR 05/28/15 : Used closing CM from sequence 146 for opening CM

ERR 05/28/15 : X'ed out run 1 ccv, out low

Reviewed by: ERR Date: 05/28/15

Standards used: 1=S27205 2=S27207 3=S27195 4=S26730

REPORTING SUMMARY FOR 267026 GCVOA Water

Sample ID	Analyte	Inst ID	Ch	Date & Time
267026-001	Gasoline C7-C12	GC05	A	05/27/15 17:16
267026-001	MTBE	GC05	B	05/27/15 17:16
267026-001	Benzene	GC05	B	05/27/15 17:16
267026-001	Toluene	GC05	B	05/27/15 17:16
267026-001	Ethylbenzene	GC05	B	05/27/15 17:16
267026-001	m,p-Xylenes	GC05	B	05/27/15 17:16
267026-001	o-Xylene	GC05	B	05/27/15 17:16
267026-001	Bromofluorobenzene (FID)	GC05	A	05/27/15 17:16
267026-001	Bromofluorobenzene (PID)	GC05	B	05/27/15 17:16
267026-002	Gasoline C7-C12	GC05	A	05/27/15 17:53
267026-002	MTBE	GC05	C	05/27/15 17:53
267026-002	Benzene	GC05	C	05/27/15 17:53
267026-002	Toluene	GC05	B	05/27/15 17:53
267026-002	Ethylbenzene	GC05	B	05/27/15 17:53
267026-002	m,p-Xylenes	GC05	B	05/27/15 17:53
267026-002	o-Xylene	GC05	B	05/27/15 17:53
267026-002	Bromofluorobenzene (FID)	GC05	A	05/27/15 17:53
267026-002	Bromofluorobenzene (PID)	GC05	B	05/27/15 17:53
267026-003	Gasoline C7-C12	GC05	A	05/27/15 18:31
267026-003	MTBE	GC05	C	05/27/15 18:31
267026-003	Benzene	GC05	C	05/27/15 18:31
267026-003	Toluene	GC05	B	05/27/15 18:31
267026-003	Ethylbenzene	GC05	B	05/27/15 18:31
267026-003	m,p-Xylenes	GC05	B	05/27/15 18:31
267026-003	o-Xylene	GC05	B	05/27/15 18:31
267026-003	Bromofluorobenzene (FID)	GC05	A	05/27/15 18:31
267026-003	Bromofluorobenzene (PID)	GC05	B	05/27/15 18:31
267026-004	Gasoline C7-C12	GC05	A	05/27/15 22:54
267026-004	Bromofluorobenzene (FID)	GC05	A	05/27/15 22:54
267026-005	Gasoline C7-C12	GC05	A	05/27/15 19:08
267026-005	MTBE	GC05	B	05/27/15 19:08
267026-005	Benzene	GC05	B	05/27/15 19:08
267026-005	Toluene	GC05	B	05/27/15 19:08
267026-005	Ethylbenzene	GC05	B	05/27/15 19:08
267026-005	m,p-Xylenes	GC05	B	05/27/15 19:08
267026-005	o-Xylene	GC05	B	05/27/15 19:08
267026-005	Bromofluorobenzene (FID)	GC05	A	05/27/15 19:08
267026-005	Bromofluorobenzene (PID)	GC05	B	05/27/15 19:08
267026-006	Gasoline C7-C12	GC05	A	05/28/15 01:25
267026-006	Bromofluorobenzene (FID)	GC05	A	05/28/15 01:25
QC789529	Gasoline C7-C12	GC05	A	05/27/15 15:23
QC789529	MTBE	GC05	B	05/27/15 15:23
QC789529	Benzene	GC05	B	05/27/15 15:23
QC789529	Toluene	GC05	B	05/27/15 15:23
QC789529	Ethylbenzene	GC05	B	05/27/15 15:23
QC789529	m,p-Xylenes	GC05	B	05/27/15 15:23
QC789529	o-Xylene	GC05	B	05/27/15 15:23
QC789529	Bromofluorobenzene (FID)	GC05	A	05/27/15 15:23

REPORTING SUMMARY FOR 267026 GCVOA Water

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC789529	Bromofluorobenzene (PID)	GC05	B	05/27/15 15:23
QC789530	MTBE	GC05	B	05/27/15 14:45
QC789530	Benzene	GC05	B	05/27/15 14:45
QC789530	Toluene	GC05	B	05/27/15 14:45
QC789530	Ethylbenzene	GC05	B	05/27/15 14:45
QC789530	m,p-Xylenes	GC05	B	05/27/15 14:45
QC789530	o-Xylene	GC05	B	05/27/15 14:45
QC789530	Bromofluorobenzene (PID)	GC05	B	05/27/15 14:45
QC789531	MTBE	GC05	B	05/27/15 16:00
QC789531	Benzene	GC05	B	05/27/15 16:00
QC789531	Toluene	GC05	B	05/27/15 16:00
QC789531	Ethylbenzene	GC05	B	05/27/15 16:00
QC789531	m,p-Xylenes	GC05	B	05/27/15 16:00
QC789531	o-Xylene	GC05	B	05/27/15 16:00
QC789531	Bromofluorobenzene (PID)	GC05	B	05/27/15 16:00
QC789532	Gasoline C7-C12	GC05	A	05/28/15 00:09
QC789532	Bromofluorobenzene (FID)	GC05	A	05/28/15 00:09
QC789533	Gasoline C7-C12	GC05	A	05/28/15 00:47
QC789533	Bromofluorobenzene (FID)	GC05	A	05/28/15 00:47
QC789534	Gasoline C7-C12	GC05	A	05/27/15 13:30
QC789534	Bromofluorobenzene (FID)	GC05	A	05/27/15 13:30

Laboratory Job Number 267026

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/23/15
Units:	ug/L	Received:	05/23/15
Diln Fac:	1.000		

Field ID:	APLMW-1(GW)	Batch#:	223618
Type:	SAMPLE	Prepared:	05/28/15
Lab ID:	267026-001	Analyzed:	05/29/15

Analyte	Result	RL
Diesel C10-C24	400 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	94	67-136

Field ID:	APLMW-2(GW)	Batch#:	223618
Type:	SAMPLE	Prepared:	05/28/15
Lab ID:	267026-002	Analyzed:	05/29/15

Analyte	Result	RL
Diesel C10-C24	3,100 Y	50
Motor Oil C24-C36	1,400	300

Surrogate	%REC	Limits
o-Terphenyl	93	67-136

Field ID:	DUP052315	Batch#:	223652
Type:	SAMPLE	Prepared:	05/29/15
Lab ID:	267026-003	Analyzed:	06/01/15

Analyte	Result	RL
Diesel C10-C24	3,600 Y	50
Motor Oil C24-C36	1,800	300

Surrogate	%REC	Limits
o-Terphenyl	90	67-136

Field ID:	APLMW-3(GW)	Batch#:	223652
Type:	SAMPLE	Prepared:	05/29/15
Lab ID:	267026-005	Analyzed:	06/01/15

Analyte	Result	RL
Diesel C10-C24	2,700 Y	50
Motor Oil C24-C36	1,900	300

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/23/15
Units:	ug/L	Received:	05/23/15
Diln Fac:	1.000		

Field ID:	RW052315	Batch#:	223652
Type:	SAMPLE	Prepared:	05/29/15
Lab ID:	267026-006	Analyzed:	06/01/15

Analyte	Result	RL
Diesel C10-C24	1,500 Y	50
Motor Oil C24-C36	810	300

Surrogate	%REC	Limits
o-Terphenyl	94	67-136

Type:	BLANK	Prepared:	05/28/15
Lab ID:	QC789739	Analyzed:	05/29/15
Batch#:	223618		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	98	67-136

Type:	BLANK	Prepared:	05/29/15
Lab ID:	QC789858	Analyzed:	06/02/15
Batch#:	223652		

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	109	67-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	223618
Units:	ug/L	Prepared:	05/28/15
Diln Fac:	1.000	Analyzed:	05/29/15

Type: BS Lab ID: QC789740

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,221	89	60-121

Surrogate	%REC	Limits
o-Terphenyl	102	67-136

Type: BSD Lab ID: QC789741

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,893	76	60-121	16	32

Surrogate	%REC	Limits
o-Terphenyl	95	67-136

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	223652
Units:	ug/L	Prepared:	05/29/15
Diln Fac:	1.000	Analyzed:	06/02/15

Type: BS Lab ID: QC789859

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,208	88	60-121

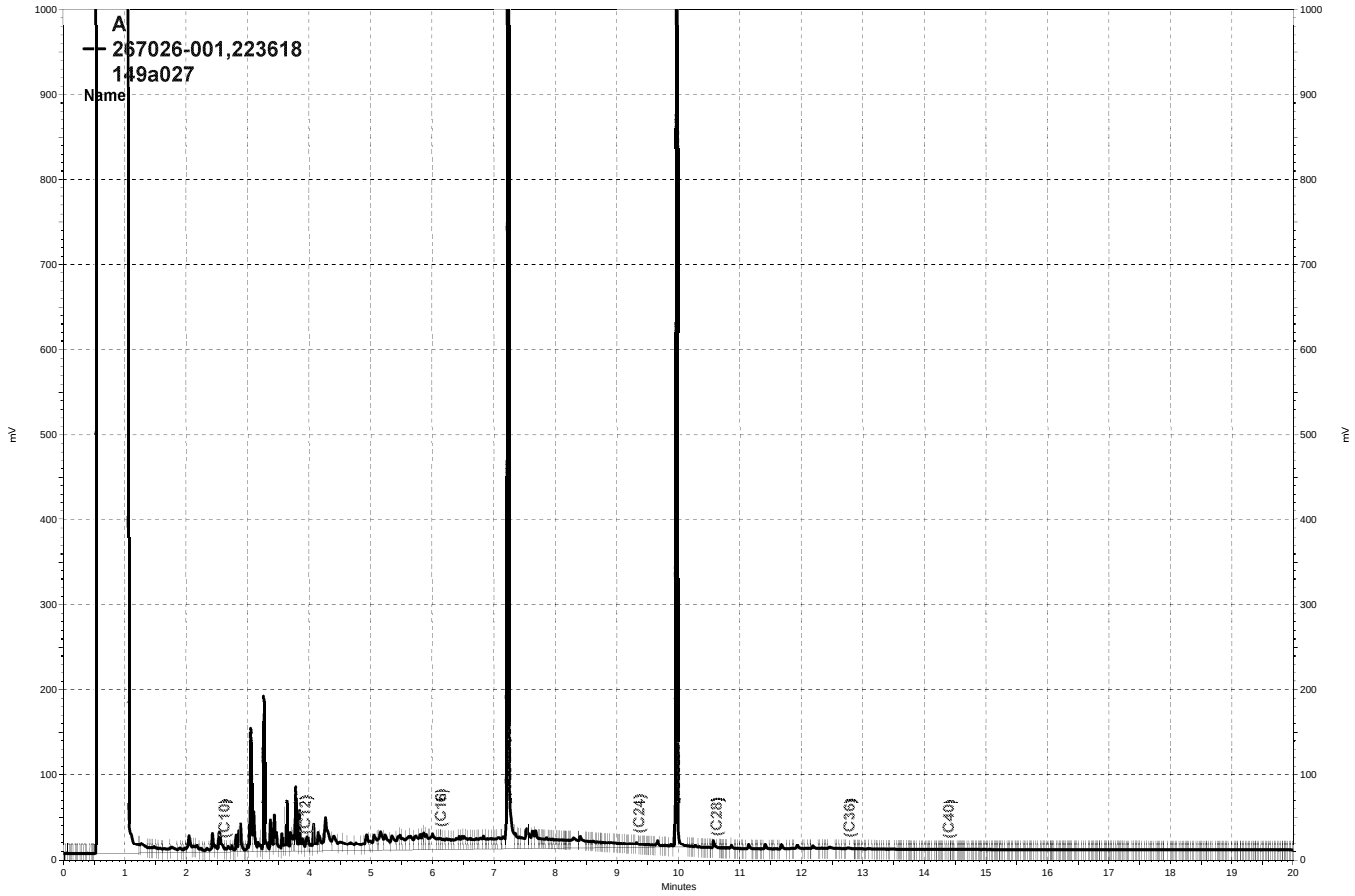
Surrogate	%REC	Limits
o-Terphenyl	106	67-136

Type: BSD Lab ID: QC789860

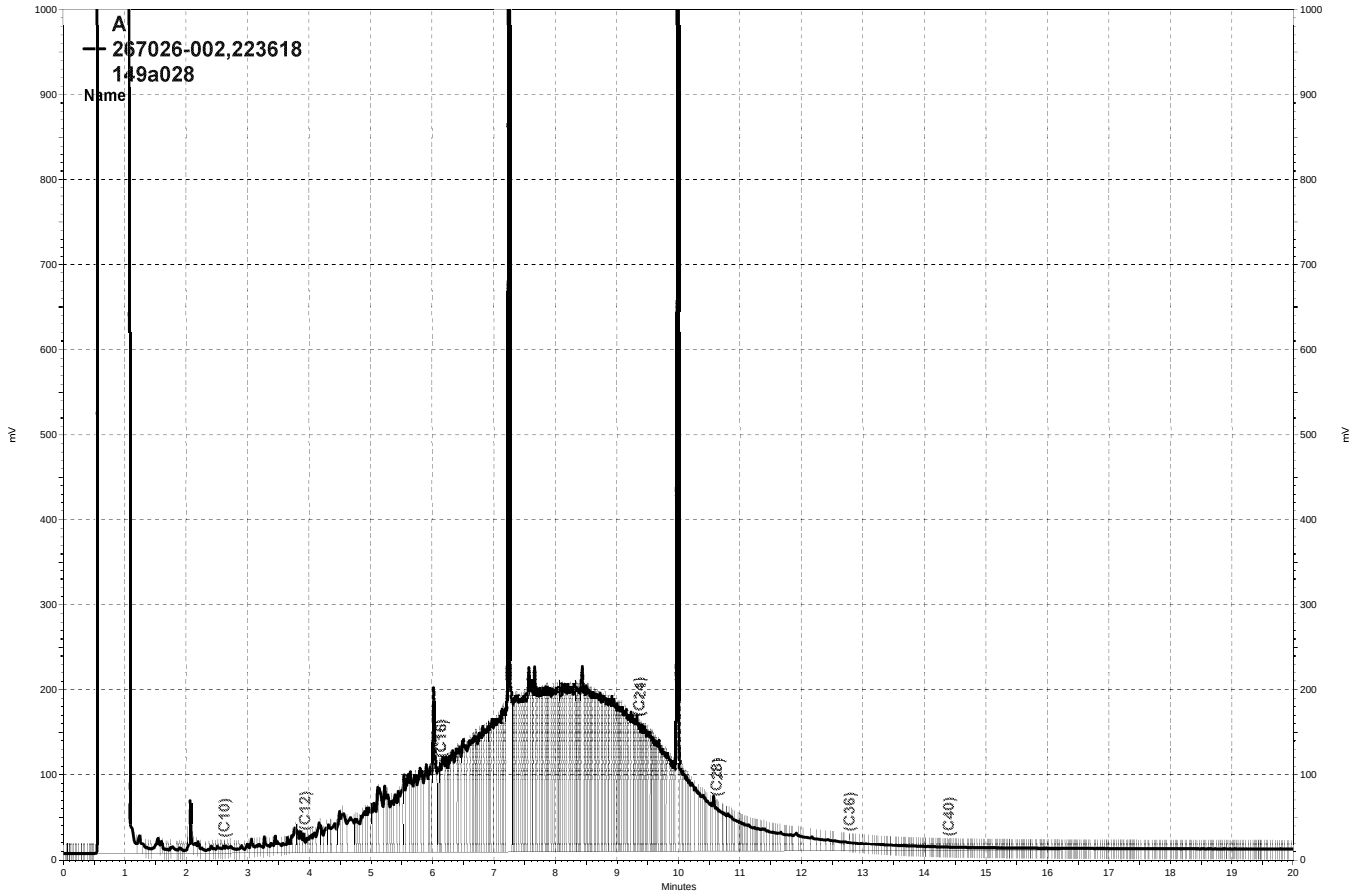
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,258	90	60-121	2	32

Surrogate	%REC	Limits
o-Terphenyl	105	67-136

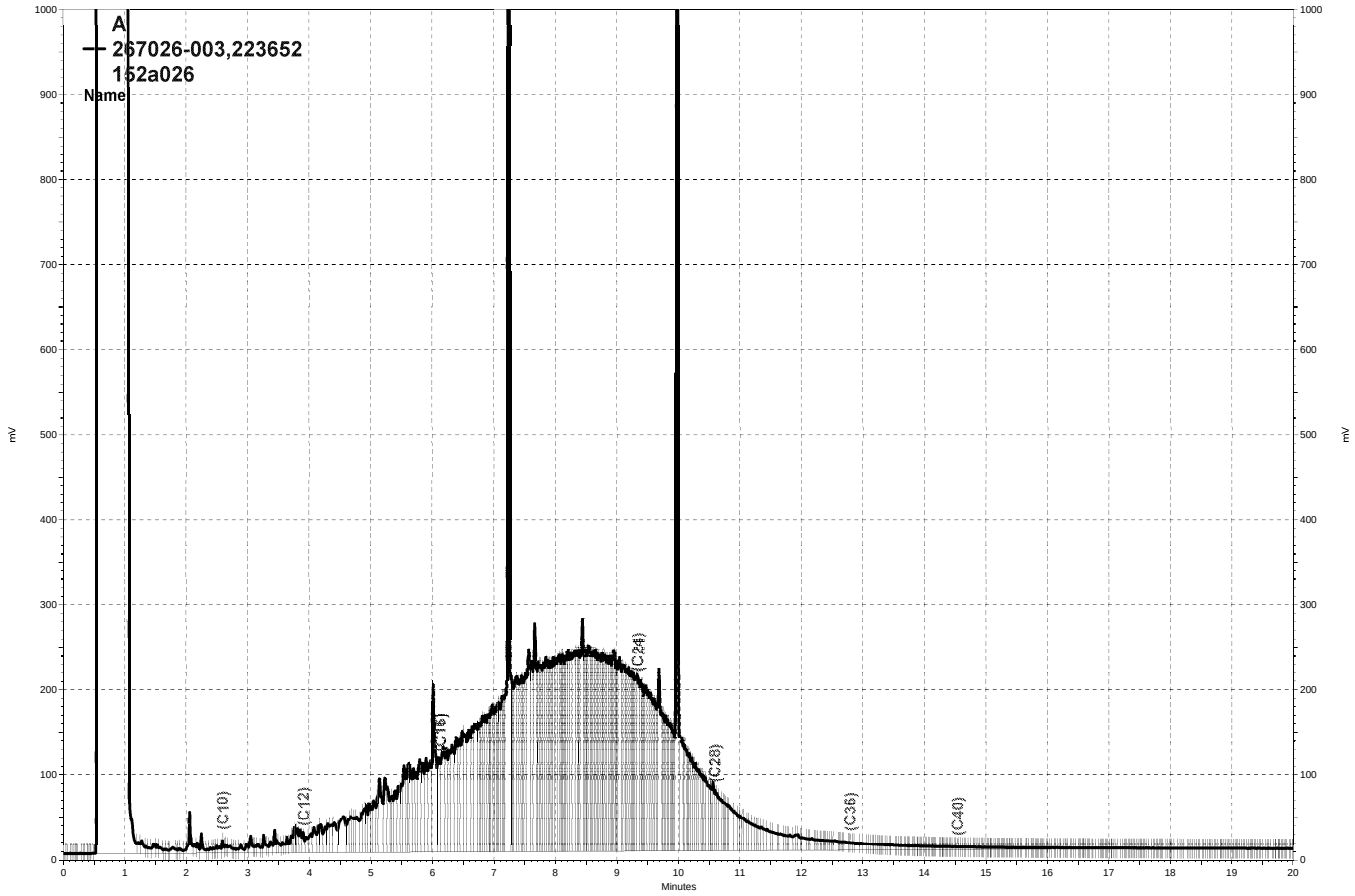
RPD= Relative Percent Difference



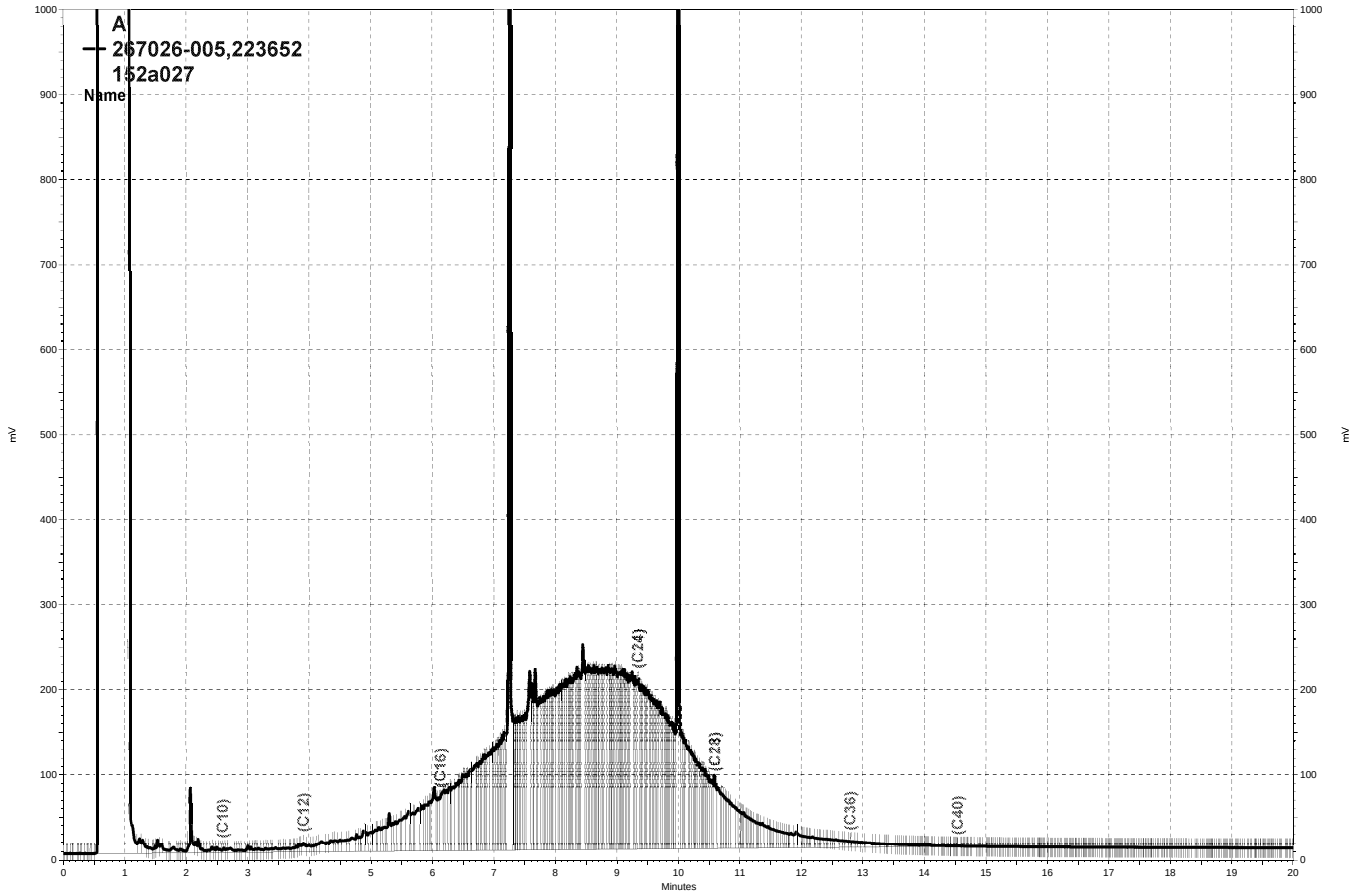
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\149a027, A



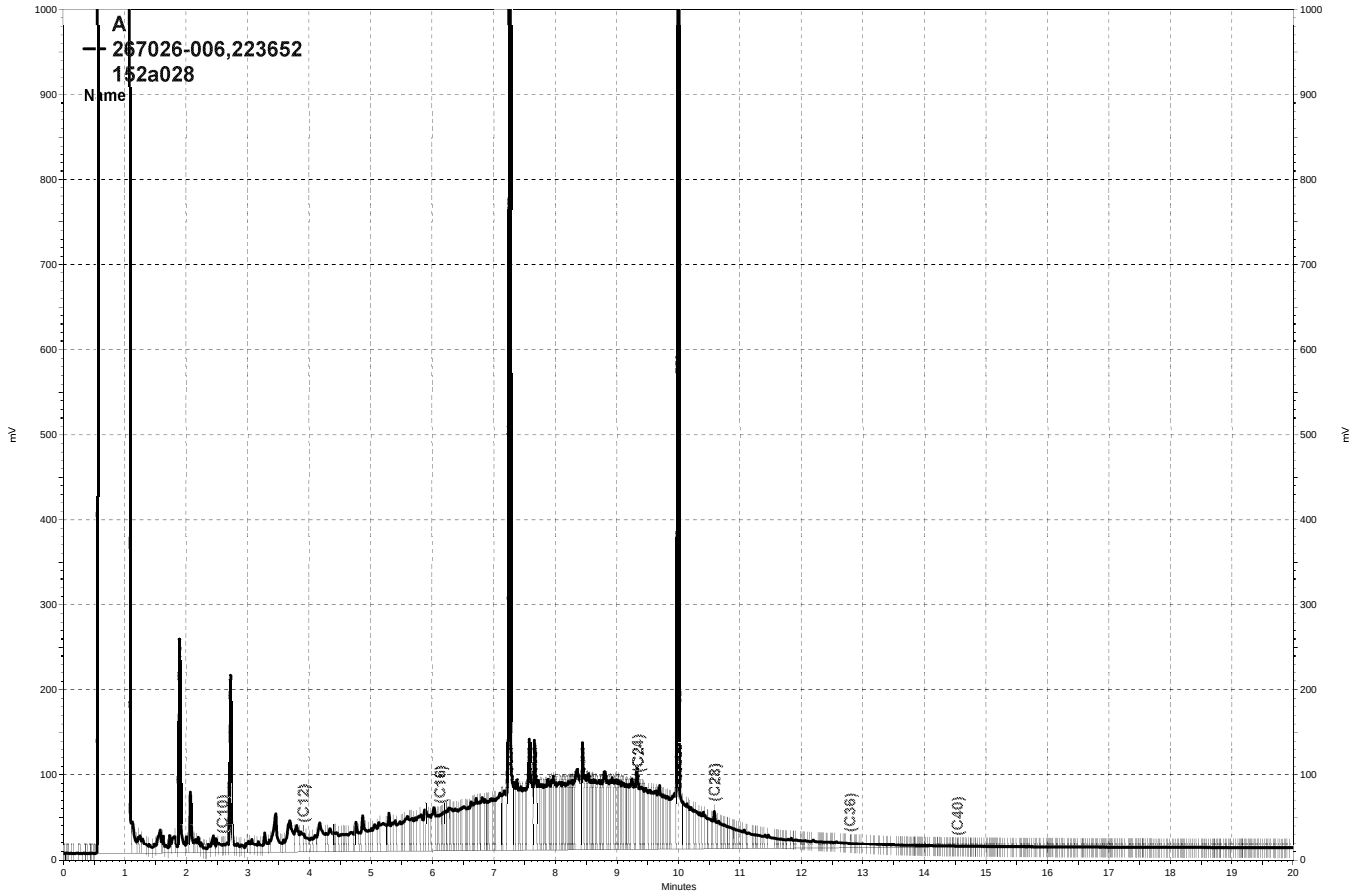
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\149a028, A



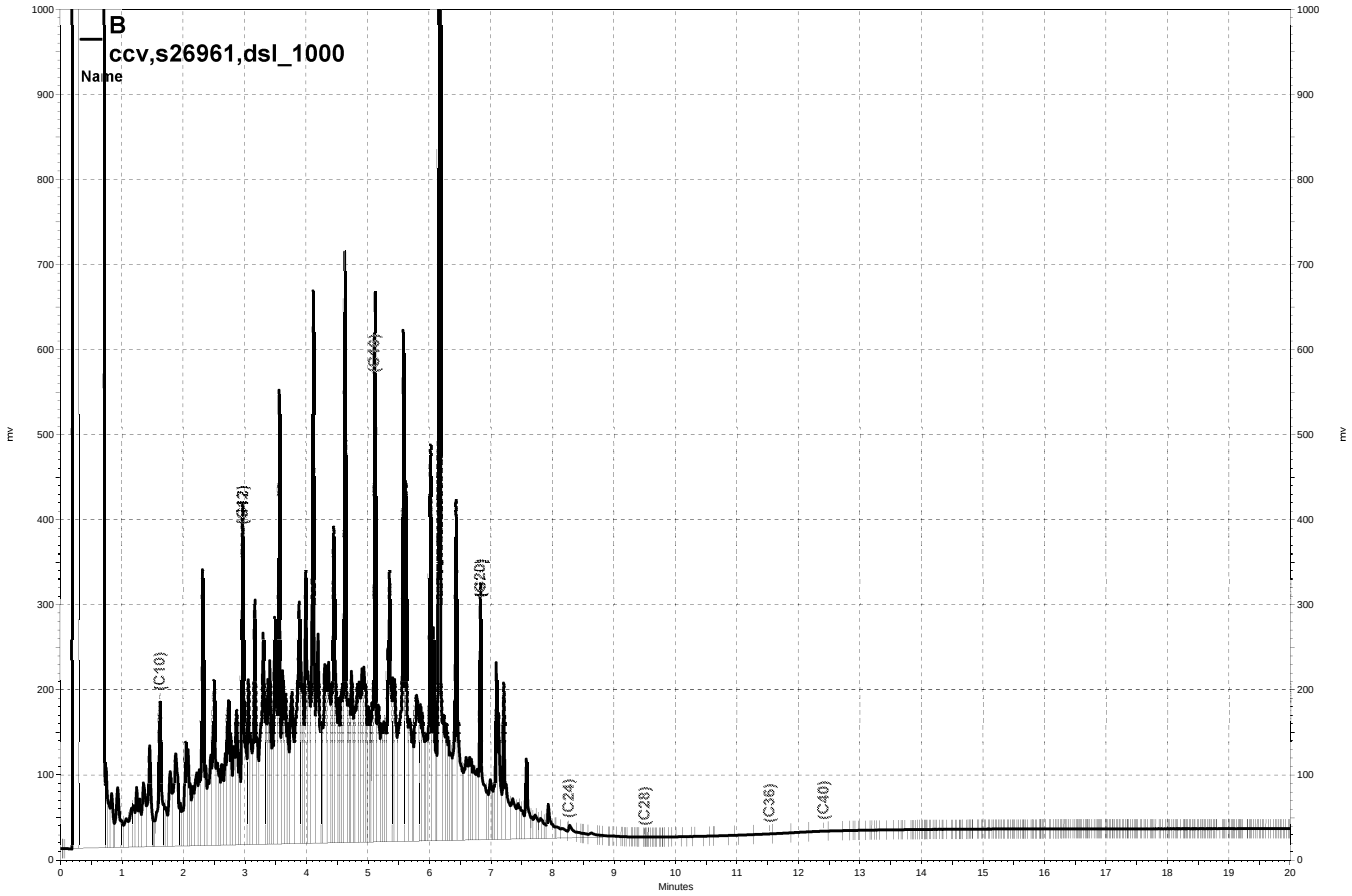
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\152a026, A



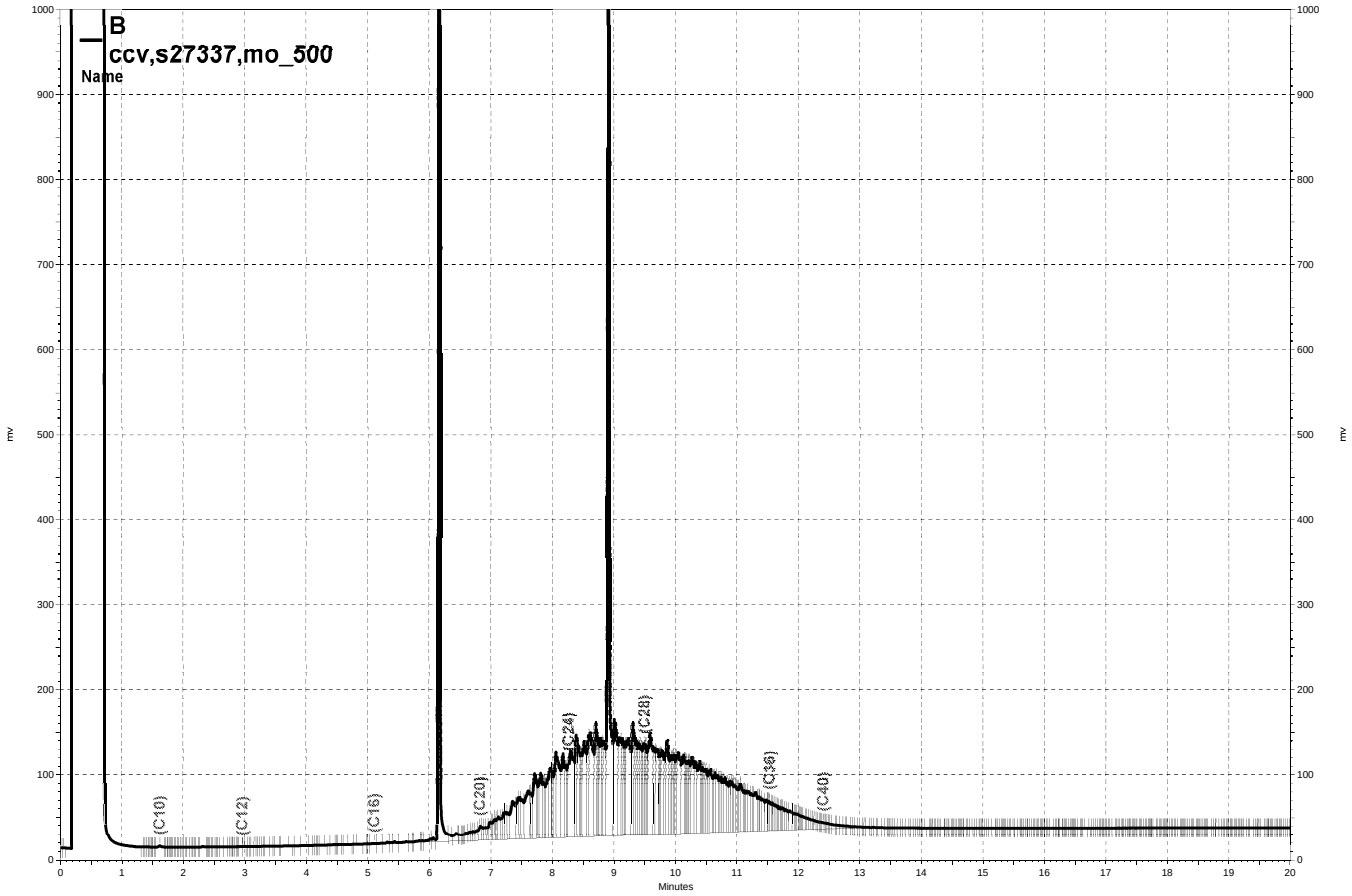
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\152a027, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\152a028, A



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\149b004, B



\\Lims\gdrive\ezchrom\Projects\GC15B\Data\149b003, B

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165075453001
Units : mg/L

Name : OTPHEX_052
Date : 21-FEB-2015 15:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	052b008	165075453008	HEXOTP_5	21-FEB-2015 15:04	S26468
L2	052b009	165075453009	HEXOTP_10	21-FEB-2015 15:32	S26469
L3	052b010	165075453010	HEXOTP_25	21-FEB-2015 16:00	S26470
L4	052b011	165075453011	HEXOTP_50	21-FEB-2015 16:28	S26471
L5	052b012	165075453012	HEXOTP_100	21-FEB-2015 16:55	S26472

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	57148	56296	55406	56654	55905	AVRG		1.78E-5		56282	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
o-Terphenyl	5.0000	2	10.000	0	25.000	-2	50.000	1	100.00	-1

Analyst: JDG Date: 02/23/15 Reviewer: EAH Date: 02/23/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165153113001
Units : mg/L

Name : MO_106
Date : 16-APR-2015 15:26
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	106b010	165153113010	MO_50	16-APR-2015 15:26	S26392
L2	106b011	165153113011	MO_250	16-APR-2015 15:53	S26393
L3	106b012	165153113012	MO_500	16-APR-2015 16:21	S26394
L4	106b013	165153113013	MO_1000	16-APR-2015 16:49	S26395
L5	106b014	165153113014	MO_2500	16-APR-2015 17:18	S26389 (2X)
L6	106b015	165153113015	MO_5000	16-APR-2015 17:45	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	34914	33577	34751	35215	34343	35388	AVRG		2.88E-5		34698	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	1	250.00	-3	500.00	0	1000.0	1	2500.0	-1	5000.0	2

EAH 04/17/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 04/17/15 Reviewer: EAH Date: 04/17/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC15B
Calnum : 165165106001
Units : mg/L

Name : DSL_114
Date : 24-APR-2015 17:37
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	114b003	165165106003	DSL_10	24-APR-2015 17:37	S27111
L2	114b004	165165106004	DSL_100	24-APR-2015 18:04	S27112
L3	114b005	165165106005	DSL_500	24-APR-2015 18:32	S27113
L4	114b006	165165106006	DSL_1000	24-APR-2015 19:00	S27114
L5	114b007	165165106007	DSL_5000	24-APR-2015 19:27	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	30908	46422	52128	52258	49662	AVRG		2.16E-5		46275	19	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	**-33**	100.00	0	500.00	13	1000.0	13	5000.0	7

SFL 04/25/15 : Corrected automatically drawn baseline on all levels except L1.

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 GCSV Water
EPA 8015B

Inst : GC15B Name : DSL_114
Calnum : 165165106001 Cal Date : 24-APR-2015

ICV 165165106009 (114b009 24-APR-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	539.8	mg/L	8	15	

Analyst: SFL Date: 04/25/15 Reviewer: EAH Date: 04/27/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439001
Units : mg/L

Name : OTPHEX_125
Date : 05-MAY-2015 12:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a007	175180439007	HEXOTP_5	05-MAY-2015 12:49	S26468
L2	125a008	175180439008	HEXOTP_10	05-MAY-2015 13:17	S26469
L3	125a009	175180439009	HEXOTP_25	05-MAY-2015 13:45	S26470
L4	125a010	175180439010	HEXOTP_50	05-MAY-2015 14:13	S26471
L5	125a011	175180439011	HEXOTP_100	05-MAY-2015 14:41	S26472
L6	125a012	175180439012	HEXOTP_200	05-MAY-2015 15:09	S26473

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71436	72399	70812	70604	71499	69719	AVRG		1.41E-5		71078	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	1	10.000	2	25.000	0	50.000	-1	100.00	1	200.00	-2

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

175180439001

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439002
Units : mg/L

Name : DSL_125
Date : 05-MAY-2015 16:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a014	175180439014	DSL_10	05-MAY-2015 16:05	S27111
L2	125a015	175180439015	DSL_100	05-MAY-2015 16:33	S27112
L3	125a016	175180439016	DSL_500	05-MAY-2015 17:01	S27113
L4	125a017	175180439017	DSL_1000	05-MAY-2015 17:29	S27114
L5	125a018	175180439018	DSL_5000	05-MAY-2015 17:56	S27110

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	76763	63180	62015	63432	62838	AVRG		1.52E-5		65646	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	17	100.00	-4	500.00	-6	1000.0	-3	5000.0	-4

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

175180439002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Name : DSL_125
Calnum : 175180439002 Cal Date : 05-MAY-2015

ICV 175180439020 (125a020 05-MAY-2015) stds: S26960

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	514.3	mg/L	3	15	

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 175180439003
Units : mg/L

Name : MO_500
Date : 05-MAY-2015 20:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	125a023	175180439023	MO_50	05-MAY-2015 20:16	S26392
L2	125a024	175180439024	MO_250	05-MAY-2015 20:44	S26393
L3	125a025	175180439025	MO_500	05-MAY-2015 21:12	S26394
L4	125a026	175180439026	MO_1000	05-MAY-2015 21:40	S26395
L5	125a027	175180439027	MO_2500	05-MAY-2015 22:08	S26389 (2X)
L6	125a028	175180439028	MO_5000	05-MAY-2015 22:36	S26389

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	43142	43279	40585	39032	34696	33194	AVRG		2.56E-5		38988	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	11	250.00	11	500.00	4	1000.0	0	2500.0	-11	5000.0	-15

JDG 05/06/15 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 05/06/15 Reviewer: EAH Date: 05/06/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165215037003 File : 149b003 Time : 29-MAY-2015 08:53
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	33978	500.0	489.6	mg/L	-2	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	59834	50.00	53.16	mg/L	6	15	

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 165215037004 File : 149b004 Time : 29-MAY-2015 09:21
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	50719	1000	1096	mg/L	10	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	60096	50.00	53.39	mg/L	7	15	

JDG 05/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 165215037016 File : 149b016 Time : 29-MAY-2015 15:24
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	165153113001	16-APR-2015	34698	31630	500.0	455.8	mg/L	-9	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	56886	50.00	50.54	mg/L	1	15	

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 165215037017 File : 149b017 Time : 29-MAY-2015 15:51
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	165165106001	24-APR-2015	46275	46034	250.0	248.7	mg/L	-1	15	
o-Terphenyl	165075453001	21-FEB-2015	56282	54839	50.00	48.72	mg/L	-3	15	

JDG 05/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175215037013 File : 149a013 Time : 29-MAY-2015 14:03
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	37183	500.0	476.9	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74505	50.00	52.41	mg/L	5	15	

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175215037014 File : 149a014 Time : 29-MAY-2015 14:31
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	62293	250.0	237.2	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72676	50.00	51.12	mg/L	2	15	

JDG 05/29/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 05/29/15 Reviewer: EAH Date: 05/29/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175215037030 File : 149a030 Time : 29-MAY-2015 23:08
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	36134	500.0	463.4	mg/L	-7	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72290	50.00	50.85	mg/L	2	15	

SFL 05/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/30/15 Reviewer: TKM Date: 06/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175215037031 File : 149a031 Time : 29-MAY-2015 23:36
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	62842	500.0	478.6	mg/L	-4	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	74430	50.00	52.36	mg/L	5	15	

SFL 05/30/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 05/30/15 Reviewer: TKM Date: 06/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175219351013 File : 152a013 Time : 01-JUN-2015 16:16
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	36973	500.0	474.2	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72489	50.00	50.99	mg/L	2	15	

SFL 06/01/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/01/15 Reviewer: TKM Date: 06/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 175219351014 File : 152a014 Time : 01-JUN-2015 16:44
Standards: S26961

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	59537	1000	907.0	mg/L	-9	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72625	50.00	51.09	mg/L	2	15	

SFL 06/01/15 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/01/15 Reviewer: TKM Date: 06/01/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175219351032 File : 152a032 Time : 02-JUN-2015 01:27
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	37278	500.0	478.1	mg/L	-4	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72010	50.00	50.66	mg/L	1	15	

Analyst: JDG Date: 06/02/15 Reviewer: EAH Date: 06/03/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175219351033 File : 152a033 Time : 02-JUN-2015 01:54
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	62441	500.0	475.6	mg/L	-5	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	72400	50.00	50.93	mg/L	2	15	

Analyst: JDG Date: 06/02/15 Reviewer: EAH Date: 06/03/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 175220778015 File : 153a015 Time : 02-JUN-2015 14:14
Standards: S26960

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	59544	500.0	453.5	mg/L	-9	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	69204	50.00	48.68	mg/L	-3	15	

JDG 06/02/15 : DSL_500: S26960

JDG 06/02/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/02/15 Reviewer: EAH Date: 06/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175220778016 File : 153a016 Time : 02-JUN-2015 14:42
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	37264	500.0	477.9	mg/L	-4	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	71542	50.00	50.33	mg/L	1	15	

JDG 06/02/15 : MO_500: S27337

JDG 06/02/15 : Manually integrated fuel hump.

Analyst: JDG Date: 06/02/15 Reviewer: EAH Date: 06/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 175220778033 File : 153a033 Time : 02-JUN-2015 22:50
Standards: S27337

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	175180439003	05-MAY-2015	38988	42572	500.0	546.0	mg/L	9	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	79380	50.00	55.84	mg/L	12	15	

Analyst: JDG Date: 06/03/15 Reviewer: EAH Date: 06/03/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
Seqnum : 175220778034 File : 153a034 Time : 02-JUN-2015 23:18
Standards: S26959

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	175180439002	05-MAY-2015	65646	64040	250.0	243.9	mg/L	-2	15	
o-Terphenyl	175180439001	05-MAY-2015	71078	75378	50.00	53.03	mg/L	6	15	

JDG 06/03/15 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/03/15 Reviewer: EAH Date: 06/03/15

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165075453

Instrument : GC15B
Method : EPA 8015B
Begun : 02/21/15 09:33
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	052b001	X	IB			02/21/15 09:33	1.0		
002	052b002	X	C8-C50			02/21/15 10:00	1.0	1	
003	052b003	X	MO_500			02/21/15 10:28	1.0	2	
004	052b004	X	DSL_500			02/21/15 10:56	1.0	3	
005	052b005	X	MO_500			02/21/15 12:50	1.0	2	
006	052b006	X	DSL_500			02/21/15 13:18	1.0	3	
007	052b007	IB	CALIB			02/21/15 14:37	1.0		
008	052b008	ICAL	HEXOTP_5			02/21/15 15:04	1.0	4	
009	052b009	ICAL	HEXOTP_10			02/21/15 15:32	1.0	5	
010	052b010	ICAL	HEXOTP_25			02/21/15 16:00	1.0	6	
011	052b011	ICAL	HEXOTP_50			02/21/15 16:28	1.0	7	
012	052b012	ICAL	HEXOTP_100			02/21/15 16:55	1.0	8	
013	052b013	X	HEXOTP_200			02/21/15 17:23	1.0	9	
014	052b014	IB	CALIB			02/21/15 17:51	1.0		
015	052b015	ICAL	DSL_10			02/21/15 18:19	1.0	10	
016	052b016	ICAL	DSL_100			02/21/15 18:47	1.0	11	
017	052b017	ICAL	DSL_500			02/21/15 19:15	1.0	12	
018	052b018	ICAL	DSL_1000			02/21/15 19:43	1.0	13	
019	052b019	ICAL	DSL_5000			02/21/15 20:11	1.0	14	
020	052b020	IB	CALIB			02/21/15 20:39	1.0		
021	052b021	ICV	DSL_500			02/21/15 21:07	1.0	3	
022	052b022	X	ICV			02/21/15 21:35	1.0	3	
023	052b023	IB	CALIB			02/21/15 22:03	1.0		
024	052b024	ICAL	MO_50			02/21/15 22:31	1.0	15	
025	052b025	ICAL	MO_250			02/21/15 22:59	1.0	16	
026	052b026	ICAL	MO_500			02/21/15 23:26	1.0	17	
027	052b027	ICAL	MO_1000			02/21/15 23:54	1.0	18	
028	052b028	ICAL	MO_2500			02/22/15 00:22	1.0	19	
029	052b029	ICAL	MO_5000			02/22/15 00:50	1.0	19	
030	052b030	IB	CALIB			02/22/15 01:17	1.0		
031	052b031	CMARKER	C8-C50			02/22/15 01:45	1.0	1	
032	052b032	IB	CALIB			02/22/15 02:13	1.0		

JDG 02/23/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S26646 2=S26625 3=S26316 4=S26468 5=S26469 6=S26470 7=S26471 8=S26472 9=S26473 10=S26213 11=S25844 12=S25845 13=S25846 14=S25842 15=S26392 16=S26393 17=S26394 18=S26395 19=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165153113

Instrument : GC15B
Method : EPA 8015B
Begun : 04/16/15 07:53
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	106b001	X	IB			04/16/15 07:53	1.0		
002	106b002	X	CMARKER			04/16/15 08:21	1.0	1	
003	106b003	X	IB			04/16/15 10:23	1.0		
004	106b004	X	C8-C50			04/16/15 10:51	1.0	1	
005	106b005	X	MO_500			04/16/15 11:20	1.0	2	
006	106b006	X	DSL_500			04/16/15 11:48	1.0	3	
007	106b007	X	MO_500			04/16/15 13:54	1.0	2	
008	106b008	X	CMARKER			04/16/15 14:30	1.0	1	
009	106b009	IB	CALIB			04/16/15 14:58	1.0		
010	106b010	ICAL	MO_50			04/16/15 15:26	1.0	4	
011	106b011	ICAL	MO_250			04/16/15 15:53	1.0	5	
012	106b012	ICAL	MO_500			04/16/15 16:21	1.0	6	
013	106b013	ICAL	MO_1000			04/16/15 16:49	1.0	7	
014	106b014	ICAL	MO_2500			04/16/15 17:18	1.0	8	
015	106b015	ICAL	MO_5000			04/16/15 17:45	1.0	8	
016	106b016	IB	CALIB			04/16/15 18:13	1.0		
017	106b017	X	CMARKER			04/16/15 18:41	1.0	1	
018	106b018	IB	CALIB			04/16/15 19:09	1.0		
019	106b019	CMARKER	C8-C50			04/17/15 09:52	1.0	1	

JDG 04/17/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26646 2=S26958 3=S26623 4=S26392 5=S26393 6=S26394 7=S26395 8=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165165106

Instrument : GC15B
Method : EPA 8015B
Begun : 04/24/15 15:46
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	114b001	X	IB			04/24/15 15:46	1.0		
002	114b002	IB	CALIB			04/24/15 17:09	1.0		
003	114b003	ICAL	DSL_10			04/24/15 17:37	1.0	1	
004	114b004	ICAL	DSL_100			04/24/15 18:04	1.0	2	
005	114b005	ICAL	DSL_500			04/24/15 18:32	1.0	3	
006	114b006	ICAL	DSL_1000			04/24/15 19:00	1.0	4	
007	114b007	ICAL	DSL_5000			04/24/15 19:27	1.0	5	
008	114b008	IB	CALIB			04/24/15 19:55	1.0		
009	114b009	ICV	DSL_500			04/24/15 20:23	1.0	6	
010	114b010	X	ICV			04/24/15 20:50	1.0	6	
011	114b011	IB	CALIB			04/24/15 21:18	1.0		
012	114b012	CMARKER	C8-C50			04/24/15 21:46	1.0	7	
013	114b013	IB	CALIB			04/24/15 22:14	1.0		

SFL 04/25/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Standards used: 1=S27111 2=S27112 3=S27113 4=S27114 5=S27110 6=S26960 7=S26646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 165215037

Instrument : GC15B
Method : EPA 8015B
Begun : 05/29/15 07:57
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	149b001	X	IB			05/29/15 07:57	1.0		
002	149b002	X	CMARKER			05/29/15 08:25	1.0	1	
003	149b003	CCV	MO_500			05/29/15 08:53	1.0	2	
004	149b004	CCV	DSL_1000			05/29/15 09:21	1.0	3	
005	149b005	SAMPLE	267062-010	Soil	223623	05/29/15 09:53	1.0		
006	149b006	SAMPLE	267062-011	Soil	223623	05/29/15 10:21	1.0		
007	149b007	SAMPLE	267062-012	Soil	223623	05/29/15 10:49	1.0		10:DSL:16-24=240000
008	149b008	SAMPLE	267062-013	Soil	223623	05/29/15 11:17	1.0		
009	149b009	SAMPLE	267062-014	Soil	223623	05/29/15 11:46	1.0		
010	149b010	SAMPLE	267066-001	Water	223618	05/29/15 12:29	100.0		
011	149b011	X	IB			05/29/15 12:56	1.0		
012	149b012	SAMPLE	267066-001	Water	223618	05/29/15 13:33	1.0		
013	149b013	BLANK	QC789739	Water	223618	05/29/15 14:01	1.0		
014	149b014	BS	QC789740	Water	223618	05/29/15 14:28	1.0		
015	149b015	BSD	QC789741	Water	223618	05/29/15 14:56	1.0		
016	149b016	CCV	MO_500			05/29/15 15:24	1.0	2	
017	149b017	CCV	DSL_250			05/29/15 15:51	1.0	4	
018	149b018	CCV	BUNK_500			05/29/15 16:30	1.0	5	
019	149b019	BLANK	QC789739	Water	223618	05/29/15 16:58	1.0		
020	149b020	LOD	213034-023	Water	223618	05/29/15 17:25	1.0		
021	149b021	SAMPLE	267009-003	Water	223618	05/29/15 17:53	1.0		
022	149b022	SAMPLE	267009-005	Water	223618	05/29/15 18:20	1.0		
023	149b023	SAMPLE	267006-001	Water	223618	05/29/15 18:48	1.0		1:DSL:16-24=5800
024	149b024	SAMPLE	267006-002	Water	223618	05/29/15 19:15	1.0		1:DSL:16-24=5800
025	149b025	SAMPLE	267006-003	Water	223618	05/29/15 19:43	1.0		3:DSL:16-24=7400
026	149b026	X	IB			05/29/15 20:10	1.0		
027	149b027	SAMPLE	267006-004	Water	223618	05/29/15 20:38	1.0		
028	149b028	SAMPLE	267006-005	Water	223618	05/29/15 21:06	1.0		
029	149b029	SAMPLE	267006-006	Water	223618	05/29/15 21:34	1.0		
030	149b030	SAMPLE	267006-007	Water	223618	05/29/15 22:01	1.0		
031	149b031	SAMPLE	267006-008	Water	223618	05/29/15 22:29	1.0		
032	149b032	X	CMARKER			05/29/15 22:57	1.0	1	
033	149b033	CCV	MO_500			05/29/15 23:25	1.0	2	
034	149b034	CCV	DSL_500			05/29/15 23:53	1.0	6	
035	149b035	CCV	BUNK_500			05/30/15 00:21	1.0	5	
036	149b036	X	CCV			05/30/15 00:48	1.0	2	
037	149b037	X	CCV			05/30/15 01:16	1.0	6	
038	149b038	X	CCV			05/30/15 01:44	1.0	5	

JDG 05/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

SFL 05/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 18 through 38.

Standards used: 1=S27269 2=S27337 3=S26961 4=S26959 5=S27338 6=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175180439

Instrument : GC17A
Method : EPA 8015B
Begun : 05/05/15 07:19
SOP Version : TEH_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	125a001	X	IB			05/05/15 07:19	1.0		
002	125a002	CHECK	CMARKER			05/05/15 07:48	1.0	1	
003	125a003	CHECK	CMARKER			05/05/15 08:46	1.0	1	
004	125a004	CHECK	CMARKER			05/05/15 11:25	1.0	1	
005	125a005	X	IB			05/05/15 11:53	1.0		
006	125a006	IB	CALIB			05/05/15 12:21	1.0		
007	125a007	ICAL	HEXOTP_5			05/05/15 12:49	1.0	2	
008	125a008	ICAL	HEXOTP_10			05/05/15 13:17	1.0	3	
009	125a009	ICAL	HEXOTP_25			05/05/15 13:45	1.0	4	
010	125a010	ICAL	HEXOTP_50			05/05/15 14:13	1.0	5	
011	125a011	ICAL	HEXOTP_100			05/05/15 14:41	1.0	6	
012	125a012	ICAL	HEXOTP_200			05/05/15 15:09	1.0	7	
013	125a013	IB	CALIB			05/05/15 15:37	1.0		
014	125a014	ICAL	DSL_10			05/05/15 16:05	1.0	8	
015	125a015	ICAL	DSL_100			05/05/15 16:33	1.0	9	
016	125a016	ICAL	DSL_500			05/05/15 17:01	1.0	10	
017	125a017	ICAL	DSL_1000			05/05/15 17:29	1.0	11	
018	125a018	ICAL	DSL_5000			05/05/15 17:56	1.0	12	
019	125a019	IB	CALIB			05/05/15 18:24	1.0		
020	125a020	ICV	DSL_500			05/05/15 18:52	1.0	13	
021	125a021	X	ICV			05/05/15 19:20	1.0	13	
022	125a022	IB	CALIB			05/05/15 19:48	1.0		
023	125a023	ICAL	MO_50			05/05/15 20:16	1.0	14	
024	125a024	ICAL	MO_250			05/05/15 20:44	1.0	15	
025	125a025	ICAL	MO_500			05/05/15 21:12	1.0	16	
026	125a026	ICAL	MO_1000			05/05/15 21:40	1.0	17	
027	125a027	ICAL	MO_2500			05/05/15 22:08	1.0	18	
028	125a028	ICAL	MO_5000			05/05/15 22:36	1.0	18	
029	125a029	IB	CALIB			05/05/15 23:05	1.0		
030	125a030	CMARKER	C8-C50			05/05/15 23:33	1.0	1	
031	125a031	IB	CALIB			05/06/15 00:01	1.0		

JDG 05/06/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S26646 2=S26468 3=S26469 4=S26470 5=S26471 6=S26472 7=S26473 8=S27111 9=S27112 10=S27113 11=S27114 12=S27110 13=S26960 14=S26392 15=S26393 16=S26394 17=S26395 18=S26389

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175215037

Instrument : GC17A
Method : EPA 8015B
Begun : 05/29/15 07:57
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	149a001	X	IB				05/29/15 07:57	1.0	
002	149a002	X	CMARKER				05/29/15 08:25	1.0	1
003	149a003	CCV	MO_500				05/29/15 08:53	1.0	2
004	149a004	CCV	DSL_1000				05/29/15 09:21	1.0	3
005	149a005	BLANK	QC789748		Soil	223623	05/29/15 09:50	1.0	
006	149a006	BLANK	QC789748	S	Soil	223623	05/29/15 10:18	1.0	
007	149a007	LCS	QC789749	S	Soil	223623	05/29/15 10:46	1.0	
008	149a008	MSS	267062-015		Soil	223623	05/29/15 11:15	1.0	
009	149a009	MS	QC789750		Soil	223623	05/29/15 11:43	1.0	
010	149a010	MSD	QC789751		Soil	223623	05/29/15 12:11	1.0	
011	149a011	SAMPLE	266999-010	S	Soil	223576	05/29/15 12:39	1.0	
012	149a012	SAMPLE	267062-012		Soil	223623	05/29/15 13:36	50.0	
013	149a013	CCV	MO_500				05/29/15 14:03	1.0	2
014	149a014	CCV	DSL_250				05/29/15 14:31	1.0	4
015	149a015	X	TANKCHECK: EM54351 "				05/29/15 16:09	1.0	
016	149a016	BLANK	QC789739	S	Water	223618	05/29/15 16:36	1.0	
017	149a017	BS	QC789740	S	Water	223618	05/29/15 17:04	1.0	
018	149a018	BSD	QC789741	S	Water	223618	05/29/15 17:32	1.0	
019	149a019	SAMPLE	267006-001	S	Water	223618	05/29/15 18:00	1.0	
020	149a020	SAMPLE	267006-002	S	Water	223618	05/29/15 18:28	1.0	
021	149a021	SAMPLE	267006-003	S	Water	223618	05/29/15 18:56	1.0	
022	149a022	SAMPLE	267006-004	S	Water	223618	05/29/15 19:24	1.0	
023	149a023	SAMPLE	267006-005	S	Water	223618	05/29/15 19:51	1.0	
024	149a024	SAMPLE	267006-006	S	Water	223618	05/29/15 20:19	1.0	
025	149a025	SAMPLE	267006-007	S	Water	223618	05/29/15 20:47	1.0	
026	149a026	SAMPLE	267006-008	S	Water	223618	05/29/15 21:15	1.0	
027	149a027	SAMPLE	267026-001		Water	223618	05/29/15 21:43	1.0	
028	149a028	SAMPLE	267026-002		Water	223618	05/29/15 22:11	1.0	
029	149a029	X	CMARKER				05/29/15 22:39	1.0	1
030	149a030	CCV	MO_500				05/29/15 23:08	1.0	2
031	149a031	CCV	DSL_500				05/29/15 23:36	1.0	5
032	149a032	X	CCV				05/30/15 00:04	1.0	2
033	149a033	X	CCV				05/30/15 00:32	1.0	5

JDG 05/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 11.

JDG 05/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 12 through 14.

SFL 05/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 33.

Standards used: 1=S27269 2=S27337 3=S26961 4=S26959 5=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175219351

Instrument : GC17A
Method : EPA 8015B
Begun : 06/01/15 07:51
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	152a001	X	IB				06/01/15 07:51	1.0		
002	152a002	X	CMARKER				06/01/15 08:19	1.0	1	
003	152a003	CCV	MO_500				06/01/15 08:47	1.0	2	
004	152a004	CCV	DSL_250				06/01/15 09:15	1.0	3	
005	152a005	CMARKER	C8-C50				06/01/15 10:24	1.0	1	
006	152a006	SAMPLE	267009-005		Water	223618	06/01/15 11:18	1.0		
007	152a007	SAMPLE	267004-017		Soil	223636	06/01/15 11:46	1.0		
008	152a008	X	IB				06/01/15 12:17	1.0		
009	152a009	SAMPLE	267036-007		Miscell.	223659	06/01/15 13:07	50.0		2:BUNKC:12-40=9400
010	152a010	X	IB				06/01/15 13:35	1.0		
011	152a011	SAMPLE	267004-017	S	Soil	223636	06/01/15 15:18	1.0		
012	152a012	SAMPLE	267004-022	S	Soil	223636	06/01/15 15:46	1.0		
013	152a013	CCV	MO_500				06/01/15 16:16	1.0	2	
014	152a014	CCV	DSL_1000				06/01/15 16:44	1.0	4	
015	152a015	CCV	JET_250				06/01/15 17:32	1.0	5	
016	152a016	X	CMARKER				06/01/15 17:59	1.0	1	
017	152a017	BLANK	QC789858		Water	223652	06/01/15 18:27	1.0		
018	152a018	BLANK	QC789858	S	Water	223652	06/01/15 18:55	1.0		
019	152a019	BS	QC789859	S	Water	223652	06/01/15 19:23	1.0		
020	152a020	BSD	QC789860	S	Water	223652	06/01/15 19:51	1.0		
021	152a021	SAMPLE	267009-005		Water	223618	06/01/15 20:19	1.0		
022	152a022	SAMPLE	267056-001	S	Water	223652	06/01/15 20:46	1.0		
023	152a023	SAMPLE	267056-001		Water	223652	06/01/15 21:14	1.0		2:BUNKC:10-40=9700
024	152a024	SAMPLE	267082-009		Water	223652	06/01/15 21:42	1.0		
025	152a025	SAMPLE	267082-021		Water	223652	06/01/15 22:10	1.0		
026	152a026	SAMPLE	267026-003		Water	223652	06/01/15 22:38	1.0		
027	152a027	SAMPLE	267026-005		Water	223652	06/01/15 23:07	1.0		
028	152a028	SAMPLE	267026-006		Water	223652	06/01/15 23:35	1.0		
029	152a029	SAMPLE	267055-008		Water	223652	06/02/15 00:03	1.0		
030	152a030	SAMPLE	267055-009		Water	223652	06/02/15 00:31	1.0		
031	152a031	X	CMARKER				06/02/15 00:59	1.0	1	
032	152a032	CCV	MO_500				06/02/15 01:27	1.0	2	
033	152a033	CCV	DSL_500				06/02/15 01:54	1.0	6	
034	152a034	CCV	JET_250				06/02/15 02:22	1.0	5	
035	152a035	CCV	MO_500				06/02/15 02:50	1.0	2	
036	152a036	CCV	DSL_500				06/02/15 03:18	1.0	6	
037	152a037	CCV	JET_250				06/02/15 03:46	1.0	5	

SFL 06/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

JDG 06/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 37.

Standards used: 1=S27269 2=S27337 3=S26959 4=S26961 5=S26647 6=S26960

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 175220778

Instrument : GC17A
Method : EPA 8015B
Begun : 06/02/15 07:38
SOP Version : TEH_rv18

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	153a001	X	IB				06/02/15 07:38	1.0		
002	153a002	X	CMARKER				06/02/15 08:06	1.0	1	
003	153a003	CCV	MO_500				06/02/15 08:35	1.0	2	
004	153a004	CCV	DSL_250				06/02/15 09:03	1.0	3	
005	153a005	CCV	BUNK_500				06/02/15 09:31	1.0	4	
006	153a006	CCV	HYFL_500				06/02/15 09:59	1.0	5	
007	153a007	BLANK	QC790132		Soil	223716	06/02/15 10:27	1.0		
008	153a008	BLANK	QC790132	S	Soil	223716	06/02/15 10:55	1.0		
009	153a009	LCS	QC790133		Soil	223716	06/02/15 11:23	1.0		
010	153a010	LCS	QC790133	S	Soil	223716	06/02/15 11:51	1.0		
011	153a011	SAMPLE	267152-007		Soil	223716	06/02/15 12:19	1.0		
012	153a012	SAMPLE	267152-009		Soil	223716	06/02/15 12:47	1.0		
013	153a013	SAMPLE	267152-011		Soil	223716	06/02/15 13:15	1.0		10:BUNKC:10-40=160000
014	153a014	SAMPLE	267152-005		Soil	223716	06/02/15 13:43	200.0		
015	153a015	CCV	DSL_500				06/02/15 14:14	1.0	6	
016	153a016	CCV	MO_500				06/02/15 14:42	1.0	2	
017	153a017	CCV	BUNK_500				06/02/15 15:11	1.0	4	
018	153a018	CCV	HYFL_500				06/02/15 15:39	1.0	5	
019	153a019	BLANK	QC790011		Soil	223686	06/02/15 16:18	1.0		
020	153a020	BLANK	QC789858	S	Water	223652	06/02/15 16:46	1.0		
021	153a021	BLANK	QC789858		Water	223652	06/02/15 17:14	1.0		
022	153a022	BS	QC789859		Water	223652	06/02/15 17:42	1.0		
023	153a023	BSD	QC789860		Water	223652	06/02/15 18:11	1.0		
024	153a024	SAMPLE	267056-001	S	Water	223652	06/02/15 18:39	1.0		1:BUNKC:10-40=5500
025	153a025	SAMPLE	267057-004	S	Soil	223686	06/02/15 19:07	1.0		
026	153a026	SAMPLE	267108-001	S	Soil	223686	06/02/15 19:35	1.0		6:BUNKC:10-40=19000
027	153a027	SAMPLE	267162-001		Soil	223716	06/02/15 20:02	1.0		
028	153a028	SAMPLE	267162-002		Soil	223716	06/02/15 20:30	1.0		5:BUNKC:12-40=14000
029	153a029	X	IB				06/02/15 20:58	1.0		
030	153a030	SAMPLE	267162-001	S	Soil	223716	06/02/15 21:26	1.0		4:BUNKC:12-40=13000
031	153a031	SAMPLE	267162-002	S	Soil	223716	06/02/15 21:54	1.0		
032	153a032	X	CMARKER				06/02/15 22:22	1.0	1	
033	153a033	CCV	MO_500				06/02/15 22:50	1.0	2	
034	153a034	CCV	DSL_250				06/02/15 23:18	1.0	3	
035	153a035	CCV	HYFL_500				06/02/15 23:46	1.0	5	
036	153a036	X	CCV				06/03/15 00:14	1.0	2	
037	153a037	X	CCV				06/03/15 00:42	1.0	3	
038	153a038	X	CCV				06/03/15 01:10	1.0	5	

JDG 06/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 6.

SFL 06/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 18.

JDG 06/03/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 19 through 38.

Standards used: 1=S27269 2=S27337 3=S26959 4=S27338 5=S26228 6=S26960

SAMPLE PREPARATION SUMMARY

Batch # : 223618
Started By : KKL
Method : 3520C
Spike #1 ID : S27144
Prep Date : 28-MAY-2015 14:40
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : LEB
Units : mL
Spike #3 ID : S26634

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
213034-023		Water	1000	5	1	0.005		.5		.04		TEHM	spiked w/ BUNKC5000
267006-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
267006-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
267006-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
267006-004		Water	490	2.5	1	0.005102	7	.5			3630C	TEHM	
267006-005		Water	510	2.5	1	0.004902	7	.5			3630C	TEHM	
267006-006		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
267006-007		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
267006-008		Water	500	2.5	1	0.005	5	.5			3630C	TEHM	
267009-003		Water	490	2.5	1	0.005102	7	.5				TEH	
267009-005		Water	490	2.5	1	0.005102	7	.5				TEH	
267023-001		Water	510	2.5	1	0.004902	7	.5				TEHM	
267023-002		Water	500	2.5	1	0.005	7	.5				TEHM	
267023-003		Water	510	2.5	1	0.004902	7	.5				TEHM	
267023-004		Water	510	2.5	1	0.004902	7	.5				TEHM	
267026-001		Water	500	2.5	1	0.005	7	.5				TEHM	
267026-002		Water	500	2.5	1	0.005	7	.5				TEHM	
267066-001		Water	480	2.5	1	0.005208	7	.5				TEHM	
267072-019		Water	490	2.5	1	0.005102	7	.5				TEHM	
267072-020		Water	500	2.5	1	0.005	7	.5				TEHM	
267072-021		Water	490	2.5	1	0.005102	7	.5				TEHM	
QC789739	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC789740	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC789741	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		

JDG 05/29/15 : Matrix spikes were not performed for this analysis in batch 223618 due to insufficient sample amount.

Analyst: SFL Date: 06/01/15 Reviewer: TKM Date: 06/01/15

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: AR G
Cleanup Date: 6-1-15

Benchbook # **BK 3677**
Page 85

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
MB QC 789517	223565	☑ 1.0 ☐	☑ 1.0 ☐	
LCS QC 518	"	☑ 1.0 ☐	☑ 1.0 ☐	
BSD 789741	223618	☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	AR 6/1/15

☑ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using — g cartridges
Extracts were eluted with 40 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
Y14A041	AR 6/1/15
NA	"
EM54351	"
✓	"

AR 6/1/15
Extraction Chemist / Date

Continued from page —
Continued on page 1

6/1/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: LEB
Cleanup Date: 5/29/15

Benchbook # **BK 3677**
Page 83

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
267004-015	223636	☒ 1.0 ☐	☒ 1.0 ☐	
16		☒ 1.0 ☐	☒ 1.0 ☐	
17		☒ 1.0 ☐	☒ 1.0 ☐	
18		☒ 1.0 ☐	☒ 1.0 ☐	
19		☒ 1.0 ☐	☒ 1.0 ☐	
20		☒ 1.0 ☐	☒ 1.0 ☐	
21		☒ 1.0 ☐	☒ 1.0 ☐	
22		☒ 1.0 ☐	☒ 1.0 ☐	
23		☒ 1.0 ☐	☒ 1.0 ☐	
24		☒ 1.0 ☐	☒ 1.0 ☐	
25		☒ 1.0 ☐	☒ 1.0 ☐	
26		☒ 1.0 ☐	☒ 1.0 ☐	
27		☒ 1.0 ☐	☒ 1.0 ☐	
28		☒ 1.0 ☐	☒ 1.0 ☐	
29		☒ 1.0 ☐	☒ 1.0 ☐	
30		☒ 1.0 ☐	☒ 1.0 ☐	
267008-005		☒ 1.0 ☐	☒ 1.0 ☐	
MB QC789800		☒ 1.0 ☐	☒ 1.0 ☐	
LCS ↓ 1		☒ 1.0 ☐	☒ 1.0 ☐	
267006-001	223618	☒ 1.0 ☐	☒ 1.0 ☐	
2		☒ 1.0 ☐	☒ 1.0 ☐	
3		☒ 1.0 ☐	☒ 1.0 ☐	
4		☒ 1.0 ☐	☒ 1.0 ☐	
5		☒ 1.0 ☐	☒ 1.0 ☐	
6		☒ 1.0 ☐	☒ 1.0 ☐	
7		☒ 1.0 ☐	☒ 1.0 ☐	
8		☒ 1.0 ☐	☒ 1.0 ☐	
MB QC789739		☒ 1.0 ☐	☒ 1.0 ☐	
BS 40		☒ 1.0 ☐	☒ 1.0 ☐	
BSD ↓ 41	↓	☒ 1.0 ☐	☒ 1.0 ☐	

☒ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using ___ g cartridges
Extracts were eluted with 4.0 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
Y14A041	LEB 5/29/15
N/A	
EMS4351 ✓	
	↓

Lauren Braun 5/29/15
Extraction Chemist / Date

Continued from page ___
Continued on page ___

Jamie Doughty 6/1/15
Reviewed by / Date

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

Page 45 BK 3668

LIMS Batch No: 223618
LIMS Analysis: TEH/M
Date Extracted: 5/28/15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Cleanup Method (if needed):
☑ EPA 3630c Silica Gel

	Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)		Comments
	213034-023	N/A	☐ 500 ☑ 1000	☐7 ☑ NA	☐ 2.5 ☑ 5.0		☑ ≤2pH	spiked w/ BUNKC5002-S266MB
	267006-001	F	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	2	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	3	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
5	4	↓	☐ 500 ☑ 490	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	5	↓	☐ 500 ☑ 510	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	6	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	7	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	8	↓	☑ 500 ☐ ___	☐7 ☑ 5	☑ 2.5 ☐ ___	X	☑ ≤2pH	
10	267009-003	N	☐ 500 ☑ 490	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	5	↓	☐ 500 ☑ 490	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	267023-001	E	☐ 500 ☑ 510	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	2	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	3	↓	☐ 500 ☑ 510	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
15	4	↓	☐ 500 ☑ 510	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	267026-001	H	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	2	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	267066-001	↓	☐ 500 ☑ 480	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	267072-019	D	☐ 500 ☑ 490	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
20	20	↓	☑ 500 ☐ ___	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	21	↓	☐ 500 ☑ 490	☑7 ☐ ___	☑ 2.5 ☐ ___		☑ ≤2pH	
	MB QC789739	N/A	☑ 500 ☐ ___	☐7 ☑ NA	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	BS 40	↓	☑ 500 ☐ ___	☐7 ☑ NA	☑ 2.5 ☐ ___	X	☑ ≤2pH	
	BSD 41	↓	☑ 500 ☐ ___	☐7 ☑ NA	☑ 2.5 ☐ ___	X	☑ ≤2pH	

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S27144D	KKL 5/28/15
0.5 mL of TEH_SP was added to all spikes	326964B	↓
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133488	↓
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EM54351	↓
Extraction Start Time:	14:40	↓
Extraction End Time:	0855	CAJ 5/29/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	N/A	LBB 5/29/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	↓
Concentrated to final volume at temperature (degrees C)	100	↓
Relinquished to TEH Department	✓	↓

Kristen Low 5/28/15
Extraction Chemist **Date**

Contined from Page 1
Continued on Page ___

Reviewed by 6/1/15 **Date**

SAMPLE PREPARATION SUMMARY

Batch # : 223652
Started By : GDM
Method : 3520C
Spike #1 ID : S27144
Prep Date : 29-MAY-2015 14:15
SOP Version : TEH_3520_rv15
Spike #2 ID : S26964
Analysis : TEH
Finished By : LEB
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267026-003		Water	500	2.5	1	0.005	7	.5				TEHM	
267026-005		Water	500	2.5	1	0.005	7	.5				TEHM	
267026-006		Water	500	2.5	1	0.005	9	.5				TEHM	
267037-001		Water	500	2.5	1	0.005	7	.5			3630	TEH	
267055-008		Water	500	2.5	1	0.005	7	.5				TEHM	
267055-009		Water	500	2.5	1	0.005	7	.5				TEHM	
267056-001		Water	500	2.5	1	0.005	7	.5			3630	(rebatched)	
267078-001		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267078-002		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267078-003		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267082-009		Water	500	2.5	1	0.005	7	.5				TEH	
267082-021		Water	500	2.5	1	0.005	7	.5				TEH	
267084-001		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267084-002		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267088-001		Water	500	2.5	1	0.005	7	.5				TEHM	
267102-001		Water	500	2.5	1	0.005	7	.5				TEH	
267107-001		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267107-002		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267107-003		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
267107-004		Water	500	2.5	1	0.005	7	.5			3630	TEHM	
QC789858	BLANK	Water	500	2.5	1	0.005		.5			3630	TEHM	
QC789859	BS	Water	500	2.5	1	0.005		.5	.5		3630	TEHM	
QC789860	BSD	Water	500	2.5	1	0.005		.5	.5		3630	TEHM	

SFL 06/01/15 : Matrix spikes were not performed for this analysis in batch 223652 due to insufficient sample amount.

TKM 06/01/15 : prep entry reviewed

Analyst: JDG Date: 06/03/15 Reviewer: EAH Date: 06/03/15

PROJECT Gravity Separation Log

Notebook No. BK 2791

Continued From Page

Sample ID	Sep Funnel used	Date/Time Started w/ initials	Date/Time Stopped w/ initials	Turbid	Sediment	Sheen	Comments
266749-001A	Yes	5/13/15 @ 16:05 KKL	5/15/15 @ 1500 KKL	NO	NO	NO	
2							
3							
4							
5							
6 D							
7 D							
8 A					yes		1/8" sed
9 A					NO		
13 D							
266793-001A	yes	5/15/15 @ 15:45 GDM	5/18/15 @ 1342 GDM	NO	yes 1/2"	NO	
-002					yes 1/3"	NO	
-003 B					NO		
-004 A					yes 1/3"		
-005					NO		
-006					NO		
-007 D					NO		
-008 B					yes 1"		
266749-012A	yes	5/15/15 @ 16:00	5/18/15 @ 1341 GDM	no	yes 2 1/2"	no	
267037-001A	Yes	5/27/15 @ 0830	5/28/15 @ 1315 GDM	no	yes 1"	no	1" sed

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

TEH (8015) Water Prep Log — Curtis & Tompkins, Ltd.

Page 46 — BK 3668

LIMS Batch No: 223652
LIMS Analysis: TEHM
Date Extracted: 5/29/15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Cleanup Method (if needed):
☑ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	≤2pH	Comments
267026-~~003~~	I	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
~~-004~~ -005	G	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
-006	H	☑ 500 ☐	☐7 ☑9	☑ 2.5 ☐		☑ ≤2pH	
267027-001	A	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
267055-008	H	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
-009	G	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
267056-001	G	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
267078-001	I	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-002	J	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-003	J	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
267082-009	L	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
-011	I	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
267084-001	H	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-002	J	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
267088-001	J	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
267102-001	A	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐		☑ ≤2pH	
267107-001	F	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-002	E	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-003	E	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
-004	F	☑ 500 ☐	☑7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
MB QC789858	N/A	☐ 500 ☐	☐7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
BS QC789859	↓	☐ 500 ☐	☐7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
BSD QC789860	↓	☐ 500 ☐	☐7 ☐	☑ 2.5 ☐	X	☑ ≤2pH	
~~-007~~		☐ ~~500~~ ☐	☐~~7~~ ☐	☐ ~~2.5~~ ☐		☐ ≤2pH	EYL 6/1/15

☑ MS/MSD not included due to: ☑ insufficent volume, or ☐ other (reason) _____

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S27144	GDM 5/29/15
0.5 mL of TEH_SP was added to all spikes	S26964	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS1330088	
☑ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EM54351	
Extraction Start Time:	1415	
Extraction End Time:	0900	MKL 5/30/15
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	N/A	LEB 6/1/15
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	100	
Relinquished to TEH Department	V	

5/29/15
Extraction Chemist **Date**

Contined from Page _____
Continued on Page _____

6/1/15
Reviewed by **Date**

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: UEB
Cleanup Date: 6/1/15

Benchbook # **BK 3677**
Page 88

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
267037-001	223652	☑ 1.0 ☐	☑ 1.0 ☐	
267056-001		☑ 1.0 ☐	☑ 1.0 ☐	
267078-001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
267084-001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
267107-001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
4		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC 789858		☑ 1.0 ☐	☑ 1.0 ☐	
BS 59		☑ 1.0 ☐	☑ 1.0 ☐	
BSD 60		☑ 1.0 ☐	☑ 1.0 ☐	
267057-003	223686	☑ 1.0 ☐	☑ 1.0 ☐	
4		☑ 1.0 ☐	☑ 1.0 ☐	
267108-001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
3		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC 790011		☑ 1.0 ☐	☑ 1.0 ☐	
LCS 2		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

☑ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using — g cartridges
Extracts were eluted with 40 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
Y14A041	UEB 6/1/15
N/A	
EM5435 1	
V	↓

Lauren Brougham 6/1/15
Extraction Chemist / Date

Continued from page —
Continued on page /

6/2/15
Reviewed by / Date

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: AR6
Cleanup Date: 6.3.15

Benchbook # **BK 3677**
Page 92

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
267107-003	223652	☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
267162-001	223716	☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
002	"	☐ 1.0 ☒ 0.5	☐ 1.0 ☒ 0.5	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	

☒ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using — g cartridges
Extracts were eluted with 70 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
Y14A041	AR 6/3/15
N/A	
EM54351	
"	"

6315
Extraction Chemist / Date

Continued from page 1
Continued on page

6315
Reviewed by / Date

Laboratory Job Number 267026

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB052315	Batch#:	223680
Lab ID:	267026-004	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Analyzed:	06/01/15
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	TB052315	Batch#:	223680
Lab ID:	267026-004	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Analyzed:	06/01/15
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RW052315	Batch#:	223680
Lab ID:	267026-006	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Analyzed:	06/01/15
Diln Fac:	2.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	2.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0
Acetone	28	20
Freon 113	ND	4.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	1.0
MTBE	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Vinyl Acetate	ND	20
1,1-Dichloroethane	ND	1.0
2-Butanone	ND	20
cis-1,2-Dichloroethene	ND	1.0
2,2-Dichloropropane	ND	1.0
Chloroform	ND	1.0
Bromochloromethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1-Dichloropropene	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
Dibromomethane	ND	1.0
4-Methyl-2-Pentanone	ND	20
cis-1,3-Dichloropropene	ND	1.0
Toluene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
2-Hexanone	ND	20
1,3-Dichloropropane	ND	1.0
Tetrachloroethene	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Field ID:	RW052315	Batch#:	223680
Lab ID:	267026-006	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Analyzed:	06/01/15
Diln Fac:	2.000		

Analyte	Result	RL
Dibromochloromethane	ND	1.0
1,2-Dibromoethane	ND	1.0
Chlorobenzene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0
Ethylbenzene	ND	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0
Styrene	ND	1.0
Bromoform	ND	2.0
Isopropylbenzene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,2,3-Trichloropropane	ND	1.0
Propylbenzene	ND	1.0
Bromobenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
2-Chlorotoluene	ND	1.0
4-Chlorotoluene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
para-Isopropyl Toluene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
n-Butylbenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,2-Dibromo-3-Chloropropane	ND	4.0
1,2,4-Trichlorobenzene	ND	1.0
Hexachlorobutadiene	ND	4.0
Naphthalene	ND	4.0
1,2,3-Trichlorobenzene	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223680
Units:	ug/L	Analyzed:	06/01/15
Diln Fac:	1.000		

Type: BS Lab ID: QC789988

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.64	99	66-135
Benzene	25.00	26.52	106	80-123
Trichloroethene	25.00	25.80	103	80-123
Toluene	25.00	26.78	107	80-121
Chlorobenzene	25.00	26.11	104	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC789989

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	22.32	89	66-135	10	24
Benzene	25.00	24.31	97	80-123	9	20
Trichloroethene	25.00	24.16	97	80-123	7	20
Toluene	25.00	24.14	97	80-121	10	20
Chlorobenzene	25.00	23.84	95	80-123	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789990	Batch#:	223680
Matrix:	Water	Analyzed:	06/01/15
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 5030B
Project#:	OD14170810.03	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789990	Batch#:	223680
Matrix:	Water	Analyzed:	06/01/15
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
RL= Reporting Limit

Initial & Continuing Calibration Data

CURTIS & TOMPKINS BFB TUNE FOR 267026 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 475215375002 File : het02 Time : 29-MAY-2015 14:36

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9977	21.22	
75	30% - 60% of mass 95	22656	48.20	
95		47008	100.00	
96	5% - 9% of mass 95	3182	6.77	
173	< 2% of mass 174	78	0.21	
174	> 50% and < 100% of mass 95	36896	78.49	
175	5% - 9% of mass 174	2964	8.03	
176	> 95% and < 101% of mass 174	36064	97.75	
177	5% - 9% of mass 176	2379	6.60	

Analyst: DAR Date: 05/31/15 Reviewer: LW Date: 06/01/15

CURTIS & TOMPKINS BFB TUNE FOR 267026 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 475218658002 File : hev02 Time : 31-MAY-2015 21:13

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6572	20.19	
75	30% - 60% of mass 95	15276	46.93	
95		32552	100.00	
96	5% - 9% of mass 95	2342	7.19	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	25227	77.50	
175	5% - 9% of mass 174	1965	7.79	
176	> 95% and < 101% of mass 174	24147	95.72	
177	5% - 9% of mass 176	1428	5.91	

Analyst: DAR Date: 05/31/15 Reviewer: LW Date: 06/01/15

CURTIS & TOMPKINS BFB TUNE FOR 267026 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 475219414003 File : hf103 Time : 01-JUN-2015 10:49

Standards: S27180

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	14053	18.28	
75	30% - 60% of mass 95	34754	45.21	
95		76877	100.00	
96	5% - 9% of mass 95	5068	6.59	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	59506	77.40	
175	5% - 9% of mass 174	4651	7.82	
176	> 95% and < 101% of mass 174	56592	95.10	
177	5% - 9% of mass 176	3849	6.80	

Analyst: DJA Date: 06/02/15 Reviewer: LW Date: 06/02/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 MSVOA Water: EPA 8260B

Inst : MSVOA08 Name : 826GOX8
Calnum : 475215375001 Date : 29-MAY-2015 16:16 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	het05	475215375005		29-MAY-2015 16:16	S26360 (2000000X), S27172 (2000000X), S27151 (2000000X), S25155 (1000000X), S27244 (5000X)
L2	het06	475215375006		29-MAY-2015 16:49	S26360 (1000000X), S27172 (1000000X), S27151 (1000000X), S25155 (500000X), S27244 (5000X)
L3	het07	475215375007		29-MAY-2015 17:22	S26360 (500000X), S27172 (250000X), S27151 (250000X), S25155 (250000X), S27244 (5000X)
L4	het08	475215375008		29-MAY-2015 17:56	S26360 (200000X), S27172 (100000X), S27151 (100000X), S25155 (100000X), S27244 (5000X)
L5	het09	475215375009		29-MAY-2015 18:29	S26360 (100000X), S27172 (50000X), S27151 (50000X), S25155 (50000X), S27244 (5000X)
L6	het10	475215375010		29-MAY-2015 19:03	S26360 (50000X), S27172 (25000X), S27151 (25000X), S25155 (25000X), S27244 (5000X)
L7	het11	475215375011		29-MAY-2015 19:36	S26360 (20000X), S27172 (10000X), S27151 (10000X), S25155 (10000X), S27244 (5000X)
L8	het12	475215375012		29-MAY-2015 20:10	S26360 (13330X), S27172 (6667X), S27151 (6667X), S25155 (6667X), S27244 (5000X)
L9	het13	475215375013		29-MAY-2015 20:43	S26360 (10000X), S27172 (5000X), S27151 (5000X), S25155 (5000X), S27244 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7711	0.6914	0.7716	0.7223	0.6645	0.7354	0.7025	0.7117	AVRG		1.38638		0.7213	5	15	0.05	0.99	
Chloromethane	0.3717	0.2833	0.2738	0.2510	0.2846	0.2473	0.2691	0.3271		AVRG		3.46632		0.2885	14	15	0.10	0.99	
Vinyl Chloride	0.3129	0.2897	0.2285	0.2384	0.2661	0.2588	0.2725	0.2742	0.2687	AVRG		3.73487		0.2677	9	15	0.05	0.99	
Bromomethane		0.5139	0.4939	0.5048	0.5374	0.5442	0.5240	0.5242	0.4787	AVRG		1.94124		0.5151	4	15	0.05	0.99	
Chloroethane		0.3983	0.3703	0.4251	0.3777	0.3709	0.3691	0.3555	0.3317	AVRG		2.66781		0.3748	7	15	0.05	0.99	
Trichlorofluoromethane		0.8427	0.8072	0.8365	0.8556	0.7551	0.8297	0.8049	0.7785	AVRG		1.22884		0.8138	4	15	0.05	0.99	
Acetone					0.0650	0.0697	0.0723	0.0719	0.0672	AVRG		14.4503		0.0692	4	15	0.05	0.99	
Freon 113		0.4151	0.4040	0.4312	0.3983	0.3802	0.4079	0.3889	0.3570	AVRG		2.51369		0.3978	6	15	0.05	0.99	
1,1-Dichloroethene		0.3991	0.4146	0.4297	0.4201	0.4383	0.4169	0.3746	0.3426	AVRG		2.47221		0.4045	8	15	0.05	0.99	
Methylene Chloride		0.5560	0.4944	0.5274	0.5340	0.5022	0.4942	0.4801	0.4341	AVRG		1.98893		0.5028	7	15	0.05	0.99	
Carbon Disulfide		1.7779	1.7142	1.7986	1.7809	1.7784	1.6106	1.4135	1.2630	AVRG		0.60897		1.6421	12	15	0.05	0.99	
MTBE		0.9626	0.9240	0.9595	1.0039	1.0349	0.9567	0.9248	0.8835	AVRG		1.04576		0.9562	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4820	0.4779	0.4850	0.4807	0.4961	0.4855	0.4376	0.3831	AVRG		2.14594		0.4660	8	15	0.05	0.99	
Vinyl Acetate				0.5737	0.6405	0.5585	0.5350	0.4734	0.4639	AVRG		1.84906		0.5408	12	15	0.05	0.99	
1,1-Dichloroethane		0.9955	0.9416	0.9549	1.0004	0.8973	0.9019	0.8107	0.7483	AVRG		1.10337		0.9063	10	15	0.10	0.99	
2-Butanone					0.1083	0.0953	0.0958	0.0900	0.0800	AVRG		10.6494		0.0939	11	15	0.05	0.99	
2,2-Dichloropropane		0.7601	0.7010	0.7172	0.7309	0.7470	0.7062	0.6714	0.6247	AVRG		1.41381		0.7073	6	15	0.05	0.99	
cis-1,2-Dichloroethene		0.4919	0.5400	0.5302	0.5381	0.5200	0.5100	0.4782	0.4408	AVRG		1.97570		0.5061	7	15	0.05	0.99	
Chloroform		0.9732	0.8302m	0.9356	0.9207	0.9274	0.9082	0.8643	0.8104	AVRG		1.11575		0.8963	6	15	0.05	0.99	
Bromochloromethane		0.2698	0.2428	0.2465	0.2640	0.2524	0.2329	0.2333	0.2238	AVRG		4.06993		0.2457	6	15	0.05	0.99	
1,1,1-Trichloroethane		0.7445	0.7145	0.6695	0.6945	0.7021	0.6687	0.6318	0.6176	AVRG		1.46973		0.6804	6	15	0.05	0.99	
1,1-Dichloropropene		0.5183	0.5121	0.4810	0.5124	0.4946	0.4584	0.5229	0.4083	AVRG		2.04714		0.4885	8	15	0.05	0.99	
Carbon Tetrachloride		0.4266	0.4536	0.4460	0.4579	0.4471	0.4363	0.5004	0.3979	AVRG		2.24362		0.4457	7	15	0.05	0.99	
1,2-Dichloroethane		0.4217	0.4279	0.4122	0.4309	0.4403	0.4016	0.5088	0.3955	AVRG		2.32625		0.4299	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2981	1.3893	1.2857	1.3469	1.2897	1.1168	1.2885	0.9756	AVRG		0.80075		1.2488	11	15	0.05	0.99	
Trichloroethene		0.3969	0.3495	0.3523	0.3677	0.3454	0.3253	0.3797	0.2988	AVRG		2.84111		0.3520	9	15	0.05	0.99	
1,2-Dichloropropane		0.3965	0.3793	0.3854	0.3862	0.4003	0.3247	0.3951	0.2906	AVRG		2.70465		0.3697	11	15	0.05	0.99	
Bromodichloromethane		0.4712	0.4870	0.4584	0.4775	0.4881	0.4554	0.5483	0.4332	AVRG		2.09477		0.4774	7	15	0.05	0.99	
Dibromomethane		0.1746	0.1930	0.2010	0.1976	0.2034	0.1919	0.2284	0.1796	AVRG		5.09749		0.1962	8	15	0.05	0.99	
4-Methyl-2-Pentanone				0.1743	0.1891	0.1863	0.1738	0.1982	0.1500	AVRG		5.59808		0.1786	9	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5374	0.5732	0.5537	0.5661	0.5821	0.4420	0.5957	0.4641	AVRG		1.85432		0.5393	10	15	0.05	0.99	
Toluene		1.0360	0.9423	0.9194	0.9292	0.8956	0.8167	0.7160	0.7526	AVRG		1.14159		0.8760	12	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5150	0.5232	0.5207	0.5299	0.5610	0.4983	0.4763	0.4839	AVRG		1.94727		0.5135	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1601	0.1652	0.1621	0.1671	0.1679	0.1565	0.1441	0.1445	AVRG		6.31231		0.1584	6	15	0.05	0.99	
2-Hexanone				0.1373	0.1419	0.1545	0.1354	0.1234	0.1160	AVRG		7.42031		0.1348	10	15	0.05	0.99	
1,3-Dichloropropane		0.5066	0.5231	0.5208	0.5201	0.5331	0.4744	0.4342	0.4226	AVRG		2.03313		0.4919	9	15	0.05	0.99	
Tetrachloroethene		0.4276	0.4282	0.4042	0.3985	0.4010	0.4098	0.3696	0.3929	AVRG		2.47540		0.4040	5	15	0.05	0.99	
Dibromochloromethane		0.3612	0.3605	0.3567	0.4117	0.4181	0.3939	0.3785	0.3927	AVRG		2.60303		0.3842	6	15	0.05	0.99	
1,2-Dibromoethane		0.3153	0.2927	0.2868	0.3041	0.3276	0.3027	0.2861	0.2822	AVRG		3.33662		0.2997	5	15	0.05	0.99	
Chlorobenzene		1.2199	1.1028	1.0819	1.0937	1.0832	0.9762	0.8850	0.8613	AVRG		0.96339		1.0380	12	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.4344	0.3975	0.3837	0.3996	0.4051	0.3870	0.3675	0.3500	AVRG		2.56013		0.3906	6	15	0.05	0.99	
Ethylbenzene		1.9851	1.8857	1.8053	1.8765	1.6897	1.6245	1.3801	1.2904	AVRG		0.59095		1.6922	15	15	0.05	0.99	
m,p-Xylenes	0.9194	0.7119	0.7152	0.6642	0.6579	0.6487	0.5316			QUAD	0.37079	1.27123	0.011284	0.6927	1.000	15	0.05	0.99	
o-Xylene		0.7740	0.7122	0.6940	0.6949	0.6719	0.5788	0.5200	0.5311	AVRG		1.54531		0.6471	14	15	0.05	0.99	
Styrene		1.1725	1.1477	1.1042	1.1523	1.1307	0.9411	0.8187	0.8311	AVRG		0.96406		1.0373	14	15	0.05	0.99	
Bromoform		0.1734	0.1921	0.2037	0.2331	0.2477	0.2377	0.2336	0.2352	AVRG		4.55440		0.2196	12	15	0.10	0.99	
Isopropylbenzene		3.2179	3.2357	3.2161	3.2754	3.1181	2.7559	2.5229	2.4170	AVRG		0.33671		2.9699	12	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.5263	0.5964	0.5730	0.6474	0.6456	0.5956	0.5554	0.5366	AVRG		1.71081		0.5845	8	15	0.30	0.99	
1,2,3-Trichloropropane		0.1554	0.1303	0.1493	0.1483	0.1593	0.1469	0.1343	0.1490	AVRG		6.82158		0.1466	7	15	0.05	0.99	
Propylbenzene		4.2380	4.0543	3.9178	3.9402	3.7610	3.4074	2.7673	2.8820	AVRG		0.27617		3.6210	15	15	0.05	0.99	
Bromobenzene		0.9942	0.9065	0.8669	0.8837	0.9086	0.8456	0.7656	0.7781	AVRG		1.15122		0.8686	9	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.4168	2.8603	2.6488	2.6739	2.5311	2.2061	2.0452	2.1087	AVRG		0.41045		2.4363	12	15	0.05	0.99	
2-Chlorotoluene		2.6709	2.9201	2.7077	2.7047	2.5526	2.3258	2.1308	2.3420	AVRG		0.39303		2.5443	10	15	0.05	0.99	
4-Chlorotoluene		2.6349	2.5742	2.4117	2.5380	2.4662	2.2266	1.9569	1.9791	AVRG		0.42581		2.3484	11	15	0.05	0.99	
tert-Butylbenzene		2.5504	2.4286	2.3432	2.3792	2.4272	2.1829	1.9724	1.8599	AVRG		0.44092		2.2680	11	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.7620	2.8461	2.6055	2.8114	2.7529	2.3587	2.1269	2.0616	AVRG		0.39360		2.5407	12	15	0.05	0.99	
sec-Butylbenzene		3.6018	3.5225	3.5805	3.6085	3.2703	3.0023	2.6293	2.5372	AVRG		0.31065		3.2191	14	15	0.05	0.99	
para-Isopropyl Toluene		3.0183	2.8523	2.8267	2.8943	2.7496	2.3382	2.1803	2.1644	AVRG		0.38051		2.6280	13	15	0.05	0.99	
1,3-Dichlorobenzene		1.6762	1.6908	1.5932	1.5918	1.6194	1.4355	1.3297	1.2928	AVRG		0.65416		1.5287	10	15	0.05	0.99	
1,4-Dichlorobenzene		1.8182	1.6711	1.5350	1.5447	1.5583	1.3923	1.2561	1.2789	AVRG		0.66365		1.5068	13	15	0.05	0.99	
n-Butylbenzene		2.7655	2.5408	2.5033	2.6640	2.5034	2.2960	1.9810	1.9525	AVRG		0.41652		2.4008	13	15	0.05	0.99	
1,2-Dichlorobenzene		1.6946	1.5948	1.4805	1.4831	1.5338	1.4295	1.3170	1.3044	AVRG		0.67580		1.4797	9	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.0809	0.0811	0.0852	0.0943	0.0942	0.0967	0.0880	0.0933	AVRG		11.2120		0.0892	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.9810	0.8763	0.8562	0.9231	0.9286	0.9200	0.8714	0.8761	AVRG		1.10611		0.9041	5	15	0.05	0.99	
Hexachlorobutadiene		0.4551	0.4433	0.4345	0.4799	0.4747	0.5113	0.4943	0.4973	AVRG		2.11059		0.4738	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.6479	1.4680	1.5006	1.6689	1.6568	1.6112	1.5111	1.3945	AVRG		0.64210		1.5574	7	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.8784	0.7866	0.7472	0.8510	0.8341	0.8151	0.7681	0.8102	AVRG		1.23255		0.8113	5	15	0.05	0.99	
Dibromofluoromethane	0.5032	0.5120	0.5116	0.5053	0.5116	0.5165	0.5051	0.4906	0.4693	AVRG		1.98884		0.5028	3	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3281	0.3219	0.3432	0.3303	0.3415	0.3274	0.3203	0.3852	0.2973	AVRG		3.00469		0.3328	7	15	0.05	0.99	
Toluene-d8	1.2006	1.1686	1.1136	1.1605	1.1700	1.2361	1.1432	1.1630	1.1829	AVRG		0.85401		1.1709	3	15	0.05	0.99	
Bromofluorobenzene	0.9399	0.9596	0.9664	0.9718	0.9383	0.9729	0.9960	0.9911	0.9565	AVRG		1.03538		0.9658	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.0000	7	2.0000	-4	5.0000	7	10.000	0	20.000	-8	50.000	2	75.000	-3	100.00	-1
Chloromethane	0.5000	**29**	1.0000	-2	2.0000	-5	5.0000	-13	10.000	-1	20.000	-14	50.000	-7	75.000	13		
Vinyl Chloride	0.5000	17	1.0000	8	2.0000	-15	5.0000	-11	10.000	-1	20.000	-3	50.000	2	75.000	2	100.00	0
Bromomethane			1.0000	0	2.0000	-4	5.0000	-2	10.000	4	20.000	6	50.000	2	75.000	2	100.00	-7
Chloroethane			1.0000	6	2.0000	-1	5.0000	13	10.000	1	20.000	-1	50.000	-2	75.000	-5	100.00	-12
Trichlorofluoromethane			1.0000	4	2.0000	-1	5.0000	3	10.000	5	20.000	-7	50.000	2	75.000	-1	100.00	-4
Acetone									10.000	-6	20.000	1	50.000	4	75.000	4	100.00	-3
Freon 113			0.5000	4	2.0000	2	5.0000	8	10.000	0	20.000	-4	50.000	3	75.000	-2	100.00	-10
1,1-Dichloroethene			0.5000	-1	2.0000	2	5.0000	6	10.000	4	20.000	8	50.000	3	75.000	-7	100.00	-15
Methylene Chloride			0.5000	11	2.0000	-2	5.0000	5	10.000	6	20.000	0	50.000	-2	75.000	-5	100.00	-14
Carbon Disulfide			0.5000	8	2.0000	4	5.0000	10	10.000	8	20.000	8	50.000	-2	75.000	-14	100.00	**-23**
MTBE			0.5000	1	2.0000	-3	5.0000	0	10.000	5	20.000	8	50.000	0	75.000	-3	100.00	-8
trans-1,2-Dichloroethene			0.5000	3	2.0000	3	5.0000	4	10.000	3	20.000	6	50.000	4	75.000	-6	100.00	-18
Vinyl Acetate							5.0000	6	10.000	18	20.000	3	50.000	-1	75.000	-12	100.00	-14
1,1-Dichloroethane			0.5000	10	2.0000	4	5.0000	5	10.000	10	20.000	-1	50.000	0	75.000	-11	100.00	-17
2-Butanone									10.000	15	20.000	2	50.000	2	75.000	-4	100.00	-15
2,2-Dichloropropane			0.5000	7	2.0000	-1	5.0000	1	10.000	3	20.000	6	50.000	0	75.000	-5	100.00	-12
cis-1,2-Dichloroethene			0.5000	-3	2.0000	7	5.0000	5	10.000	6	20.000	3	50.000	1	75.000	-6	100.00	-13
Chloroform			0.5000	9	2.0000	-7	5.0000	4	10.000	3	20.000	3	50.000	1	75.000	-4	100.00	-10
Bromochloromethane			0.5000	10	2.0000	-1	5.0000	0	10.000	7	20.000	3	50.000	-5	75.000	-5	100.00	-9
1,1,1-Trichloroethane			0.5000	9	2.0000	5	5.0000	-2	10.000	2	20.000	3	50.000	-2	75.000	-7	100.00	-9
1,1-Dichloropropene			0.5000	6	2.0000	5	5.0000	-2	10.000	5	20.000	1	50.000	-6	75.000	7	100.00	-16
Carbon Tetrachloride			0.5000	-4	2.0000	2	5.0000	0	10.000	3	20.000	0	50.000	-2	75.000	12	100.00	-11
1,2-Dichloroethane			0.5000	-2	2.0000	0	5.0000	-4	10.000	0	20.000	2	50.000	-7	75.000	18	100.00	-8
Benzene			0.5000	4	2.0000	11	5.0000	3	10.000	8	20.000	3	50.000	-11	75.000	3	100.00	**-22**
Trichloroethene			0.5000	13	2.0000	-1	5.0000	0	10.000	4	20.000	-2	50.000	-8	75.000	8	100.00	-15
1,2-Dichloropropane			0.5000	7	2.0000	3	5.0000	4	10.000	4	20.000	8	50.000	-12	75.000	7	100.00	**-21**
Bromodichloromethane			0.5000	-1	2.0000	2	5.0000	-4	10.000	0	20.000	2	50.000	-5	75.000	15	100.00	-9
Dibromomethane			0.5000	-11	2.0000	-2	5.0000	2	10.000	1	20.000	4	50.000	-2	75.000	16	100.00	-8
4-Methyl-2-Pentanone							5.0000	-2	10.000	6	20.000	4	50.000	-3	75.000	11	100.00	-16
cis-1,3-Dichloropropene			0.5000	0	2.0000	6	5.0000	3	10.000	5	20.000	8	50.000	-18	75.000	10	100.00	-14
Toluene			0.5000	18	2.0000	8	5.0000	5	10.000	6	20.000	2	50.000	-7	75.000	-18	100.00	-14
trans-1,3-Dichloropropene			0.5000	0	2.0000	2	5.0000	1	10.000	3	20.000	9	50.000	-3	75.000	-7	100.00	-6
1,1,2-Trichloroethane			0.5000	1	2.0000	4	5.0000	2	10.000	5	20.000	6	50.000	-1	75.000	-9	100.00	-9
2-Hexanone							5.0000	2	10.000	5	20.000	15	50.000	0	75.000	-8	100.00	-14
1,3-Dichloropropane			0.5000	3	2.0000	6	5.0000	6	10.000	6	20.000	8	50.000	-4	75.000	-12	100.00	-14
Tetrachloroethene			0.5000	6	2.0000	6	5.0000	0	10.000	-1	20.000	-1	50.000	1	75.000	-9	100.00	-3
Dibromochloromethane			0.5000	-6	2.0000	-6	5.0000	-7	10.000	7	20.000	9	50.000	3	75.000	-1	100.00	2
1,2-Dibromoethane			0.5000	5	2.0000	-2	5.0000	-4	10.000	1	20.000	9	50.000	1	75.000	-5	100.00	-6
Chlorobenzene			0.5000	18	2.0000	6	5.0000	4	10.000	5	20.000	4	50.000	-6	75.000	-15	100.00	-17
1,1,1,2-Tetrachloroethane			0.5000	11	2.0000	2	5.0000	-2	10.000	2	20.000	4	50.000	-1	75.000	-6	100.00	-10
Ethylbenzene			0.5000	17	2.0000	11	5.0000	7	10.000	11	20.000	0	50.000	-4	75.000	-18	100.00	**-24**

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.5000	**92**	1.0000	**28**	4.0000	2	10.000	-7	20.000	-5	40.000	2	100.00	0				
o-Xylene			0.5000	20	2.0000	10	5.0000	7	10.000	7	20.000	4	50.000	-11	75.000	-20	100.00	-18
Styrene			0.5000	13	2.0000	11	5.0000	6	10.000	11	20.000	9	50.000	-9	75.000	**-21**	100.00	-20
Bromoform			0.5000	**-21**	2.0000	-13	5.0000	-7	10.000	6	20.000	13	50.000	8	75.000	6	100.00	7
Isopropylbenzene			0.5000	8	2.0000	9	5.0000	8	10.000	10	20.000	5	50.000	-7	75.000	-15	100.00	-19
1,1,2,2-Tetrachloroethane			0.5000	-10	2.0000	2	5.0000	-2	10.000	11	20.000	10	50.000	2	75.000	-5	100.00	-8
1,2,3-Trichloropropane			0.5000	6	2.0000	-11	5.0000	2	10.000	1	20.000	9	50.000	0	75.000	-8	100.00	2
Propylbenzene			0.5000	17	2.0000	12	5.0000	8	10.000	9	20.000	4	50.000	-6	75.000	**-24**	100.00	-20
Bromobenzene			0.5000	14	2.0000	4	5.0000	0	10.000	2	20.000	5	50.000	-3	75.000	-12	100.00	-10
1,3,5-Trimethylbenzene			0.5000	-1	2.0000	17	5.0000	9	10.000	10	20.000	4	50.000	-9	75.000	-16	100.00	-13
2-Chlorotoluene			0.5000	5	2.0000	15	5.0000	6	10.000	6	20.000	0	50.000	-9	75.000	-16	100.00	-8
4-Chlorotoluene			0.5000	12	2.0000	10	5.0000	3	10.000	8	20.000	5	50.000	-5	75.000	-17	100.00	-16
tert-Butylbenzene			0.5000	12	2.0000	7	5.0000	3	10.000	5	20.000	7	50.000	-4	75.000	-13	100.00	-18
1,2,4-Trimethylbenzene			0.5000	9	2.0000	12	5.0000	3	10.000	11	20.000	8	50.000	-7	75.000	-16	100.00	-19
sec-Butylbenzene			0.5000	12	2.0000	9	5.0000	11	10.000	12	20.000	2	50.000	-7	75.000	-18	100.00	**-21**
para-Isopropyl Toluene			0.5000	15	2.0000	9	5.0000	8	10.000	10	20.000	5	50.000	-11	75.000	-17	100.00	-18
1,3-Dichlorobenzene			0.5000	10	2.0000	11	5.0000	4	10.000	4	20.000	6	50.000	-6	75.000	-13	100.00	-15
1,4-Dichlorobenzene			0.5000	**21**	2.0000	11	5.0000	2	10.000	3	20.000	3	50.000	-8	75.000	-17	100.00	-15
n-Butylbenzene			0.5000	15	2.0000	6	5.0000	4	10.000	11	20.000	4	50.000	-4	75.000	-17	100.00	-19
1,2-Dichlorobenzene			0.5000	15	2.0000	8	5.0000	0	10.000	0	20.000	4	50.000	-3	75.000	-11	100.00	-12
1,2-Dibromo-3-Chloropropane			0.5000	-9	2.0000	-9	5.0000	-5	10.000	6	20.000	6	50.000	8	75.000	-1	100.00	5
1,2,4-Trichlorobenzene			0.5000	9	2.0000	-3	5.0000	-5	10.000	2	20.000	3	50.000	2	75.000	-4	100.00	-3
Hexachlorobutadiene			0.5000	-4	2.0000	-6	5.0000	-8	10.000	1	20.000	0	50.000	8	75.000	4	100.00	5
Naphthalene			0.5000	6	2.0000	-6	5.0000	-4	10.000	7	20.000	6	50.000	3	75.000	-3	100.00	-10
1,2,3-Trichlorobenzene			0.5000	8	2.0000	-3	5.0000	-8	10.000	5	20.000	3	50.000	0	75.000	-5	100.00	0
Dibromofluoromethane	50.000	0	50.000	2	50.000	2	50.000	0	50.000	2	50.000	3	50.000	0	50.000	-2	50.000	-7
1,2-Dichloroethane-d4	50.000	-1	50.000	-3	50.000	3	50.000	-1	50.000	3	50.000	-2	50.000	-4	50.000	16	50.000	-11
Toluene-d8	50.000	3	50.000	0	50.000	-5	50.000	-1	50.000	0	50.000	6	50.000	-2	50.000	-1	50.000	1
Bromofluorobenzene	50.000	-3	50.000	-1	50.000	0	50.000	1	50.000	-3	50.000	1	50.000	3	50.000	3	50.000	-1

DAR 05/31/15 [Iodomethane]: Combined split peak in multiple levels.

DAR 05/31/15 [Vinyl Acetate]: Combined split peak in (het06).

DAR 05/31/15 [Tetrahydrofuran]: Combined split peak in (het06).

DAR 05/31/15 [Chloroform]: Combined split peak in (het07).

DAR 05/31/15 [Ethanol]: Combined split peak in (het08).

DAR 06/01/15 [Acetone]: Combined split peak in (het08).

DAR 05/31/15 [m,p-Xylenes]: high bias in low point, Rerun all hits under 10 ppb

DAR 05/31/15 : Ical does not meet min RF for 8260c: acetone and 2-Butanone

DAR 06/01/15 [Ethanol]: Raised RL (500ppb)

DAR 06/01/15 : Freon 113 ICV is a run of a new ampule of second source F113 standard

DAR 06/01/15 [Iodomethane]: Fails ICV low -42%

Analyst: DAR Date: 06/01/15 Reviewer: LW Date: 06/01/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 MSVOA Water
EPA 8260B

Inst : MSVOA08 Name : 826GOX8
Calnum : 475215375001 Cal Date : 29-MAY-2015 Type : WATER

ICV 475215375014 (het14 29-MAY-2015) stds: S26672 (10000X), S27244 (5000X)
ICV 475215375015 (het15 29-MAY-2015) stds: S27177 (10000X), S27022 (10000X), S27179 (10000X), S27244 (5000X)
ICV 475218658003 (hev03 31-MAY-2015) stds: S25876 (40000X), S27244 (5000X)

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Freon 12	475215375014	29-MAY-2015	20.00	14.38	ug/L	**-28**	30	!v-
Chloromethane	475215375014	29-MAY-2015	20.00	25.59	ug/L	**28**	30	!v+
Vinyl Chloride	475215375014	29-MAY-2015	20.00	18.23	ug/L	-9	20	
Bromomethane	475215375014	29-MAY-2015	20.00	14.54	ug/L	**-27**	30	!v-
Chloroethane	475215375014	29-MAY-2015	20.00	17.15	ug/L	-14	30	
Trichlorofluoromethane	475215375014	29-MAY-2015	20.00	17.10	ug/L	-15	30	
Acetone	475215375015	29-MAY-2015	25.00	26.52	ug/L	6	40	
Freon 113	475218658003	31-MAY-2015	50.00	51.94	ug/L	4	30	
1,1-Dichloroethene	475215375015	29-MAY-2015	25.00	22.13	ug/L	-11	20	
Methylene Chloride	475215375015	29-MAY-2015	25.00	24.97	ug/L	0	30	
Carbon Disulfide	475215375015	29-MAY-2015	25.00	19.78	ug/L	**-21**	30	!v-
MTBE	475215375015	29-MAY-2015	25.00	25.90	ug/L	4	30	
trans-1,2-Dichloroethene	475215375015	29-MAY-2015	25.00	24.25	ug/L	-3	30	
Vinyl Acetate	475215375015	29-MAY-2015	25.00	30.63	ug/L	**23**	40	!v+
1,1-Dichloroethane	475215375015	29-MAY-2015	25.00	23.68	ug/L	-5	30	
2-Butanone	475215375015	29-MAY-2015	25.00	28.59	ug/L	14	40	
2,2-Dichloropropane	475215375015	29-MAY-2015	25.00	24.04	ug/L	-4	30	
cis-1,2-Dichloroethene	475215375015	29-MAY-2015	25.00	26.67	ug/L	7	30	
Chloroform	475215375015	29-MAY-2015	25.00	26.05	ug/L	4	20	
Bromochloromethane	475215375015	29-MAY-2015	25.00	24.51	ug/L	-2	30	
1,1,1-Trichloroethane	475215375015	29-MAY-2015	25.00	23.80	ug/L	-5	30	
1,1-Dichloropropene	475215375015	29-MAY-2015	25.00	23.96	ug/L	-4	30	
Carbon Tetrachloride	475215375015	29-MAY-2015	25.00	23.62	ug/L	-6	30	
1,2-Dichloroethane	475215375015	29-MAY-2015	25.00	27.44	ug/L	10	30	
Benzene	475215375015	29-MAY-2015	25.00	26.87	ug/L	7	30	
Trichloroethene	475215375015	29-MAY-2015	25.00	24.30	ug/L	-3	30	
1,2-Dichloropropane	475215375015	29-MAY-2015	25.00	26.14	ug/L	5	20	
Bromodichloromethane	475215375015	29-MAY-2015	25.00	27.37	ug/L	9	30	
Dibromomethane	475215375015	29-MAY-2015	25.00	26.91	ug/L	8	30	
4-Methyl-2-Pentanone	475215375015	29-MAY-2015	25.00	26.46	ug/L	6	40	
cis-1,3-Dichloropropene	475215375015	29-MAY-2015	25.00	27.12	ug/L	8	30	
Toluene	475215375015	29-MAY-2015	25.00	26.37	ug/L	5	20	
trans-1,3-Dichloropropene	475215375015	29-MAY-2015	25.00	25.39	ug/L	2	30	
1,1,2-Trichloroethane	475215375015	29-MAY-2015	25.00	27.95	ug/L	12	30	
2-Hexanone	475215375015	29-MAY-2015	25.00	32.46	ug/L	**30**	40	!v+
1,3-Dichloropropane	475215375015	29-MAY-2015	25.00	29.52	ug/L	18	30	
Tetrachloroethene	475215375015	29-MAY-2015	25.00	26.04	ug/L	4	30	
Dibromochloromethane	475215375015	29-MAY-2015	25.00	28.64	ug/L	15	30	
1,2-Dibromoethane	475215375015	29-MAY-2015	25.00	28.03	ug/L	12	30	
Chlorobenzene	475215375015	29-MAY-2015	25.00	27.45	ug/L	10	30	
1,1,1,2-Tetrachloroethane	475215375015	29-MAY-2015	25.00	27.64	ug/L	11	30	
Ethylbenzene	475215375015	29-MAY-2015	25.00	26.00	ug/L	4	20	
m,p-Xylenes	475215375015	29-MAY-2015	50.00	55.78	ug/L	12	30	
o-Xylene	475215375015	29-MAY-2015	25.00	27.44	ug/L	10	30	
Styrene	475215375015	29-MAY-2015	25.00	27.02	ug/L	8	30	
Bromoform	475215375015	29-MAY-2015	25.00	29.97	ug/L	20	30	

Analyte	ICV Seqnum	Date	Spiked	Quant	Units	%D	Max	Flags
Isopropylbenzene	475215375015	29-MAY-2015	25.00	26.69	ug/L	7	30	
1,1,2,2-Tetrachloroethane	475215375015	29-MAY-2015	25.00	27.33	ug/L	9	30	
1,2,3-Trichloropropane	475215375015	29-MAY-2015	25.00	26.92	ug/L	8	30	
Propylbenzene	475215375015	29-MAY-2015	25.00	24.80	ug/L	-1	30	
Bromobenzene	475215375015	29-MAY-2015	25.00	27.77	ug/L	11	30	
1,3,5-Trimethylbenzene	475215375015	29-MAY-2015	25.00	28.44	ug/L	14	30	
2-Chlorotoluene	475215375015	29-MAY-2015	25.00	27.19	ug/L	9	30	
4-Chlorotoluene	475215375015	29-MAY-2015	25.00	26.65	ug/L	7	30	
tert-Butylbenzene	475215375015	29-MAY-2015	25.00	25.02	ug/L	0	30	
1,2,4-Trimethylbenzene	475215375015	29-MAY-2015	25.00	26.33	ug/L	5	30	
sec-Butylbenzene	475215375015	29-MAY-2015	25.00	26.13	ug/L	5	30	
para-Isopropyl Toluene	475215375015	29-MAY-2015	25.00	25.40	ug/L	2	30	
1,3-Dichlorobenzene	475215375015	29-MAY-2015	25.00	27.96	ug/L	12	30	
1,4-Dichlorobenzene	475215375015	29-MAY-2015	25.00	27.18	ug/L	9	30	
n-Butylbenzene	475215375015	29-MAY-2015	25.00	24.73	ug/L	-1	30	
1,2-Dichlorobenzene	475215375015	29-MAY-2015	25.00	27.30	ug/L	9	30	
1,2-Dibromo-3-Chloropropane	475215375015	29-MAY-2015	25.00	27.26	ug/L	9	30	
1,2,4-Trichlorobenzene	475215375015	29-MAY-2015	25.00	27.42	ug/L	10	30	
Hexachlorobutadiene	475215375015	29-MAY-2015	25.00	27.30	ug/L	9	30	
Naphthalene	475215375015	29-MAY-2015	25.00	26.39	ug/L	6	30	
1,2,3-Trichlorobenzene	475215375015	29-MAY-2015	25.00	28.33	ug/L	13	30	

475215375014: Analyst: DAR Date: 06/01/15 Reviewer: LW Date: 06/01/15
475215375015: Analyst: DAR Date: 06/01/15 Reviewer: LW Date: 06/01/15
475218658003: Analyst: DAR Date: 06/01/15 Reviewer: LW Date: 06/01/15

!=warning +=high bias -=low bias v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 MSVOA Water
EPA 8260B

Inst : MSVOA08 IDF : 1.0
Seqnum : 475219414004 File : hf104 Time : 01-JUN-2015 11:14
Cal : 475215375001 Caldate : 29-MAY-2015 Caltype : WATER
Standards: S26360 (20000X), S27172 (20000X), S27151 (20000X), S25155 (20000X), S27244 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7213	0.6431	25.00	22.29	ug/L	-11	30	0.0500	!v-
Chloromethane	0.2885	0.2877	25.00	24.93	ug/L	0	30	0.1000	!v+
Vinyl Chloride	0.2677	0.2473	25.00	23.09	ug/L	-8	20	0.0500	
Bromomethane	0.5151	0.5192	25.00	25.20	ug/L	1	30	0.0500	!v-
Chloroethane	0.3748	0.4157	25.00	27.73	ug/L	11	30	0.0500	
Trichlorofluoromethane	0.8138	0.7993	25.00	24.55	ug/L	-2	30	0.0500	
Acetone	0.0692	0.0788	25.00	28.48	ug/L	14	40	0.0500	< 8260C min rf (0.100)
Freon 113	0.3978	0.4346	25.00	27.31	ug/L	9	30	0.0500	
1,1-Dichloroethene	0.4045	0.4485	25.00	27.72	ug/L	11	20	0.0500	
Methylene Chloride	0.5028	0.5174	25.00	25.72	ug/L	3	30	0.0500	
Carbon Disulfide	1.6421	1.7227	25.00	26.23	ug/L	5	30	0.0500	!v-
MTBE	0.9562	1.0001	25.00	26.15	ug/L	5	30	0.0500	
trans-1,2-Dichloroethene	0.4660	0.5105	25.00	27.39	ug/L	10	30	0.0500	
Vinyl Acetate	0.5408	0.5691	25.00	26.31	ug/L	5	40	0.0500	!v+
1,1-Dichloroethane	0.9063	0.9523	25.00	26.27	ug/L	5	30	0.1000	
2-Butanone	0.0939	0.1103	25.00	29.35	ug/L	17	40	0.0500	< 8260C min rf (0.100)
2,2-Dichloropropane	0.7073	0.7919	25.00	27.99	ug/L	12	30	0.0500	
cis-1,2-Dichloroethene	0.5061	0.5652	25.00	27.92	ug/L	12	30	0.0500	
Chloroform	0.8963	0.9640	25.00	26.89	ug/L	8	20	0.0500	
Bromochloromethane	0.2457	0.2537	25.00	25.81	ug/L	3	30	0.0500	
1,1,1-Trichloroethane	0.6804	0.7445	25.00	27.36	ug/L	9	30	0.0500	
1,1-Dichloropropene	0.4885	0.5140	25.00	26.31	ug/L	5	30	0.0500	
Carbon Tetrachloride	0.4457	0.4951	25.00	27.77	ug/L	11	30	0.0500	
1,2-Dichloroethane	0.4299	0.4446	25.00	25.86	ug/L	3	30	0.0500	
Benzene	1.2488	1.3392	25.00	26.81	ug/L	7	30	0.0500	
Trichloroethene	0.3520	0.3656	25.00	25.97	ug/L	4	30	0.0500	
1,2-Dichloropropane	0.3697	0.4076	25.00	27.56	ug/L	10	20	0.0500	
Bromodichloromethane	0.4774	0.5102	25.00	26.72	ug/L	7	30	0.0500	
Dibromomethane	0.1962	0.2058	25.00	26.23	ug/L	5	30	0.0500	
4-Methyl-2-Pentanone	0.1786	0.1834	25.00	25.67	ug/L	3	40	0.0500	
cis-1,3-Dichloropropene	0.5393	0.5883	25.00	27.27	ug/L	9	30	0.0500	
Toluene	0.8760	0.9415	25.00	26.87	ug/L	7	20	0.0500	
trans-1,3-Dichloropropene	0.5135	0.5746	25.00	27.97	ug/L	12	30	0.0500	
1,1,2-Trichloroethane	0.1584	0.1640	25.00	25.88	ug/L	4	30	0.0500	
2-Hexanone	0.1348	0.1457	25.00	27.04	ug/L	8	40	0.0500	!v+
1,3-Dichloropropane	0.4919	0.5178	25.00	26.32	ug/L	5	30	0.0500	
Tetrachloroethene	0.4040	0.4381	25.00	27.11	ug/L	8	30	0.0500	
Dibromochloromethane	0.3842	0.4312	25.00	28.06	ug/L	12	30	0.0500	
1,2-Dibromoethane	0.2997	0.3237	25.00	27.00	ug/L	8	30	0.0500	
Chlorobenzene	1.0380	1.1052	25.00	26.62	ug/L	6	30	0.3000	
1,1,1,2-Tetrachloroethane	0.3906	0.4346	25.00	27.82	ug/L	11	30	0.0500	
Ethylbenzene	1.6922	1.8841	25.00	27.84	ug/L	11	20	0.0500	
m,p-Xylenes	0.6927	0.6259	50.00	51.21	ug/L	2	30	0.0500	
o-Xylene	0.6471	0.6546	25.00	25.29	ug/L	1	30	0.0500	
Styrene	1.0373	1.0550	25.00	25.43	ug/L	2	30	0.0500	
Bromoform	0.2196	0.2467	25.00	28.09	ug/L	12	30	0.1000	
Isopropylbenzene	2.9699	3.1030	25.00	26.12	ug/L	4	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.5845	0.6418	25.00	27.45	ug/L	10	30	0.3000	
1,2,3-Trichloropropane	0.1466	0.1554	25.00	26.51	ug/L	6	30	0.0500	
Propylbenzene	3.6210	3.7487	25.00	25.88	ug/L	4	30	0.0500	
Bromobenzene	0.8686	0.9075	25.00	26.12	ug/L	4	30	0.0500	
1,3,5-Trimethylbenzene	2.4363	2.6216	25.00	26.90	ug/L	8	30	0.0500	
2-Chlorotoluene	2.5443	2.5967	25.00	25.52	ug/L	2	30	0.0500	
4-Chlorotoluene	2.3484	2.4878	25.00	26.48	ug/L	6	30	0.0500	
tert-Butylbenzene	2.2680	2.4525	25.00	27.03	ug/L	8	30	0.0500	
1,2,4-Trimethylbenzene	2.5407	2.7093	25.00	26.66	ug/L	7	30	0.0500	
sec-Butylbenzene	3.2191	3.4667	25.00	26.92	ug/L	8	30	0.0500	
para-Isopropyl Toluene	2.6280	2.9301	25.00	27.87	ug/L	11	30	0.0500	
1,3-Dichlorobenzene	1.5287	1.5973	25.00	26.12	ug/L	4	30	0.0500	
1,4-Dichlorobenzene	1.5068	1.6168	25.00	26.82	ug/L	7	30	0.0500	
n-Butylbenzene	2.4008	2.6007	25.00	27.08	ug/L	8	30	0.0500	
1,2-Dichlorobenzene	1.4797	1.5603	25.00	26.36	ug/L	5	30	0.0500	
1,2-Dibromo-3-Chloropropane	0.0892	0.0969	25.00	27.15	ug/L	9	30	0.0500	
1,2,4-Trichlorobenzene	0.9041	0.9806	25.00	27.12	ug/L	8	30	0.0500	
Hexachlorobutadiene	0.4738	0.5539	25.00	29.23	ug/L	17	30	0.0500	
Naphthalene	1.5574	1.6870	25.00	27.08	ug/L	8	30	0.0500	
1,2,3-Trichlorobenzene	0.8113	0.8569	25.00	26.40	ug/L	6	30	0.0500	
Dibromofluoromethane	0.5028	0.5008	50.00	49.80	ug/L	0	30	0.0500	
1,2-Dichloroethane-d4	0.3328	0.3248	50.00	48.80	ug/L	-2	30	0.0500	
Toluene-d8	1.1709	1.1738	50.00	50.12	ug/L	0	30	0.0500	
Bromofluorobenzene	0.9658	0.8709	50.00	45.09	ug/L	-10	30	0.0500	

ISTD (ICAL het11)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	1581217	1718137	8.66	10.05	10.05	0.00
1,4-Difluorobenzene	2343101	2356177	0.56	11.25	11.25	0.00
Chlorobenzene-d5	1903200	1986739	4.39	15.75	15.74	-0.01
1,4-Dichlorobenzene-d4	1012955	1072257	5.85	18.60	18.59	-0.01

Analyst: DJA Date: 06/02/15 Reviewer: LW Date: 06/02/15

!=warning +=high bias -=low bias < 8260C min rf (0.100)=optional ICAL minimum RF failure v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 475219414

Date : 06/01/15 Reference : het11
Sequence : MSVOA08 hf1 Analyzed : 05/29/15 19:36

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	1581217	10.05	2343101	11.25	1903200	15.75	1012955	18.60
		LOWER LIMIT	790609	9.55	1171551	10.75	951600	15.25	506478	18.10
		UPPER LIMIT	3162434	10.55	4686202	11.75	3806400	16.25	2025910	19.10
001	IB		1826318	10.04	2584092	11.23	2267006	15.74	1308351	18.59
002	IB		1799326	10.05	2512308	11.24	2041090	15.74	1194094	18.59
004	CCV		1718137	10.05	2356177	11.25	1986739	15.74	1072257	18.59
005	BS	QC789988	1719442	10.04	2418965	11.24	2019063	15.74	1118068	18.59
006	BSD	QC789989	1776322	10.05	2439432	11.25	2137578	15.74	1174260	18.59
009	BLANK	QC789990	1710517	10.05	2303724	11.25	1930806	15.75	1120321	18.60
010	SAMPLE	267026-004	1789865	10.05	2392029	11.25	2113862	15.74	1217518	18.60
011	SAMPLE	267078-003	1848993	10.06	2549700	11.25	2178747	15.74	1263707	18.59
012	SAMPLE	267078-002	1800889	10.05	2554333	11.25	2071223	15.75	1216518	18.60
013	SAMPLE	267078-001	1717047	10.05	2514583	11.25	2140458	15.75	1225055	18.60
014	SAMPLE	267103-001	1660791	10.06	2425039	11.25	2122563	15.74	1140429	18.59
015	SAMPLE	267109-002	1738077	10.05	2330049	11.25	2116133	15.75	1113583	18.60
016	SAMPLE	267110-005	1728324	10.05	2536977	11.25	2129566	15.75	1146091	18.60
017	SAMPLE	267105-003	1696354	10.06	2521172	11.25	2184906	15.74	1151303	18.59
018	SAMPLE	267110-002	1589926	10.05	2250461	11.25	1974219	15.75	1070772	18.60
019	SAMPLE	267026-006	1734423	10.05	2539314	11.25	2097345	15.74	1140823	18.59
020	SAMPLE	267105-001	1677302	10.05	2447556	11.25	2084574	15.75	1132994	18.60
021	SAMPLE	267105-005	1661745	10.05	2417372	11.24	2092984	15.75	1154281	18.60
022	SAMPLE	267105-002	1682653	10.05	2486590	11.24	2030394	15.75	1087448	18.60
023	SAMPLE	267105-004	1659427	10.05	2498206	11.24	2097914	15.75	1130148	18.60

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 475215375

Instrument : MSVOA08 Begun : 05/29/15 13:35
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	het01	TUN	BFB			05/29/15 13:35	1.0	1	
002	het02	TUN	BFB			05/29/15 14:36	1.0	1	
003	het03	IB				05/29/15 15:09	1.0	2	
004	het04	IB	CALIB			05/29/15 15:42	1.0	2	
005	het05	ICAL				05/29/15 16:16	1.0	3 4 5 6 2	
006	het06	ICAL				05/29/15 16:49	1.0	3 4 5 6 2	
007	het07	ICAL				05/29/15 17:22	1.0	3 4 5 6 2	
008	het08	ICAL				05/29/15 17:56	1.0	3 4 5 6 2	
009	het09	ICAL				05/29/15 18:29	1.0	3 4 5 6 2	
010	het10	ICAL				05/29/15 19:03	1.0	3 4 5 6 2	
011	het11	ICAL				05/29/15 19:36	1.0	3 4 5 6 2	
012	het12	ICAL				05/29/15 20:10	1.0	3 4 5 6 2	
013	het13	ICAL				05/29/15 20:43	1.0	3 4 5 6 2	
014	het14	ICV				05/29/15 21:16	1.0	7 2	
015	het15	ICV				05/29/15 21:50	1.0	8 9 10 2	
016	het16	X	IB			05/29/15 22:23	1.0	2	
017	het17	X	IB			05/29/15 22:57	1.0	2	
018	het18	X	IB			05/29/15 23:30	1.0	2	

DAR 05/31/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: DAR Date: 05/31/15 Reviewer: LW Date: 06/01/15

Standards used: 1=S27180 2=S27244 3=S26360 4=S27172 5=S27151 6=S25155 7=S26672 8=S27177 9=S27022 10=S27179

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 475218658

Instrument : MSVOA08 Begun : 05/31/15 20:18
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hev01	IB				05/31/15 20:18	1.0	1	?t
002	hev02	TUN	BFB			05/31/15 21:13	1.0	2	
003	hev03	ICV				05/31/15 21:44	1.0	3 1	

DAR 05/31/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

Analyst: DAR Date: 05/31/15 Reviewer: LW Date: 06/01/15

Standards used: 1=S27244 2=S27180 3=S25876

Flags used: ?t=missing tune

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 475219414

Instrument : MSVOA08 Begun : 06/01/15 08:54
Method : EPA 8260B SOP Version : TVH_8260B_rv1

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hf101	IB				06/01/15 08:54	1.0	1	?t
002	hf102	IB				06/01/15 09:27	1.0	1	?t
003	hf103	TUN	BFB			06/01/15 10:49	1.0	2	
004	hf104	CCV				06/01/15 11:14	1.0	3 4 5 6 1	1:CEVETH=59
005	hf105	BS	QC789988	Water	223680	06/01/15 12:13	1.0	7 8 9 10 1	
006	hf106	BSD	QC789989	Water	223680	06/01/15 12:47	1.0	7 8 9 10 1	
007	hf107	X	CCV			06/01/15 13:20	1.0	1	
008	hf108	X	IB			06/01/15 13:54	1.0	1	
009	hf109	BLANK	QC789990	Water	223680	06/01/15 14:28	1.0	1	
010	hf110	SAMPLE	267026-004	Water	223680	06/01/15 15:02	1.0	1	
011	hf111	SAMPLE	267078-003	Water	223680	06/01/15 15:35	1.0	1	
012	hf112	SAMPLE	267078-002	Water	223680	06/01/15 16:09	1.0	1	
013	hf113	SAMPLE	267078-001	Water	223680	06/01/15 16:43	1.0	1	
014	hf114	SAMPLE	267103-001	Water	223680	06/01/15 17:17	1.0	1	
015	hf115	SAMPLE	267109-002	Water	223680	06/01/15 17:50	1.0	1	
016	hf116	SAMPLE	267110-005	Water	223680	06/01/15 18:24	1.0	1	
017	hf117	SAMPLE	267105-003	Water	223680	06/01/15 18:58	1.0	1	
018	hf118	SAMPLE	267110-002	Water	223680	06/01/15 19:31	1.0	1	combined (sediment)
019	hf119	SAMPLE	267026-006	Water	223680	06/01/15 20:05	2.0	1	foamer
020	hf120	SAMPLE	267105-001	Water	223680	06/01/15 20:38	2.0	1	
021	hf121	SAMPLE	267105-005	Water	223680	06/01/15 21:12	2.0	1	
022	hf122	SAMPLE	267105-002	Water	223680	06/01/15 21:46	2.500	1	
023	hf123	SAMPLE	267105-004	Water	223680	06/01/15 22:19	2.500	1	
024	hf124	X	IB			06/01/15 22:53	1.0	1	
025	hf125	X	IB			06/01/15 23:26	1.0	1	

DJA 06/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

DJA 06/02/15 : Matrix spikes were not performed for this analysis in batch 223680 due to insufficient sample amount.

Analyst: DJA Date: 06/02/15 Reviewer: LW Date: 06/02/15

Standards used: 1=S27244 2=S27180 3=S26360 4=S27172 5=S27151 6=S25155 7=S27177 8=S27022 9=S27179 10=S26672

Flags used: ?t=missing tune

MSVOA WATER Prepsheet

Dilutions prepared & pH of dilutions checked (initials/date): bd 6/11
For Undiluted samples, pH checked (initials/date): JW 6/11/15

Batch #: 223680
Prep Date: 6/11/15
Instrument: MS8

	Sample ID	Vial	pH <2	pH if >2	HS?	Dil'n flask ID	RR #	DF	Comments	20% ccv?	hold	due	$Rush
29 1	267026-4	B	✓					1x	TB				
2	-6	C	✓			2		2x	foamer				
29 3	267078-1	C	✓					1x					
4	-2	B	✓					↓					
5	-3	↓	✓										
29 6	267103-1		✓					1x					
30 7	267091-2	C	✓					1x					
30 8	677110-2	CD	✓					1x	combined due to sediment				
9	-5	C	✓					↓					
30 10	267105-1	A	✓			3		2x					
11	-2	|	✓			4		2.5x					
12	-3	|	✓					1x					
13	-4	|				5		2.5x					
14	-5	↓	✓			7		2x					
15													
16													
17													
18													
19													
20													
21													
22													

Laboratory Job Number 267026

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RW052315	Batch#:	223526
Lab ID:	267026-006	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/26/15
Diln Fac:	5.000	Analyzed:	05/27/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	49
Phenol	ND	49
bis(2-Chloroethyl)ether	ND	49
2-Chlorophenol	ND	49
1,3-Dichlorobenzene	ND	49
1,4-Dichlorobenzene	ND	49
Benzyl alcohol	ND	49
1,2-Dichlorobenzene	ND	49
2-Methylphenol	ND	49
bis(2-Chloroisopropyl) ether	ND	49
4-Methylphenol	ND	49
N-Nitroso-di-n-propylamine	ND	49
Hexachloroethane	ND	49
Nitrobenzene	ND	49
Isophorone	ND	49
2-Nitrophenol	ND	98
2,4-Dimethylphenol	ND	49
Benzoic acid	ND	250
bis(2-Chloroethoxy)methane	ND	49
2,4-Dichlorophenol	ND	49
1,2,4-Trichlorobenzene	ND	49
Naphthalene	ND	49
4-Chloroaniline	ND	49
Hexachlorobutadiene	ND	49
4-Chloro-3-methylphenol	ND	49
2-Methylnaphthalene	ND	49
Hexachlorocyclopentadiene	ND	98
2,4,6-Trichlorophenol	ND	49
2,4,5-Trichlorophenol	ND	49
2-Chloronaphthalene	ND	49
2-Nitroaniline	ND	98
Dimethylphthalate	ND	49
Acenaphthylene	ND	49
2,6-Dinitrotoluene	ND	49
3-Nitroaniline	ND	98
Acenaphthene	ND	49
2,4-Dinitrophenol	ND	98
4-Nitrophenol	ND	98
Dibenzofuran	ND	49
2,4-Dinitrotoluene	ND	49
Diethylphthalate	ND	49
Fluorene	ND	49
4-Chlorophenyl-phenylether	ND	49
4-Nitroaniline	ND	98
4,6-Dinitro-2-methylphenol	ND	98
N-Nitrosodiphenylamine	ND	49
Azobenzene	ND	49
4-Bromophenyl-phenylether	ND	49
Hexachlorobenzene	ND	49
Pentachlorophenol	ND	98
Phenanthrene	ND	49
Anthracene	ND	49
Di-n-butylphthalate	ND	49
Fluoranthene	ND	49

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Field ID:	RW052315	Batch#:	223526
Lab ID:	267026-006	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/26/15
Diln Fac:	5.000	Analyzed:	05/27/15

Analyte	Result	RL
Pyrene	ND	49
Butylbenzylphthalate	ND	49
3,3'-Dichlorobenzidine	ND	98
Benzo(a)anthracene	ND	49
Chrysene	ND	49
bis(2-Ethylhexyl)phthalate	ND	49
Di-n-octylphthalate	ND	49
Benzo(b)fluoranthene	ND	49
Benzo(k)fluoranthene	ND	49
Benzo(a)pyrene	ND	49
Indeno(1,2,3-cd)pyrene	ND	49
Dibenz(a,h)anthracene	ND	49
Benzo(g,h,i)perylene	ND	49

Surrogate	%REC	Limits
2-Fluorophenol	72	38-120
Phenol-d5	74	38-120
2,4,6-Tribromophenol	71	46-120
Nitrobenzene-d5	72	51-120
2-Fluorobiphenyl	65	54-120
Terphenyl-d14	40	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789368	Batch#:	223526
Matrix:	Water	Prepared:	05/26/15
Units:	ug/L	Analyzed:	05/27/15

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789368	Batch#:	223526
Matrix:	Water	Prepared:	05/26/15
Units:	ug/L	Analyzed:	05/27/15

Analyte	Result	RL
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	72	38-120
Phenol-d5	80	38-120
2,4,6-Tribromophenol	70	46-120
Nitrobenzene-d5	76	51-120
2-Fluorobiphenyl	63	54-120
Terphenyl-d14	66	21-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	223526
Units:	ug/L	Prepared:	05/26/15
Diln Fac:	1.000	Analyzed:	05/27/15

Type: BS Lab ID: QC789369

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	66.50	83	46-120
2-Chlorophenol	80.00	63.13	79	48-120
1,4-Dichlorobenzene	80.00	58.89	74	52-120
N-Nitroso-di-n-propylamine	80.00	71.66	90	46-120
1,2,4-Trichlorobenzene	80.00	56.86	71	53-120
4-Chloro-3-methylphenol	80.00	54.72	68	40-120
Acenaphthene	30.00	20.13	67	61-120
4-Nitrophenol	80.00	82.01	103	40-120
2,4-Dinitrotoluene	80.00	68.91	86	64-120
Pentachlorophenol	80.00	60.40	75	47-120
Pyrene	30.00	19.43	65	62-120

Surrogate	%REC	Limits
2-Fluorophenol	67	38-120
Phenol-d5	77	38-120
2,4,6-Tribromophenol	84	46-120
Nitrobenzene-d5	73	51-120
2-Fluorobiphenyl	63	54-120
Terphenyl-d14	61	21-120

Type: BSD Lab ID: QC789370

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	73.89	92	46-120	11	55
2-Chlorophenol	80.00	68.95	86	48-120	9	54
1,4-Dichlorobenzene	80.00	64.41	81	52-120	9	30
N-Nitroso-di-n-propylamine	80.00	76.58	96	46-120	7	25
1,2,4-Trichlorobenzene	80.00	61.15	76	53-120	7	26
4-Chloro-3-methylphenol	80.00	60.63	76	40-120	10	54
Acenaphthene	30.00	22.52	75	61-120	11	25
4-Nitrophenol	80.00	91.16	114	40-120	11	45
2,4-Dinitrotoluene	80.00	76.36	95	64-120	10	32
Pentachlorophenol	80.00	68.64	86	47-120	13	48
Pyrene	30.00	21.88	73	62-120	12	26

Surrogate	%REC	Limits
2-Fluorophenol	74	38-120
Phenol-d5	86	38-120
2,4,6-Tribromophenol	93	46-120
Nitrobenzene-d5	79	51-120
2-Fluorobiphenyl	68	54-120
Terphenyl-d14	68	21-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA07 Run Name : DFTPP/PEM IDF : 1.0
Seqnum : 565140315004 File : zd704 Time : 07-APR-2015 12:07

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	206958	57.41	
68	< 2% of mass 69	0	0.00	
69		179733	100.00	
70	< 2% of mass 69	1034	0.58	
127	40% - 60% of mass 198	206101	57.17	
197	< 1% of mass 198	1203	0.33	
198		360512	100.00	
199	5% - 9% of mass 198	24250	6.73	
275	10% - 30% of mass 198	89637	24.86	
365	> 1% of mass 198	8308	2.30	
441	Present, < mass 443	34890	95.68	
442	> 40% and < 100% of mass 198	192320	53.35	
443	17% - 23% of mass 442	36464	18.96	

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

PEM Report

File Name : G:\msbna07\040715\ZD704.D
Date Acquired : 7 Apr 2015 12:07 pm
Sample Name : TUN,S26814
Misc. Info : DFTPP/PEM
Calib. Title : MSBNA07 BNA DFTPP/PEM
Inst. Name : MSBNA07
AcquisitionMeth: DFTPP07.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	0.917	5.42	394816
Benzidine	0.739	7.27	2814268
4,4'-DDT		8.30	1488711
4,4'-DDE		7.51	2586
4,4'-DDD		7.93	31993

% Breakdown: 4,4'-DDT	LIMIT <=20%	2%	PASS
Tailing: Pentachlorophenol	8270C <5.0	0.9	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.7	PASS
	8270D <=2	1	PASS

Tue Apr 07 12:26:26 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA07 Run Name : DFTPP/PEM IDF : 1.0
Seqnum : 565212348002 File : zer02 Time : 27-MAY-2015 11:37

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	154613	56.16	
68	< 2% of mass 69	0	0.00	
69		157456	100.00	
70	< 2% of mass 69	766	0.49	
127	40% - 60% of mass 198	162837	59.14	
197	< 1% of mass 198	1054	0.38	
198		275328	100.00	
199	5% - 9% of mass 198	17818	6.47	
275	10% - 30% of mass 198	69117	25.10	
365	> 1% of mass 198	6225	2.26	
441	Present, < mass 443	28202	93.29	
442	> 40% and < 100% of mass 198	159701	58.00	
443	17% - 23% of mass 442	30229	18.93	

Analyst: KMH Date: 05/27/15 Reviewer: LW Date: 05/28/15

PEM Report

File Name : G:\msbna07\052715\ZER02.D
Date Acquired : 27 May 2015 11:37 am
Sample Name : TUN,S26814
Misc. Info : DFTPP/PEM
Calib. Title : MSBNA07 BNA DFTPP/PEM
Inst. Name : MSBNA07
AcquisitionMeth: DFTPP07.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.092	5.23	331976
Benzidine	0.639	7.08	2435283
4,4'-DDT		8.10	1101364
4,4'-DDE		7.32	1768
4,4'-DDD		7.73	30406

% Breakdown: 4,4'-DDT	LIMIT <=20%	3%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.1	PASS
	8270D <=2	1	PASS
Tailing: Benzidine	8270C <3.0	0.6	PASS
	8270D <=2	1	PASS

Wed May 27 11:50:20 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA09 Run Name : DFTPP IDF : 1.0
Seqnum : 585053925006 File : rb606 Time : 06-FEB-2015 13:30

Standards: S26170

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	185035	37.05	
68	< 2% of mass 69	0	0.00	
69		189077	100.00	
70	< 2% of mass 69	969	0.51	
127	40% - 60% of mass 198	222400	44.53	
197	< 1% of mass 198	0	0.00	
198		499477	100.00	
199	5% - 9% of mass 198	32802	6.57	
275	10% - 30% of mass 198	144805	28.99	
365	> 1% of mass 198	14227	2.85	
441	Present, < mass 443	70312	79.48	
442	> 40% and < 100% of mass 198	468480	93.79	
443	17% - 23% of mass 442	88464	18.88	

Analyst: KMH Date: 02/06/15 Reviewer: LW Date: 02/11/15

PEM Report

File Name : G:\msbna09\020615\RB606.D
Date Acquired : 6 Feb 2015 1:30 pm
Sample Name : TUN,S26170
Misc. Info : DFTPP
Calib. Title : MSBNA09 BNA DFTPP/PEM
Inst. Name : MSBNA09
AcquisitionMeth: DFTPP09.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.820	5.07	858800
Benzidine	0.705	6.94	4670113
4,4'-DDT		7.96	2623321
4,4'-DDE		7.17	3146
4,4'-DDD		7.59	36229

% Breakdown: 4,4'-DDT	LIMIT <=20%	1%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.8	PASS
	8270D <=2	2	PASS
Tailing: Benzidine	8270C <3.0	0.7	PASS
	8270D <=2	1	PASS

Fri Feb 06 13:39:38 2015

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA09 Run Name : DFTPP IDF : 1.0
Seqnum : 585212327002 File : rer02 Time : 27-MAY-2015 11:14

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	177157	42.39	
68	< 2% of mass 69	0	0.00	
69		186176	100.00	
70	< 2% of mass 69	1047	0.56	
127	40% - 60% of mass 198	206314	49.37	
197	< 1% of mass 198	0	0.00	
198		417898	100.00	
199	5% - 9% of mass 198	28152	6.74	
275	10% - 30% of mass 198	123538	29.56	
365	> 1% of mass 198	17004	4.07	
441	Present, < mass 443	63965	82.95	
442	> 40% and < 100% of mass 198	393066	94.06	
443	17% - 23% of mass 442	77117	19.62	

Analyst: NPM Date: 05/28/15 Reviewer: LW Date: 05/28/15

PEM Report

File Name : G:\msbna09\052715\RER02.D
Date Acquired : 27 May 2015 11:14 am
Sample Name : TUN,S26814
Misc. Info : DFTPP
Calib. Title : MSBNA09 BNA DFTPP/PEM
Inst. Name : MSBNA09
AcquisitionMeth: DFTPP09.M

Compound Name	Tailing Factor	RT	Area
Pentachlorophenol	1.567	4.87	423943
Benzidine	1.059	6.72	2992815
4,4'-DDT		7.73	2270402
4,4'-DDE		6.95	3751
4,4'-DDD		7.37	19199

% Breakdown: 4,4'-DDT	LIMIT <=20%	1%	PASS
Tailing: Pentachlorophenol	8270C <5.0	1.6	PASS
	8270D <=2	2	PASS
Tailing: Benzidine	8270C <3.0	1.1	PASS
	8270D <=2	1	PASS

Wed May 27 11:22:50 2015

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 MSBNA Water: EPA 8270C

Inst : MSBNA07
Calnum : 565140315001
Units : ug/mL

Name : 6PTBNA7
Date : 07-APR-2015 12:33
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	zd705	565140315005	ICAL	07-APR-2015 12:33	S26474
L2	zd706	565140315006	ICAL	07-APR-2015 13:11	S26475
L3	zd707	565140315007	ICAL	07-APR-2015 13:48	S26476
L4	zd708	565140315008	ICAL	07-APR-2015 14:26	S26477
L5	zd709	565140315009	ICAL	07-APR-2015 15:02	S26478
L6	zd710	565140315010	ICAL	07-APR-2015 15:39	S26479
L7	zd711	565140315011	ICAL	07-APR-2015 16:16	S26480
L8	zd712	565140315012	ICAL	07-APR-2015 16:54	S26481
L9	zd713	565140315013	ICAL	07-APR-2015 17:32	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.7375	0.7477	0.7664	0.7782	0.7711	0.7897	0.7860	0.7971	AVRG		1.29584		0.7717	3	15	0.05	0.99	
Phenol		1.8590	1.8750	1.9084	1.9116	1.8859	1.9174	1.9073	1.9121	AVRG		0.52712		1.8971	1	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.4657	1.4423	1.4598	1.4642	1.4271	1.4174	1.3952	1.4581m	AVRG		0.69385		1.4412	2	15	0.05	0.99	
2-Chlorophenol		1.5570	1.5602	1.5821	1.5806	1.5578	1.5655	1.5407	1.5318	AVRG		0.64124		1.5595	1	15	0.05	0.99	
1,3-Dichlorobenzene		1.6814	1.6753	1.6759	1.6575	1.6193	1.5887	1.5464	1.5151	AVRG		0.61730		1.6200	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.7245	1.7074	1.6803	1.6647	1.6234	1.5768	1.5304	1.4713	AVRG		0.61639		1.6224	6	15	0.05	0.99	
Benzyl alcohol		0.9861	1.0029	1.0370	1.0270	1.0147	1.0252	1.0147	1.0160	AVRG		0.98478		1.0155	2	15	0.05	0.99	
1,2-Dichlorobenzene		1.6032	1.5855	1.5864	1.5546	1.5287	1.4743	1.4349	1.3944	AVRG		0.65779		1.5202	5	15	0.05	0.99	
2-Methylphenol		1.2295	1.2453	1.2604	1.2434	1.2028	1.1864	1.1578	1.1256	AVRG		0.82891		1.2064	4	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		2.4080	2.3839	2.4429	2.4292	2.3680	2.3717	2.3266	2.2797	AVRG		0.42083		2.3762	2	15	0.05	0.99	
4-Methylphenol		1.7974	1.7747	1.7943	1.7771	1.7369	1.7518			AVRG		0.56432		1.7720	1	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7868	0.7883	0.8074	0.7844	0.7805	0.7853	0.7760	0.7880	AVRG		1.27051		0.7871	1	15	0.050	0.99	
Hexachloroethane		0.5994	0.5999	0.6133	0.6072	0.5938	0.5867	0.5695	0.5567	AVRG		1.69256		0.5908	3	15	0.05	0.99	
Nitrobenzene		0.3599	0.3652	0.3682	0.3672	0.3604	0.3623	0.3572	0.3565	AVRG		2.76156		0.3621	1	15	0.05	0.99	
Isophorone		0.6753	0.6840	0.7078	0.7036	0.6929	0.7120	0.7028		AVRG		1.43488		0.6969	2	15	0.05	0.99	
2-Nitrophenol			0.2170m	0.2248	0.2225	0.2218	0.2234	0.2150	0.2147	AVRG		4.54756		0.2199	2	15	0.05	0.99	
2,4-Dimethylphenol		0.3436m	0.3397m	0.3473m	0.3372m	0.3299m	0.3333m	0.3280m	0.3298m	AVRG		2.97535		0.3361	2	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4183	0.4295	0.4255	0.4192	0.4188	0.4113	0.4171	AVRG		2.38122		0.4200	1	15	0.05	0.99	
Benzoic acid		0.2342	0.2357	0.2550	0.2551	0.2536	0.2518	0.2492	0.2529	AVRG		4.02506		0.2484	3	15	0.05	0.99	
2,4-Dichlorophenol		0.2943	0.2991	0.3005	0.2973	0.2908	0.2810	0.2712	0.2704	AVRG		3.47140		0.2881	4	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3021	0.3065	0.3053	0.3024	0.2956	0.2880	0.2758	0.2703	AVRG		3.40990		0.2933	5	15	0.05	0.99	
Naphthalene	1.1676	1.1573	1.1602	1.1576	1.1384	1.1116	1.0750	1.0425	1.0311	AVRG		0.89631		1.1157	5	15	0.05	0.99	
4-Chloroaniline		0.3048	0.4617	0.4755	0.4696m	0.4586	0.4537			LINR	0.96143	2.14419		0.4373	0.996	15	0.05	0.99	
Hexachlorobutadiene		0.1436	0.1491	0.1498	0.1477	0.1442	0.1403	0.1341	0.1304	AVRG		7.02285		0.1424	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.2983	0.3071	0.3125	0.3067	0.3027	0.3045	0.2947	0.2940	AVRG		3.30519		0.3026	2	15	0.05	0.99	
2-Methylnaphthalene	0.7348	0.7296	0.7444	0.7476	0.7335	0.7148	0.7085	0.6797	0.6775	AVRG		1.39095		0.7189	4	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3173	0.3298	0.3311	0.3256	0.3332	0.3267	0.3186	AVRG		3.06705		0.3260	2	15	0.050	0.99	
2,4,6-Trichlorophenol		0.3975	0.4016	0.4053	0.4061	0.4062	0.3931	0.3834	0.3752	AVRG		2.52485		0.3961	3	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4198	0.4276	0.4347	0.4360	0.4296	0.4092	0.3945	0.3843	AVRG		2.39837		0.4169	5	15	0.05	0.99	
2-Chloronaphthalene			1.3072	1.3073	1.2955	1.2712	1.2484	1.2261	1.2117	AVRG		0.78942		1.2668	3	15	0.05	0.99	
2-Nitroaniline			0.3954	0.4032	0.4045	0.4031	0.4073	0.4100	0.4175	AVRG		2.46400		0.4058	2	15	0.05	0.99	
Dimethylphthalate		1.5121	1.4820	1.4842	1.4640	1.4467	1.3965	1.3701	1.3522	AVRG		0.69518		1.4385	4	15	0.05	0.99	
2,6-Dinitrotoluene		0.3568	0.3664	0.3725	0.3732	0.3708	0.3647	0.3601	0.3600	AVRG		2.73554		0.3656	2	15	0.05	0.99	
Acenaphthylene	2.1973	2.2286	2.2024	2.2505	2.2190	2.1867	2.1176	2.0945	2.0451	AVRG		0.46055		2.1713	3	15	0.05	0.99	
3-Nitroaniline			0.3178	0.4018m	0.4314	0.4230	0.4355	0.4409	0.4435	AVRG		2.41881		0.4134	11	15	0.05	0.99	
Acenaphthene	1.3255	1.3892	1.3354	1.3489	1.3220	1.2859	1.2422	1.2406	1.2143	AVRG		0.76897		1.3004	4	15	0.05	0.99	
2,4-Dinitrophenol			0.1581	0.2018	0.2190	0.2255	0.2350	0.2438	0.2370	AVRG		4.60454		0.2172	14	15	0.050	0.99	
4-Nitrophenol			0.1323	0.1406	0.1421	0.1431	0.1453	0.1476	0.1490	AVRG		7.00013		0.1429	4	15	0.050	0.99	
Dibenzofuran			1.8401	1.8617	1.8569	1.8077	1.7350	1.6812	1.6145	AVRG		0.56465		1.7710	5	15	0.05	0.99	
2,4-Dinitrotoluene		0.4678	0.4673	0.4752	0.4743	0.4740	0.4581	0.4462	0.4315	AVRG		2.16539		0.4618	3	15	0.05	0.99	
Diethylphthalate			1.4869	1.5005	1.4914	1.4708	1.4256	1.4056	1.3820	AVRG		0.68878		1.4518	3	15	0.05	0.99	
Fluorene	1.5539	1.5723	1.5525	1.5518	1.5381	1.5078	1.4531	1.4292	1.4071	AVRG		0.66344		1.5073	4	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.6846	0.6994	0.6969	0.6870	0.6665	0.6428	0.6299	AVRG		1.48711		0.6724	4	15	0.05	0.99	
4-Nitroaniline			0.3216m	0.3968m	0.4050	0.4151	0.4151	0.4114	0.4027m	AVRG		2.52917		0.3954	8	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1445	0.1626	0.1658	0.1663	0.1660	0.1666	0.1646	AVRG		6.15931		0.1624	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.6401	0.6592	0.6464	0.6351	0.6243	0.6144	0.6064	AVRG		1.58159		0.6323	3	15	0.05	0.99	
Azobenzene			0.8350	0.8516	0.8518	0.8371	0.8349	0.8413	0.8329	AVRG		1.18957		0.8406	1	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2169	0.2263	0.2267	0.2216	0.2196	0.2179	0.2140	AVRG		4.53682		0.2204	2	15	0.05	0.99	
Hexachlorobenzene		0.2044	0.2182	0.2310	0.2316	0.2276	0.2248	0.2207	0.2157	AVRG		4.50988		0.2217	4	15	0.05	0.99	
Pentachlorophenol			0.1208	0.1461	0.1506	0.1521	0.1571	0.1566	0.1571	AVRG		6.72789		0.1486	9	15	0.05	0.99	
Phenanthrene	1.2385	1.2045	1.1769	1.1983	1.1738	1.1577	1.1170	1.0886	1.0778	AVRG		0.86264		1.1592	5	15	0.05	0.99	
Anthracene	1.2295	1.2171	1.2035	1.2011	1.1925	1.1616	1.1153	1.0991	1.0792	AVRG		0.85724		1.1665	5	15	0.05	0.99	
Di-n-butylphthalate			1.4507	1.5047	1.4851	1.4647	1.4371	1.4053	1.3861	AVRG		0.69076		1.4477	3	15	0.05	0.99	
Fluoranthene	1.2261	1.2334	1.2573	1.2961	1.2897	1.2657	1.2439	1.2376	1.2212	AVRG		0.79852		1.2523	2	15	0.05	0.99	
Pyrene	1.4519	1.4502	1.4283	1.4728	1.4595	1.4469	1.4444	1.4266	1.4316	AVRG		0.69166		1.4458	1	15	0.05	0.99	
Butylbenzylphthalate			0.6538	0.6945	0.6997	0.6930	0.7053	0.7062	0.7230	AVRG		1.43574		0.6965	3	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.3472	0.4150	0.4293	0.4390	0.4520	0.4523	0.4473	AVRG		2.34736		0.4260	9	15	0.05	0.99	
Benzo(a)anthracene	1.2743	1.2592	1.2206	1.2496	1.2449	1.2541	1.2462	1.2428	1.2434	AVRG		0.80106		1.2483	1	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.9520	0.9885	0.9923	0.9769	0.9274	0.8808	0.8481	AVRG		1.06610		0.9380	6	15	0.05	0.99	
Chrysene	1.1884	1.1751	1.1600	1.1743	1.1569	1.1501	1.1257	1.1119	1.1004	AVRG		0.87016		1.1492	3	15	0.05	0.99	
Di-n-octylphthalate			1.6722	1.7769	1.8008	1.8006	1.8133	1.8264	1.8603	AVRG		0.55775		1.7929	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.1210	1.1538	1.1685	1.2386	1.2475	1.2697	1.3255	1.3655	1.4505	AVRG		0.79362		1.2601	8	15	0.05	0.99	
Benzo(k)fluoranthene	1.0654	1.0895	1.1527	1.1816	1.2144	1.2011	1.1624	1.1320m	1.0939m	AVRG		0.87438		1.1437	5	15	0.05	0.99	
Benzo(a)pyrene	1.0251	1.0880	1.1340	1.1966	1.2204	1.2192	1.2334	1.2388	1.2625	AVRG		0.84762		1.1798	7	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0611	1.1031	1.1831	1.2824	1.3300	1.3498	1.4034	1.4228	1.4551	AVRG		0.77648		1.2879	11	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8817	0.9473	1.0221	1.1155	1.1584	1.1778	1.2138	1.2271	1.2491	AVRG		0.90066		1.1103	12	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9389	0.9117	0.9253	1.0479	1.0821	1.1045	1.1337	1.1415	1.1625	AVRG		0.95256		1.0498	9	15	0.05	0.99	
2-Fluorophenol	1.3661	1.4102	1.4704	1.4958	1.5149	1.5010	1.5538	1.5532	1.5616	AVRG		0.67029		1.4919	4	15	0.05	0.99	
Phenol-d5	1.7101	1.7796	1.8056	1.8393	1.8648	1.8506	1.8874	1.8640	1.8866	AVRG		0.54585		1.8320	3	15	0.05	0.99	
Nitrobenzene-d5	0.3862	0.3865	0.3993	0.4143	0.4110	0.4058	0.4131	0.4048	0.4053	AVRG		2.48194		0.4029	3	15	0.05	0.99	
2-Fluorobiphenyl	1.7497	1.7452	1.6976	1.6886	1.6738	1.6355	1.5788	1.5359	1.4987	AVRG		0.60796		1.6449	5	15	0.05	0.99	
2,4,6-Tribromophenol	0.1228	0.1422	0.1576	0.1759	0.1831	0.1833	0.1902	0.1908	0.1878	AVRG		5.86862		0.1704	14	15	0.05	0.99	
Terphenyl-d14	1.0068	1.0370	1.0266	1.0802	1.0931	1.0817	1.0778	1.0718	1.0714	AVRG		0.94276		1.0607	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-4	20.000	-3	32.000	-1	40.000	1	50.000	0	80.000	2	100.00	2	120.00	3
Phenol			10.000	-2	20.000	-1	32.000	1	40.000	1	50.000	-1	80.000	1	100.00	1	120.00	1
bis(2-Chloroethyl)ether			10.000	2	20.000	0	32.000	1	40.000	2	50.000	-1	80.000	-2	100.00	-3	120.00	1
2-Chlorophenol			10.000	0	20.000	0	32.000	1	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-2
1,3-Dichlorobenzene			10.000	4	20.000	3	32.000	3	40.000	2	50.000	0	80.000	-2	100.00	-5	120.00	-6
1,4-Dichlorobenzene			10.000	6	20.000	5	32.000	4	40.000	3	50.000	0	80.000	-3	100.00	-6	120.00	-9
Benzyl alcohol			10.000	-3	20.000	-1	32.000	2	40.000	1	50.000	0	80.000	1	100.00	0	120.00	0
1,2-Dichlorobenzene			10.000	5	20.000	4	32.000	4	40.000	2	50.000	1	80.000	-3	100.00	-6	120.00	-8
2-Methylphenol			10.000	2	20.000	3	32.000	4	40.000	3	50.000	0	80.000	-2	100.00	-4	120.00	-7
bis(2-Chloroisopropyl) ether			10.000	1	20.000	0	32.000	3	40.000	2	50.000	0	80.000	0	100.00	-2	120.00	-4
4-Methylphenol			10.000	1	20.000	0	32.000	1	40.000	0	50.000	-2	80.000	-1				
N-Nitroso-di-n-propylamine			10.000	0	20.000	0	32.000	3	40.000	0	50.000	-1	80.000	0	100.00	-1	120.00	0
Hexachloroethane			10.000	1	20.000	2	32.000	4	40.000	3	50.000	1	80.000	-1	100.00	-4	120.00	-6
Nitrobenzene			10.000	-1	20.000	1	32.000	2	40.000	1	50.000	0	80.000	0	100.00	-1	120.00	-2
Isophorone			10.000	-3	20.000	-2	32.000	2	40.000	1	50.000	-1	80.000	2	100.00	1		
2-Nitrophenol					20.000	-1	32.000	2	40.000	1	50.000	1	80.000	2	100.00	-2	120.00	-2
2,4-Dimethylphenol			10.000	2	20.000	1	32.000	3	40.000	0	50.000	-2	80.000	-1	100.00	-2	120.00	-2
bis(2-Chloroethoxy)methane					10.000	0	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-2	60.000	-1
Benzoic acid			50.000	-6	60.000	-5	80.000	3	90.000	3	100.00	2	120.00	1	130.00	0	140.00	2
2,4-Dichlorophenol			10.000	2	20.000	4	32.000	4	40.000	3	50.000	1	80.000	-2	100.00	-6	120.00	-6
1,2,4-Trichlorobenzene			10.000	3	20.000	5	32.000	4	40.000	3	50.000	1	80.000	-2	100.00	-6	120.00	-8
Naphthalene	2.0000	5	5.0000	4	10.000	4	16.000	4	20.000	2	25.000	0	40.000	-4	50.000	-7	60.000	-8
4-Chloroaniline			10.000	**-25**	20.000	4	32.000	5	40.000	3	50.000	0	80.000	-2				
Hexachlorobutadiene			10.000	1	20.000	5	32.000	5	40.000	4	50.000	1	80.000	-1	100.00	-6	120.00	-8
4-Chloro-3-methylphenol			10.000	-1	20.000	1	32.000	3	40.000	1	50.000	0	80.000	1	100.00	-3	120.00	-3
2-Methylnaphthalene	2.0000	2	5.0000	1	10.000	4	16.000	4	20.000	2	25.000	-1	40.000	-1	50.000	-5	60.000	-6
Hexachlorocyclopentadiene					20.000	-3	32.000	1	40.000	2	50.000	0	80.000	2	100.00	0	120.00	-2
2,4,6-Trichlorophenol			10.000	0	20.000	1	32.000	2	40.000	3	50.000	3	80.000	-1	100.00	-3	120.00	-5
2,4,5-Trichlorophenol			10.000	1	20.000	3	32.000	4	40.000	5	50.000	3	80.000	-2	100.00	-5	120.00	-8
2-Chloronaphthalene					10.000	3	16.000	3	20.000	2	25.000	0	40.000	-1	50.000	-3	60.000	-4
2-Nitroaniline					20.000	-3	32.000	-1	40.000	0	50.000	-1	80.000	0	100.00	1	120.00	3
Dimethylphthalate			10.000	5	20.000	3	32.000	3	40.000	2	50.000	1	80.000	-3	100.00	-5	120.00	-6
2,6-Dinitrotoluene			10.000	-2	20.000	0	32.000	2	40.000	2	50.000	1	80.000	0	100.00	-2	120.00	-2
Acenaphthylene	2.0000	1	5.0000	3	10.000	1	16.000	4	20.000	2	25.000	1	40.000	-2	50.000	-4	60.000	-6
3-Nitroaniline					20.000	**-23**	32.000	-3	40.000	4	50.000	2	80.000	5	100.00	7	120.00	7
Acenaphthene	2.0000	2	5.0000	7	10.000	3	16.000	4	20.000	2	25.000	-1	40.000	-4	50.000	-5	60.000	-7
2,4-Dinitrophenol					20.000	**-27**	32.000	-7	40.000	1	50.000	4	80.000	8	100.00	12	120.00	9
4-Nitrophenol					20.000	-7	32.000	-2	40.000	-1	50.000	0	80.000	2	100.00	3	120.00	4
Dibenzofuran					10.000	4	16.000	5	20.000	5	25.000	2	40.000	-2	50.000	-5	60.000	-9
2,4-Dinitrotoluene			10.000	1	20.000	1	32.000	3	40.000	3	50.000	3	80.000	-1	100.00	-3	120.00	-7
Diethylphthalate					10.000	2	16.000	3	20.000	3	25.000	1	40.000	-2	50.000	-3	60.000	-5
Fluorene	2.0000	3	5.0000	4	10.000	3	16.000	3	20.000	2	25.000	0	40.000	-4	50.000	-5	60.000	-7

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	2	16.000	4	20.000	4	25.000	2	40.000	-1	50.000	-4	60.000	-6
4-Nitroaniline					20.000	-19	32.000	0	40.000	2	50.000	5	80.000	5	100.00	4	120.00	2
4,6-Dinitro-2-methylphenol					20.000	-11	32.000	0	40.000	2	50.000	2	80.000	2	100.00	3	120.00	1
N-Nitrosodiphenylamine					10.000	1	16.000	4	20.000	2	25.000	0	40.000	-1	50.000	-3	60.000	-4
Azobenzene					10.000	-1	16.000	1	20.000	1	25.000	0	40.000	-1	50.000	0	60.000	-1
4-Bromophenyl-phenylether					10.000	-2	16.000	3	20.000	3	25.000	1	40.000	0	50.000	-1	60.000	-3
Hexachlorobenzene			10.000	-8	20.000	-2	32.000	4	40.000	4	50.000	3	80.000	1	100.00	0	120.00	-3
Pentachlorophenol					20.000	-19	32.000	-2	40.000	1	50.000	2	80.000	6	100.00	5	120.00	6
Phenanthrene	2.0000	7	5.0000	4	10.000	2	16.000	3	20.000	1	25.000	0	40.000	-4	50.000	-6	60.000	-7
Anthracene	2.0000	5	5.0000	4	10.000	3	16.000	3	20.000	2	25.000	0	40.000	-4	50.000	-6	60.000	-7
Di-n-butylphthalate					10.000	0	16.000	4	20.000	3	25.000	1	40.000	-1	50.000	-3	60.000	-4
Fluoranthene	2.0000	-2	5.0000	-2	10.000	0	16.000	3	20.000	3	25.000	1	40.000	-1	50.000	-1	60.000	-2
Pyrene	2.0000	0	5.0000	0	10.000	-1	16.000	2	20.000	1	25.000	0	40.000	0	50.000	-1	60.000	-1
Butylbenzylphthalate					10.000	-6	16.000	0	20.000	0	25.000	-1	40.000	1	50.000	1	60.000	4
3,3'-Dichlorobenzidine					20.000	-19	32.000	-3	40.000	1	50.000	3	80.000	6	100.00	6	120.00	5
Benzo(a)anthracene	2.0000	2	5.0000	1	10.000	-2	16.000	0	20.000	0	25.000	0	40.000	0	50.000	0	60.000	0
bis(2-Ethylhexyl)phthalate					10.000	1	16.000	5	20.000	6	25.000	4	40.000	-1	50.000	-6	60.000	-10
Chrysene	2.0000	3	5.0000	2	10.000	1	16.000	2	20.000	1	25.000	0	40.000	-2	50.000	-3	60.000	-4
Di-n-octylphthalate					10.000	-7	16.000	-1	20.000	0	25.000	0	40.000	1	50.000	2	60.000	4
Benzo(b)fluoranthene	2.0000	-11	5.0000	-8	10.000	-7	16.000	-2	20.000	-1	25.000	1	40.000	5	50.000	8	60.000	15
Benzo(k)fluoranthene	2.0000	-7	5.0000	-5	10.000	1	16.000	3	20.000	6	25.000	5	40.000	2	50.000	-1	60.000	-4
Benzo(a)pyrene	2.0000	-13	5.0000	-8	10.000	-4	16.000	1	20.000	3	25.000	3	40.000	5	50.000	5	60.000	7
Indeno(1,2,3-cd)pyrene	2.0000	-18	5.0000	-14	10.000	-8	16.000	0	20.000	3	25.000	5	40.000	9	50.000	10	60.000	13
Dibenz(a,h)anthracene	2.0000	**-21**	5.0000	-15	10.000	-8	16.000	0	20.000	4	25.000	6	40.000	9	50.000	11	60.000	12
Benzo(g,h,i)perylene	2.0000	-11	5.0000	-13	10.000	-12	16.000	0	20.000	3	25.000	5	40.000	8	50.000	9	60.000	11
2-Fluorophenol	2.0000	-8	5.0000	-5	10.000	-1	16.000	0	20.000	2	25.000	1	40.000	4	50.000	4	60.000	5
Phenol-d5	2.0000	-7	5.0000	-3	10.000	-1	16.000	0	20.000	2	25.000	1	40.000	3	50.000	2	60.000	3
Nitrobenzene-d5	2.0000	-4	5.0000	-4	10.000	-1	16.000	3	20.000	2	25.000	1	40.000	3	50.000	0	60.000	1
2-Fluorobiphenyl	2.0000	6	5.0000	6	10.000	3	16.000	3	20.000	2	25.000	-1	40.000	-4	50.000	-7	60.000	-9
2,4,6-Tribromophenol	2.0000	**-28**	5.0000	-17	10.000	-8	16.000	3	20.000	7	25.000	8	40.000	12	50.000	12	60.000	10
Terphenyl-d14	2.0000	-5	5.0000	-2	10.000	-3	16.000	2	20.000	3	25.000	2	40.000	2	50.000	1	60.000	1

KMH 04/08/15 [Pyridine]: Corrected automatically drawn baseline in multiple levels.

KMH 04/08/15 [Aniline]: Picked or reassigned peak in all levels.

KMH 04/08/15 [2-Nitrophenol]: Picked or reassigned peak in multiple levels.

KMH 04/08/15 [2,4-Dimethylphenol]: Picked or reassigned peak in multiple levels.

KMH 04/08/15 [4-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

KMH 04/08/15 [3-Nitroaniline]: Corrected automatically drawn baseline in ICAL (zd708).

KMH 04/08/15 [4-Chloroaniline]: Corrected automatically drawn baseline in ICAL (zd709).

KMH 04/08/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in ICAL (zd712).

KMH 04/08/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [4-Methylphenol]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [Resorcinol]: Corrected automatically drawn baseline in ICAL (zd713).

KMH 04/08/15 [4-Nitroaniline]: Picked or reassigned peak in ICAL (zd713).

KMH 04/08/15 [Benzo(k)fluoranthene]: Picked or reassigned peak in ICAL (zd713).

NPM 05/19/15 : Failing PCP low, cut 2 loops.

KMH 05/29/15 : cut 2 loops to improve pcp

KMH 05/30/15 : cut 2 loops for pcp

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

565140315001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA07 Name : 6PTBNA7
Calnum : 565140315001 Cal Date : 07-APR-2015

ICV 565140315014 (zd714 07-APR-2015) stds: S26696

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	38.46	ug/mL	-4	30	
Phenol	40.00	38.97	ug/mL	-3	20	
bis(2-Chloroethyl)ether	40.00	39.22	ug/mL	-2	30	
2-Chlorophenol	40.00	39.26	ug/mL	-2	30	
1,3-Dichlorobenzene	40.00	39.34	ug/mL	-2	30	
1,4-Dichlorobenzene	40.00	39.25	ug/mL	-2	20	
Benzyl alcohol	40.00	39.02	ug/mL	-2	30	
1,2-Dichlorobenzene	40.00	39.72	ug/mL	-1	30	
2-Methylphenol	40.00	39.43	ug/mL	-1	30	
bis(2-Chloroisopropyl) ether	40.00	38.97	ug/mL	-3	30	
4-Methylphenol	40.00	35.07	ug/mL	-12	30	
N-Nitroso-di-n-propylamine	40.00	38.10	ug/mL	-5	30	
Hexachloroethane	40.00	38.75	ug/mL	-3	30	
Nitrobenzene	40.00	38.35	ug/mL	-4	30	
Isophorone	40.00	38.34	ug/mL	-4	30	
2-Nitrophenol	40.00	38.53	ug/mL	-4	20	
2,4-Dimethylphenol	40.00	37.87	ug/mL	-5	30	m
bis(2-Chloroethoxy)methane	40.00	37.97	ug/mL	-5	30	
Benzoic acid	100.0	101.3	ug/mL	1	40	
2,4-Dichlorophenol	40.00	39.28	ug/mL	-2	20	
1,2,4-Trichlorobenzene	40.00	39.89	ug/mL	0	30	
Naphthalene	40.00	36.68	ug/mL	-8	30	
4-Chloroaniline	40.00	37.71	ug/mL	-6	30	
Hexachlorobutadiene	40.00	38.91	ug/mL	-3	20	
4-Chloro-3-methylphenol	40.00	38.52	ug/mL	-4	20	
2-Methylnaphthalene	40.00	37.72	ug/mL	-6	30	
Hexachlorocyclopentadiene	40.00	34.50	ug/mL	-14	40	
2,4,6-Trichlorophenol	40.00	38.51	ug/mL	-4	20	
2,4,5-Trichlorophenol	40.00	38.40	ug/mL	-4	30	
2-Chloronaphthalene	40.00	37.63	ug/mL	-6	30	
2-Nitroaniline	40.00	37.31	ug/mL	-7	30	
Dimethylphthalate	40.00	38.39	ug/mL	-4	30	
2,6-Dinitrotoluene	40.00	38.89	ug/mL	-3	30	
Acenaphthylene	40.00	37.25	ug/mL	-7	30	
3-Nitroaniline	40.00	36.95	ug/mL	-8	30	
Acenaphthene	40.00	37.04	ug/mL	-7	20	
2,4-Dinitrophenol	40.00	36.60	ug/mL	-8	40	
4-Nitrophenol	40.00	37.76	ug/mL	-6	40	
Dibenzofuran	40.00	37.95	ug/mL	-5	30	
2,4-Dinitrotoluene	40.00	39.03	ug/mL	-2	30	
Diethylphthalate	40.00	36.36	ug/mL	-9	30	
Fluorene	40.00	36.92	ug/mL	-8	30	
4-Chlorophenyl-phenylether	40.00	37.01	ug/mL	-7	40	
4-Nitroaniline	40.00	37.42	ug/mL	-6	30	
4,6-Dinitro-2-methylphenol	40.00	37.67	ug/mL	-6	30	
N-Nitrosodiphenylamine	40.00	42.65	ug/mL	7	20	
Azobenzene	40.00	37.24	ug/mL	-7	30	
4-Bromophenyl-phenylether	40.00	37.86	ug/mL	-5	30	
Hexachlorobenzene	40.00	38.81	ug/mL	-3	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	37.81	ug/mL	-5	20	
Phenanthrene	40.00	36.85	ug/mL	-8	30	
Anthracene	40.00	37.02	ug/mL	-7	30	
Di-n-butylphthalate	40.00	37.32	ug/mL	-7	30	
Fluoranthene	40.00	37.91	ug/mL	-5	20	
Pyrene	40.00	35.97	ug/mL	-10	30	
Butylbenzylphthalate	40.00	38.98	ug/mL	-3	30	
3,3'-Dichlorobenzidine	60.00	58.14	ug/mL	-3	40	
Benzo(a)anthracene	40.00	38.57	ug/mL	-4	30	
bis(2-Ethylhexyl)phthalate	40.00	39.13	ug/mL	-2	30	
Chrysene	40.00	37.09	ug/mL	-7	30	
Di-n-octylphthalate	40.00	38.11	ug/mL	-5	20	
Benzo(b)fluoranthene	40.00	40.77	ug/mL	2	30	
Benzo(k)fluoranthene	40.00	40.67	ug/mL	2	30	
Benzo(a)pyrene	40.00	39.95	ug/mL	0	20	
Indeno(1,2,3-cd)pyrene	40.00	40.88	ug/mL	2	30	
Dibenz(a,h)anthracene	40.00	40.66	ug/mL	2	30	
Benzo(g,h,i)perylene	40.00	39.53	ug/mL	-1	30	

Analyst: KMH Date: 04/08/15 Reviewer: LW Date: 04/10/15

m=manual integration

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 MSBNA Water: EPA 8270C

Inst : MSBNA09
Calnum : 585053925002
Units : ug/mL

Name : 6PTBNA9
Date : 06-FEB-2015 13:54

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	rb607	585053925007	ICAL	06-FEB-2015 13:54	S26474
L2	rb608	585053925008	ICAL	06-FEB-2015 14:23	S26475
L3	rb609	585053925009	ICAL	06-FEB-2015 14:54	S26476
L4	rb610	585053925010	ICAL	06-FEB-2015 15:24	S26477
L5	rb611	585053925011	ICAL	06-FEB-2015 15:54	S26478
L6	rb612	585053925012	ICAL	06-FEB-2015 16:25	S26479
L7	rb613	585053925013	ICAL	06-FEB-2015 16:55	S26480
L8	rb614	585053925014	ICAL	06-FEB-2015 17:25	S26481
L9	rb615	585053925015	ICAL	06-FEB-2015 17:55	S26482

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
N-Nitrosodimethylamine		0.5659	0.6116	0.6205	0.6286	0.6165	0.6221	0.6278	0.6212	AVRG	R		1.62796		0.6143	3	15	0.05	0.99	
Phenol		1.4111	1.4798	1.5477	1.5174	1.4851	1.4738	1.4783	1.5165	AVRG	R		0.67172		1.4887	3	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.2224m	1.2259	1.2231	1.2056	1.1703	1.0945	1.0593	1.0449	AVRG	R		0.86524		1.1557	7	15	0.05	0.99	
2-Chlorophenol		1.3556	1.3872	1.4133	1.4070	1.3865	1.3515	1.3110	1.2874	AVRG	R		0.73398		1.3624	3	15	0.05	0.99	
1,3-Dichlorobenzene		1.5566m	1.5980m	1.5935m	1.6103m	1.5676m	1.5883m	1.5384m	1.5180m	AVRG	R		0.63640		1.5713	2	15	0.05	0.99	
1,4-Dichlorobenzene		1.6026m	1.6319m	1.6366m	1.6292m	1.6035m	1.5714m	1.5573m	1.5129m	AVRG	R		0.62768		1.5932	3	15	0.05	0.99	
Benzyl alcohol		0.7279	0.7142	0.6467	0.6583	0.7199	0.8953	0.9243		AVRG	R		1.32410		0.7552	15	15	0.05	0.99	
1,2-Dichlorobenzene		1.4752	1.4769	1.5022	1.4833	1.4783	1.4373	1.4027	1.3756	AVRG	R		0.68778		1.4539	3	15	0.05	0.99	
2-Methylphenol		1.0301	1.0146	0.9852	0.9268	0.9138	0.9505	0.9709	1.0118	AVRG	R		1.02515		0.9755	4	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		1.4729	1.4521	1.4219	1.3811	1.3006	1.2032	1.2018	1.2389	AVRG	R		0.74959		1.3341	8	15	0.05	0.99	
4-Methylphenol		1.4193	1.3496	1.2843	1.2882	1.3471	1.5711	1.6132	1.6609	AVRG	R		0.69362		1.4417	11	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.5627	0.5699	0.7300	0.8113	0.8431	0.9198	0.9327		LINR	R	7.20285	0.99905		0.7671	0.998	15	0.050	0.99	
Hexachloroethane		0.5640	0.5678	0.5803	0.5809	0.5731	0.5720	0.5563	0.5520	AVRG	R		1.75965		0.5683	2	15	0.05	0.99	
Nitrobenzene		0.3422	0.3499	0.3659	0.3603	0.3514	0.3513	0.3492	0.3540	AVRG	R		2.83253		0.3530	2	15	0.05	0.99	
Isophorone		0.6196	0.7268	0.8465	0.9041	0.9278	0.8666	0.8196	0.7906	AVRG	R		1.23047		0.8127	12	15	0.05	0.99	
2-Nitrophenol			0.1907	0.1932	0.1963	0.2077	0.2229	0.2199	0.2111	AVRG	R		4.85517		0.2060	6	15	0.05	0.99	
2,4-Dimethylphenol		0.3284	0.3174	0.3623	0.3974	0.4363	0.4350	0.4187	0.3969	AVRG	R		2.58688		0.3866	12	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.2959	0.3779	0.4411	0.5049	0.4934	0.4699	0.4540	LINR	R	2.14414	2.04112		0.4339	0.988	15	0.05	0.99	
Benzoic acid		0.1770	0.2231	0.2762	0.2924	0.3126	0.2889	0.2776	0.2669	QUAD	A	-26.711	0.83664	-0.00271	0.2644	0.996	15	0.05	0.99	
2,4-Dichlorophenol		0.3053	0.3029	0.3213	0.3405	0.3659	0.3622	0.3496	0.3312	AVRG	R		2.98630		0.3349	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.3580	0.3726	0.3901	0.3895	0.3735	0.3296	0.3072	0.2980	AVRG	R		2.83846		0.3523	10	15	0.05	0.99	
Naphthalene	1.0556	1.0491	1.0511	1.0814	1.0747	1.0873	1.0956	1.0811	1.0701	AVRG	R		0.93303		1.0718	2	15	0.05	0.99	
4-Chloroaniline		0.3291	0.4187	0.5288	0.5819	0.6124	0.5611	0.5281		LINR	R	1.65587	1.77825		0.5086	0.986	15	0.05	0.99	
Hexachlorobutadiene		0.2076	0.2157	0.2290	0.2316	0.2244	0.1879	0.1726	0.1648	AVRG	R		4.89735		0.2042	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
4-Chloro-3-methylphenol		0.3333	0.3749	0.4223	0.4515	0.4562	0.4194	0.3950	0.3697	AVRG	R		2.48278		0.4028	11	15	0.05	0.99	
2-Methylnaphthalene	0.6059	0.6121	0.6405	0.8268	0.9174	0.9761	0.9077	0.8665	0.8135	LINR	R	0.19575	1.15962		0.7963	0.989	15	0.05	0.99	
Hexachlorocyclopentadiene			0.3093	0.3377	0.3579	0.3938	0.4329	0.4266	0.4282	AVRG	R		2.60571		0.3838	13	15	0.050	0.99	
2,4,6-Trichlorophenol		0.3949	0.4279	0.4484	0.4477	0.4427	0.4467	0.4323	0.4394	AVRG	R		2.29884		0.4350	4	15	0.05	0.99	
2,4,5-Trichlorophenol		0.4514	0.4561	0.4861	0.4797	0.4820	0.4668	0.4580	0.4429	AVRG	R		2.14876		0.4654	3	15	0.05	0.99	
2-Chloronaphthalene			1.2042	1.2820	1.2930	1.2812	1.3034	1.2668	1.2760	AVRG	R		0.78594		1.2724	3	15	0.05	0.99	
2-Nitroaniline			0.3516	0.3683	0.3692	0.3681	0.3768	0.3770	0.3791	AVRG	R		2.70249		0.3700	3	15	0.05	0.99	
Dimethylphthalate		1.4754	1.4747	1.5400	1.5251	1.5196	1.5090	1.4576	1.4698	AVRG	R		0.66827		1.4964	2	15	0.05	0.99	
2,6-Dinitrotoluene		0.3458	0.3494	0.3634	0.3656	0.3679	0.3659	0.3550	0.3616	AVRG	R		2.78300		0.3593	2	15	0.05	0.99	
Acenaphthylene	1.9720	2.0320	2.0812	2.1729	2.1436	2.1767	2.1456	2.0990	2.0903	AVRG	R		0.47585		2.1015	3	15	0.05	0.99	
3-Nitroaniline			0.3439	0.3599m	0.3615m	0.3729	0.3847	0.3792	0.3834	AVRG	R		2.70748		0.3693	4	15	0.05	0.99	
Acenaphthene	1.2257	1.2386	1.2317	1.2966	1.2736	1.2721	1.2553	1.2109	1.2152	AVRG	R		0.80216		1.2466	2	15	0.05	0.99	
2,4-Dinitrophenol			0.1610	0.2011	0.2111	0.2323	0.2517	0.2535	0.2617	LINR	R	9.11394	3.54789		0.2246	1.000	15	0.050	0.99	
4-Nitrophenol			0.1498	0.1656	0.1677	0.1731	0.1765	0.1721	0.1759	AVRG	R		5.92915		0.1687	5	15	0.050	0.99	
Dibenzofuran			1.8872	1.9384	1.9237	1.8957	1.8188	1.7312	1.7147	AVRG	R		0.54223		1.8442	5	15	0.05	0.99	
2,4-Dinitrotoluene		0.4591	0.4764	0.4959	0.4919	0.4871	0.4730	0.4500	0.4521	AVRG	R		2.11337		0.4732	4	15	0.05	0.99	
Diethylphthalate			1.4621	1.5161	1.5133	1.5120	1.5065	1.4732	1.4803	AVRG	R		0.66900		1.4948	1	15	0.05	0.99	
Fluorene	1.5591	1.5743	1.5769	1.6006	1.6173	1.5768	1.5477	1.4927	1.4823	AVRG	R		0.64159		1.5586	3	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7748	0.8073	0.7987	0.7990	0.7810	0.7617	0.7571	AVRG	R		1.27746		0.7828	2	15	0.05	0.99	
4-Nitroaniline			0.3357	0.3595	0.3664	0.3751	0.3909	0.4096	0.3893	AVRG	R		2.66528		0.3752	6	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1469	0.1597	0.1636	0.1685	0.1723	0.1723	0.1673	AVRG	R		6.08377		0.1644	5	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5838	0.6103	0.6090	0.6018	0.6018	0.5895	0.5872	AVRG	R		1.67323		0.5976	2	15	0.05	0.99	
Azobenzene			0.6738	0.6902	0.6928	0.7003	0.6949	0.7052	0.6943	AVRG	R		1.44289		0.6931	1	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2408	0.2494	0.2510	0.2517	0.2499	0.2512	0.2483	AVRG	R		4.01784		0.2489	2	15	0.05	0.99	
Hexachlorobenzene		0.2466	0.2488	0.2562	0.2584	0.2611	0.2591	0.2499	0.2469	AVRG	R		3.94661		0.2534	2	15	0.05	0.99	
Pentachlorophenol			0.1501	0.1689	0.1758	0.1797	0.1840	0.1841	0.1864	AVRG	R		5.69567		0.1756	7	15	0.05	0.99	
Phenanthrene	1.1292	1.1162	1.1302	1.1612	1.1607	1.1541	1.1185	1.1177	1.0923	AVRG	R		0.88409		1.1311	2	15	0.05	0.99	
Anthracene	1.1032	1.1330	1.1469	1.1998	1.1787	1.1855	1.1499	1.1148	1.1098	AVRG	R		0.87196		1.1468	3	15	0.05	0.99	
Di-n-butylphthalate			1.2287	1.2754	1.2908	1.3024	1.2939	1.3104	1.2145	AVRG	R		0.78511		1.2737	3	15	0.05	0.99	
Fluoranthene	1.2150	1.2508	1.2737	1.3260	1.3316	1.3165	1.3069	1.3187	1.2457	AVRG	R		0.77687		1.2872	3	15	0.05	0.99	
Pyrene	1.1871	1.2464	1.2762	1.3080	1.3112	1.3103	1.2855	1.2921	1.2473	AVRG	R		0.78508		1.2738	3	15	0.05	0.99	
Butylbenzylphthalate			0.4725	0.4972	0.5068	0.5109	0.5080	0.5072	0.5064	AVRG	R		1.99485		0.5013	3	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4076	0.4480	0.4599	0.4715	0.4736	0.4627	0.4581	AVRG	R		2.20030		0.4545	5	15	0.05	0.99	
Benzo(a)anthracene	1.1429	1.1717	1.1779	1.1971	1.1955	1.2009	1.1803	1.1551	1.1409	AVRG	R		0.85209		1.1736	2	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.6929	0.7158	0.7251	0.7297	0.7086	0.6833	0.6714	AVRG	R		1.42082		0.7038	3	15	0.05	0.99	
Chrysene	1.0828	1.0690	1.1029	1.1387	1.1493	1.1382	1.1223	1.1113	1.1175	AVRG	R		0.89714		1.1147	2	15	0.05	0.99	
Di-n-octylphthalate			1.1652	1.2657	1.2934	1.3036	1.3260	1.3088	1.3210	AVRG	R		0.77919		1.2834	4	15	0.05	0.99	
Benzo(b)fluoranthene	1.0844	1.1430	1.1736	1.2524	1.2457	1.2818	1.2908	1.3206	1.3598	AVRG	R		0.80702		1.2391	7	15	0.05	0.99	
Benzo(k)fluoranthene	1.0542	1.1131	1.1719	1.1921	1.2135	1.1817	1.1775	1.1353	1.1047	AVRG	R		0.87007		1.1493	4	15	0.05	0.99	
Benzo(a)pyrene	0.9569	1.0678	1.1214	1.1776	1.1956	1.2093	1.2277	1.2174	1.2237	AVRG	R		0.86560		1.1553	8	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0160	1.1229	1.2039	1.2762	1.3054	1.3080	1.3166	1.2958	1.2832	AVRG	R		0.80876		1.2365	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Dibenz(a,h)anthracene	0.8837	0.9658	1.0289	1.0944	1.1136	1.1223	1.1402	1.1206	1.1125	AVRG	R		0.93925		1.0647	8	15	0.05	0.99	
Benzo(g,h,i)perylene	0.8921	0.9244	0.9713	1.0246	1.0606	1.0694	1.0746	1.0563	1.0523	AVRG	R		0.98624		1.0140	7	15	0.05	0.99	
2-Fluorophenol	1.0257	1.1469	1.2395	1.2931	1.3290	1.3239	1.3693	1.3701	1.3834	AVRG	R		0.78391		1.2757	9	15	0.05	0.99	
Phenol-d5	1.4054	1.4686	1.5137	1.5267	1.5119	1.4763	1.4408	1.4399	1.4718	AVRG	R		0.67898		1.4728	3	15	0.05	0.99	
Nitrobenzene-d5	0.3586	0.3765	0.3968	0.4130	0.4093	0.3957	0.3896	0.3912	0.3920	AVRG	R		2.55493		0.3914	4	15	0.05	0.99	
2-Fluorobiphenyl	1.5294	1.6444	1.6680	1.7518	1.7527	1.7449	1.7349	1.6847	1.6897	AVRG	R		0.59208		1.6889	4	15	0.05	0.99	
2,4,6-Tribromophenol	0.1717	0.1986	0.2123	0.2254	0.2281	0.2361	0.2412	0.2433	0.2488	AVRG	R		4.48788		0.2228	11	15	0.05	0.99	
Terphenyl-d14	0.9757	1.0232	1.0322	1.0686	1.0835	1.0838	1.0509	1.0429	1.0262	AVRG	R		0.95877		1.0430	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
N-Nitrosodimethylamine			10.000	-8	20.000	0	32.000	1	40.000	2	50.000	0	80.000	1	100.00	2	120.00	1
Phenol			10.000	-5	20.000	-1	32.000	4	40.000	2	50.000	0	80.000	-1	100.00	-1	120.00	2
bis(2-Chloroethyl)ether			10.000	6	20.000	6	32.000	6	40.000	4	50.000	1	80.000	-5	100.00	-8	120.00	-10
2-Chlorophenol			10.000	-1	20.000	2	32.000	4	40.000	3	50.000	2	80.000	-1	100.00	-4	120.00	-6
1,3-Dichlorobenzene			10.000	-1	20.000	2	32.000	1	40.000	2	50.000	0	80.000	1	100.00	-2	120.00	-3
1,4-Dichlorobenzene			10.000	1	20.000	2	32.000	3	40.000	2	50.000	1	80.000	-1	100.00	-2	120.00	-5
Benzyl alcohol			10.000	-4	20.000	-5	32.000	-14	40.000	-13	50.000	-5	80.000	19	100.00	**22**		
1,2-Dichlorobenzene			10.000	1	20.000	2	32.000	3	40.000	2	50.000	2	80.000	-1	100.00	-4	120.00	-5
2-Methylphenol			10.000	6	20.000	4	32.000	1	40.000	-5	50.000	-6	80.000	-3	100.00	0	120.00	4
bis(2-Chloroisopropyl) ether			10.000	10	20.000	9	32.000	7	40.000	4	50.000	-3	80.000	-10	100.00	-10	120.00	-7
4-Methylphenol			10.000	-2	20.000	-6	32.000	-11	40.000	-11	50.000	-7	80.000	9	100.00	12	120.00	15
N-Nitroso-di-n-propylamine			10.000	**28**	20.000	-7	32.000	-5	40.000	-1	50.000	-1	80.000	1	100.00	0		
Hexachloroethane			10.000	-1	20.000	0	32.000	2	40.000	2	50.000	1	80.000	1	100.00	-2	120.00	-3
Nitrobenzene			10.000	-3	20.000	-1	32.000	4	40.000	2	50.000	0	80.000	0	100.00	-1	120.00	0
Isophorone			10.000	**-24**	20.000	-11	32.000	4	40.000	11	50.000	14	80.000	7	100.00	1	120.00	-3
2-Nitrophenol					20.000	-7	32.000	-6	40.000	-5	50.000	1	80.000	8	100.00	7	120.00	2
2,4-Dimethylphenol			10.000	-15	20.000	-18	32.000	-6	40.000	3	50.000	13	80.000	13	100.00	8	120.00	3
bis(2-Chloroethoxy)methane					10.000	-18	16.000	-9	20.000	1	25.000	12	40.000	6	50.000	0	60.000	-4
Benzoic acid			50.000	2	60.000	-1	80.000	-2	90.000	-1	100.00	5	120.00	0	130.00	-1	140.00	0
2,4-Dichlorophenol			10.000	-9	20.000	-10	32.000	-4	40.000	2	50.000	9	80.000	8	100.00	4	120.00	-1
1,2,4-Trichlorobenzene			10.000	2	20.000	6	32.000	11	40.000	11	50.000	6	80.000	-6	100.00	-13	120.00	-15
Naphthalene	2.0000	-2	5.0000	-2	10.000	-2	16.000	1	20.000	0	25.000	1	40.000	2	50.000	1	60.000	0
4-Chloroaniline			10.000	**-25**	20.000	-17	32.000	-1	40.000	8	50.000	12	80.000	2	100.00	-4		
Hexachlorobutadiene			10.000	2	20.000	6	32.000	12	40.000	13	50.000	10	80.000	-8	100.00	-15	120.00	-19
4-Chloro-3-methylphenol			10.000	-17	20.000	-7	32.000	5	40.000	12	50.000	13	80.000	4	100.00	-2	120.00	-8
2-Methylnaphthalene	2.0000	-20	5.0000	**-25**	10.000	**-24**	16.000	-3	20.000	7	25.000	14	40.000	6	50.000	1	60.000	-5
Hexachlorocyclopentadiene					20.000	-19	32.000	-12	40.000	-7	50.000	3	80.000	13	100.00	11	120.00	12
2,4,6-Trichlorophenol			10.000	-9	20.000	-2	32.000	3	40.000	3	50.000	2	80.000	3	100.00	-1	120.00	1
2,4,5-Trichlorophenol			10.000	-3	20.000	-2	32.000	4	40.000	3	50.000	4	80.000	0	100.00	-2	120.00	-5
2-Chloronaphthalene					10.000	-5	16.000	1	20.000	2	25.000	1	40.000	2	50.000	0	60.000	0
2-Nitroaniline					20.000	-5	32.000	0	40.000	0	50.000	-1	80.000	2	100.00	2	120.00	2
Dimethylphthalate			10.000	-1	20.000	-1	32.000	3	40.000	2	50.000	2	80.000	1	100.00	-3	120.00	-2
2,6-Dinitrotoluene			10.000	-4	20.000	-3	32.000	1	40.000	2	50.000	2	80.000	2	100.00	-1	120.00	1
Acenaphthylene	2.0000	-6	5.0000	-3	10.000	-1	16.000	3	20.000	2	25.000	4	40.000	2	50.000	0	60.000	-1
3-Nitroaniline					20.000	-7	32.000	-3	40.000	-2	50.000	1	80.000	4	100.00	3	120.00	4
Acenaphthene	2.0000	-2	5.0000	-1	10.000	-1	16.000	4	20.000	2	25.000	2	40.000	1	50.000	-3	60.000	-3
2,4-Dinitrophenol					20.000	3	32.000	0	40.000	-2	50.000	1	80.000	1	100.00	-1	120.00	0
4-Nitrophenol					20.000	-11	32.000	-2	40.000	-1	50.000	3	80.000	5	100.00	2	120.00	4
Dibenzofuran					10.000	2	16.000	5	20.000	4	25.000	3	40.000	-1	50.000	-6	60.000	-7
2,4-Dinitrotoluene			10.000	-3	20.000	1	32.000	5	40.000	4	50.000	3	80.000	0	100.00	-5	120.00	-4
Diethylphthalate					10.000	-2	16.000	1	20.000	1	25.000	1	40.000	1	50.000	-1	60.000	-1
Fluorene	2.0000	0	5.0000	1	10.000	1	16.000	3	20.000	4	25.000	1	40.000	-1	50.000	-4	60.000	-5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
4-Chlorophenyl-phenylether					10.000	-1	16.000	3	20.000	2	25.000	2	40.000	0	50.000	-3	60.000	-3
4-Nitroaniline					20.000	-11	32.000	-4	40.000	-2	50.000	0	80.000	4	100.00	9	120.00	4
4,6-Dinitro-2-methylphenol					20.000	-11	32.000	-3	40.000	0	50.000	3	80.000	5	100.00	5	120.00	2
N-Nitrosodiphenylamine					10.000	-2	16.000	2	20.000	2	25.000	1	40.000	1	50.000	-1	60.000	-2
Azobenzene					10.000	-3	16.000	0	20.000	0	25.000	1	40.000	0	50.000	2	60.000	0
4-Bromophenyl-phenylether					10.000	-3	16.000	0	20.000	1	25.000	1	40.000	0	50.000	1	60.000	0
Hexachlorobenzene			10.000	-3	20.000	-2	32.000	1	40.000	2	50.000	3	80.000	2	100.00	-1	120.00	-3
Pentachlorophenol					20.000	-15	32.000	-4	40.000	0	50.000	2	80.000	5	100.00	5	120.00	6
Phenanthrene	2.0000	0	5.0000	-1	10.000	0	16.000	3	20.000	3	25.000	2	40.000	-1	50.000	-1	60.000	-3
Anthracene	2.0000	-4	5.0000	-1	10.000	0	16.000	5	20.000	3	25.000	3	40.000	0	50.000	-3	60.000	-3
Di-n-butylphthalate					10.000	-4	16.000	0	20.000	1	25.000	2	40.000	2	50.000	3	60.000	-5
Fluoranthene	2.0000	-6	5.0000	-3	10.000	-1	16.000	3	20.000	3	25.000	2	40.000	2	50.000	2	60.000	-3
Pyrene	2.0000	-7	5.0000	-2	10.000	0	16.000	3	20.000	3	25.000	3	40.000	1	50.000	1	60.000	-2
Butylbenzylphthalate					10.000	-6	16.000	-1	20.000	1	25.000	2	40.000	1	50.000	1	60.000	1
3,3'-Dichlorobenzidine					20.000	-10	32.000	-1	40.000	1	50.000	4	80.000	4	100.00	2	120.00	1
Benzo(a)anthracene	2.0000	-3	5.0000	0	10.000	0	16.000	2	20.000	2	25.000	2	40.000	1	50.000	-2	60.000	-3
bis(2-Ethylhexyl)phthalate					10.000	-2	16.000	2	20.000	3	25.000	4	40.000	1	50.000	-3	60.000	-5
Chrysene	2.0000	-3	5.0000	-4	10.000	-1	16.000	2	20.000	3	25.000	2	40.000	1	50.000	0	60.000	0
Di-n-octylphthalate					10.000	-9	16.000	-1	20.000	1	25.000	2	40.000	3	50.000	2	60.000	3
Benzo(b)fluoranthene	2.0000	-12	5.0000	-8	10.000	-5	16.000	1	20.000	1	25.000	3	40.000	4	50.000	7	60.000	10
Benzo(k)fluoranthene	2.0000	-8	5.0000	-3	10.000	2	16.000	4	20.000	6	25.000	3	40.000	2	50.000	-1	60.000	-4
Benzo(a)pyrene	2.0000	-17	5.0000	-8	10.000	-3	16.000	2	20.000	3	25.000	5	40.000	6	50.000	5	60.000	6
Indeno(1,2,3-cd)pyrene	2.0000	-18	5.0000	-9	10.000	-3	16.000	3	20.000	6	25.000	6	40.000	6	50.000	5	60.000	4
Dibenz(a,h)anthracene	2.0000	-17	5.0000	-9	10.000	-3	16.000	3	20.000	5	25.000	5	40.000	7	50.000	5	60.000	4
Benzo(g,h,i)perylene	2.0000	-12	5.0000	-9	10.000	-4	16.000	1	20.000	5	25.000	5	40.000	6	50.000	4	60.000	4
2-Fluorophenol	2.0000	-20	5.0000	-10	10.000	-3	16.000	1	20.000	4	25.000	4	40.000	7	50.000	7	60.000	8
Phenol-d5	2.0000	-5	5.0000	0	10.000	3	16.000	4	20.000	3	25.000	0	40.000	-2	50.000	-2	60.000	0
Nitrobenzene-d5	2.0000	-8	5.0000	-4	10.000	1	16.000	6	20.000	5	25.000	1	40.000	0	50.000	0	60.000	0
2-Fluorobiphenyl	2.0000	-9	5.0000	-3	10.000	-1	16.000	4	20.000	4	25.000	3	40.000	3	50.000	0	60.000	0
2,4,6-Tribromophenol	2.0000	**-23**	5.0000	-11	10.000	-5	16.000	1	20.000	2	25.000	6	40.000	8	50.000	9	60.000	12
Terphenyl-d14	2.0000	-6	5.0000	-2	10.000	-1	16.000	2	20.000	4	25.000	4	40.000	1	50.000	0	60.000	-2

NPM 02/11/15 [Aniline]: Picked or reassigned peak in all levels.

NPM 02/11/15 [bis(2-Chloroethyl)ether]: Corrected automatically drawn baseline in multiple levels.

NPM 02/11/15 [3-Nitroaniline]: Corrected automatically drawn baseline in multiple levels.

NPM 02/11/15 [1,3-Dichlorobenzene]: Picked or reassigned peak in all levels.

NPM 02/11/15 [1,4-Dichlorobenzene]: Picked or reassigned peak in all levels.

KMH 03/11/15 : cut 1 loop to improve Di-n-octylphthalate

KMH 05/29/15 : cut 2 loops to improve benzoic

Analyst: NPM Date: 02/11/15 Reviewer: LW Date: 02/12/15

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA09 Name : 6PTBNA9
Calnum : 585053925002 Cal Date : 06-FEB-2015

ICV 585053925016 (rb616 06-FEB-2015) stds: S25418

Analyte	Spiked	Quant	Units	%D	Max	Flags
N-Nitrosodimethylamine	40.00	37.54	ug/mL	-6	30	
Phenol	40.00	37.44	ug/mL	-6	20	
bis(2-Chloroethyl)ether	40.00	38.40	ug/mL	-4	30	
2-Chlorophenol	40.00	37.66	ug/mL	-6	30	
1,3-Dichlorobenzene	40.00	37.29	ug/mL	-7	30	
1,4-Dichlorobenzene	40.00	37.07	ug/mL	-7	20	
Benzyl alcohol	40.00	34.99	ug/mL	-13	30	
1,2-Dichlorobenzene	40.00	38.23	ug/mL	-4	30	
2-Methylphenol	40.00	36.34	ug/mL	-9	30	
bis(2-Chloroisopropyl) ether	40.00	38.47	ug/mL	-4	30	
4-Methylphenol	40.00	30.83	ug/mL	**-23**	30	!v-
N-Nitroso-di-n-propylamine	40.00	37.36	ug/mL	-7	30	
Hexachloroethane	40.00	37.20	ug/mL	-7	30	
Nitrobenzene	40.00	36.37	ug/mL	-9	30	
Isophorone	40.00	38.24	ug/mL	-4	30	
2-Nitrophenol	40.00	36.04	ug/mL	-10	20	
2,4-Dimethylphenol	40.00	38.84	ug/mL	-3	30	
bis(2-Chloroethoxy)methane	40.00	37.72	ug/mL	-6	30	
Benzoic acid	100.0	92.55	ug/mL	-7	40	
2,4-Dichlorophenol	40.00	38.96	ug/mL	-3	20	
1,2,4-Trichlorobenzene	40.00	39.47	ug/mL	-1	30	
Naphthalene	40.00	36.57	ug/mL	-9	30	
4-Chloroaniline	40.00	39.85	ug/mL	0	30	
Hexachlorobutadiene	40.00	41.11	ug/mL	3	20	
4-Chloro-3-methylphenol	40.00	39.27	ug/mL	-2	20	
2-Methylnaphthalene	40.00	40.52	ug/mL	1	30	
Hexachlorocyclopentadiene	40.00	30.64	ug/mL	**-23**	40	!v-
2,4,6-Trichlorophenol	40.00	32.88	ug/mL	-18	20	
2,4,5-Trichlorophenol	40.00	33.40	ug/mL	-17	30	
2-Chloronaphthalene	40.00	33.02	ug/mL	-17	30	
2-Nitroaniline	40.00	32.33	ug/mL	-19	30	
Dimethylphthalate	40.00	33.35	ug/mL	-17	30	
2,6-Dinitrotoluene	40.00	34.01	ug/mL	-15	30	
Acenaphthylene	40.00	32.98	ug/mL	-18	30	
3-Nitroaniline	40.00	33.47	ug/mL	-16	30	m
Acenaphthene	40.00	33.32	ug/mL	-17	20	
2,4-Dinitrophenol	40.00	34.46	ug/mL	-14	40	
4-Nitrophenol	40.00	32.45	ug/mL	-19	40	
Dibenzofuran	40.00	33.82	ug/mL	-15	30	
2,4-Dinitrotoluene	40.00	34.15	ug/mL	-15	30	
Diethylphthalate	40.00	32.08	ug/mL	-20	30	
Fluorene	40.00	32.20	ug/mL	-19	30	
4-Chlorophenyl-phenylether	40.00	32.42	ug/mL	-19	40	
4-Nitroaniline	40.00	32.97	ug/mL	-18	30	
4,6-Dinitro-2-methylphenol	40.00	36.12	ug/mL	-10	30	
N-Nitrosodiphenylamine	40.00	42.07	ug/mL	5	20	
Azobenzene	40.00	36.56	ug/mL	-9	30	
4-Bromophenyl-phenylether	40.00	36.69	ug/mL	-8	30	
Hexachlorobenzene	40.00	37.17	ug/mL	-7	30	

Analyte	Spiked	Quant	Units	%D	Max	Flags
Pentachlorophenol	40.00	34.37	ug/mL	-14	20	
Phenanthrene	40.00	36.47	ug/mL	-9	30	
Anthracene	40.00	37.06	ug/mL	-7	30	
Di-n-butylphthalate	40.00	36.61	ug/mL	-8	30	
Fluoranthene	40.00	36.87	ug/mL	-8	20	
Pyrene	40.00	32.94	ug/mL	-18	30	
Butylbenzylphthalate	40.00	35.89	ug/mL	-10	30	
3,3'-Dichlorobenzidine	60.00	53.07	ug/mL	-12	40	
Benzo(a)anthracene	40.00	35.55	ug/mL	-11	30	
bis(2-Ethylhexyl)phthalate	40.00	34.88	ug/mL	-13	30	
Chrysene	40.00	33.37	ug/mL	-17	30	
Di-n-octylphthalate	40.00	35.91	ug/mL	-10	20	
Benzo(b)fluoranthene	40.00	37.06	ug/mL	-7	30	
Benzo(k)fluoranthene	40.00	38.74	ug/mL	-3	30	
Benzo(a)pyrene	40.00	37.46	ug/mL	-6	20	
Indeno(1,2,3-cd)pyrene	40.00	36.41	ug/mL	-9	30	
Dibenz(a,h)anthracene	40.00	36.65	ug/mL	-8	30	
Benzo(g,h,i)perylene	40.00	35.57	ug/mL	-11	30	

Analyst: NPM Date: 02/11/15 Reviewer: LW Date: 02/12/15

!=warning -=low bias m=manual integration v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA07 IDF : 1.0
Seqnum : 565212348003 File : zer03 Time : 27-MAY-2015 11:58
Cal : 565140315001 Caldate : 07-APR-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.7717	0.8067	40.00	41.81	ug/mL	5	30	0.0500	
Phenol	1.8971	2.0135	40.00	42.45	ug/mL	6	20	0.0500	
bis(2-Chloroethyl)ether	1.4412	1.5713	40.00	43.61	ug/mL	9	30	0.0500	
2-Chlorophenol	1.5595	1.5816	40.00	40.57	ug/mL	1	30	0.0500	
1,3-Dichlorobenzene	1.6200	1.6525	40.00	40.80	ug/mL	2	30	0.0500	
1,4-Dichlorobenzene	1.6224	1.7007	40.00	41.93	ug/mL	5	20	0.0500	
Benzyl alcohol	1.0155	1.0675	40.00	42.05	ug/mL	5	30	0.0500	
1,2-Dichlorobenzene	1.5202	1.5806	40.00	41.59	ug/mL	4	30	0.0500	
2-Methylphenol	1.2064	1.3191	40.00	43.74	ug/mL	9	30	0.0500	
bis(2-Chloroisopropyl) ether	2.3762	2.4772	40.00	41.70	ug/mL	4	30	0.0500	
4-Methylphenol	1.7720	1.9114	40.00	43.15	ug/mL	8	30	0.0500	
N-Nitroso-di-n-propylamine	0.7871	0.9679	40.00	49.19	ug/mL	**23**	30	0.0500	!c+
Hexachloroethane	0.5908	0.6354	40.00	43.02	ug/mL	8	30	0.0500	
Nitrobenzene	0.3621	0.4228	40.00	46.70	ug/mL	17	30	0.0500	
Isophorone	0.6969	0.7624	40.00	43.76	ug/mL	9	30	0.0500	
2-Nitrophenol	0.2199	0.2168	40.00	39.44	ug/mL	-1	20	0.0500	
2,4-Dimethylphenol	0.3361	0.3626	40.00	43.15	ug/mL	8	30	0.0500	
bis(2-Chloroethoxy)methane	0.4200	0.4535	20.00	21.60	ug/mL	8	30	0.0500	
Benzoic acid	0.2484	0.2484	90.00	89.97	ug/mL	0	40	0.0500	
2,4-Dichlorophenol	0.2881	0.2958	40.00	41.07	ug/mL	3	20	0.0500	
1,2,4-Trichlorobenzene	0.2933	0.2983	40.00	40.68	ug/mL	2	30	0.0500	
Naphthalene	1.1157	1.1589	20.00	20.78	ug/mL	4	30	0.0500	
4-Chloroaniline	0.4373	0.4606	40.00	40.47	ug/mL	1	30	0.0500	
Hexachlorobutadiene	0.1424	0.1456	40.00	40.91	ug/mL	2	20	0.0500	
4-Chloro-3-methylphenol	0.3026	0.3181	40.00	42.05	ug/mL	5	20	0.0500	
2-Methylnaphthalene	0.7189	0.7233	20.00	20.12	ug/mL	1	30	0.0500	
Hexachlorocyclopentadiene	0.3260	0.3310	40.00	40.61	ug/mL	2	40	0.0500	
2,4,6-Trichlorophenol	0.3961	0.3918	40.00	39.57	ug/mL	-1	20	0.0500	
2,4,5-Trichlorophenol	0.4169	0.4225	40.00	40.53	ug/mL	1	30	0.0500	
2-Chloronaphthalene	1.2668	1.2620	20.00	19.92	ug/mL	0	30	0.0500	
2-Nitroaniline	0.4058	0.4524	40.00	44.59	ug/mL	11	30	0.0500	
Dimethylphthalate	1.4385	1.4791	40.00	41.13	ug/mL	3	30	0.0500	
2,6-Dinitrotoluene	0.3656	0.3632	40.00	39.74	ug/mL	-1	30	0.0500	
Acenaphthylene	2.1713	2.1897	20.00	20.17	ug/mL	1	30	0.0500	
3-Nitroaniline	0.4134	0.4274	40.00	41.35	ug/mL	3	30	0.0500	
Acenaphthene	1.3004	1.3023	20.00	20.03	ug/mL	0	20	0.0500	
2,4-Dinitrophenol	0.2172	0.2194	40.00	40.41	ug/mL	1	40	0.0500	
4-Nitrophenol	0.1429	0.1517	40.00	42.46	ug/mL	6	40	0.0500	
Dibenzofuran	1.7710	1.8348	20.00	20.72	ug/mL	4	30	0.0500	
2,4-Dinitrotoluene	0.4618	0.4710	40.00	40.80	ug/mL	2	30	0.0500	
Diethylphthalate	1.4518	1.4657	20.00	20.19	ug/mL	1	30	0.0500	
Fluorene	1.5073	1.5486	20.00	20.55	ug/mL	3	30	0.0500	
4-Chlorophenyl-phenylether	0.6724	0.6748	20.00	20.07	ug/mL	0	40	0.0500	
4-Nitroaniline	0.3954	0.3743	40.00	37.86	ug/mL	-5	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1624	0.1647	40.00	40.57	ug/mL	1	30	0.0500	
N-Nitrosodiphenylamine	0.6323	0.6277	20.00	19.86	ug/mL	-1	20	0.0500	
Azobenzene	0.8406	0.9700	20.00	23.08	ug/mL	15	30	0.0500	
4-Bromophenyl-phenylether	0.2204	0.2115	20.00	19.19	ug/mL	-4	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2217	0.2131	40.00	38.45	ug/mL	-4	30	0.0500	
Pentachlorophenol	0.1486	0.1419	40.00	38.17	ug/mL	-5	20	0.0500	
Phenanthrene	1.1592	1.1820	20.00	20.39	ug/mL	2	30	0.0500	
Anthracene	1.1665	1.2024	20.00	20.62	ug/mL	3	30	0.0500	
Di-n-butylphthalate	1.4477	1.4256	20.00	19.69	ug/mL	-2	30	0.0500	
Fluoranthene	1.2523	1.2813	20.00	20.46	ug/mL	2	20	0.0500	
Pyrene	1.4458	1.4371	20.00	19.88	ug/mL	-1	30	0.0500	
Butylbenzylphthalate	0.6965	0.6469	20.00	18.57	ug/mL	-7	30	0.0500	
3,3'-Dichlorobenzidine	0.4260	0.3914	40.00	36.75	ug/mL	-8	40	0.0500	
Benzo(a)anthracene	1.2483	1.2323	20.00	19.74	ug/mL	-1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.9380	0.9241	20.00	19.70	ug/mL	-1	30	0.0500	
Chrysene	1.1492	1.1595	20.00	20.18	ug/mL	1	30	0.0500	
Di-n-octylphthalate	1.7929	1.6860	20.00	18.81	ug/mL	-6	20	0.0500	
Benzo(b)fluoranthene	1.2601	1.2278	20.00	19.49	ug/mL	-3	30	0.0500	
Benzo(k)fluoranthene	1.1437	1.1848	20.00	20.72	ug/mL	4	30	0.0500	
Benzo(a)pyrene	1.1798	1.1941	20.00	20.24	ug/mL	1	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2879	1.2666	20.00	19.67	ug/mL	-2	30	0.0500	
Dibenz(a,h)anthracene	1.1103	1.0970	20.00	19.76	ug/mL	-1	30	0.0500	
Benzo(g,h,i)perylene	1.0498	0.9823	20.00	18.71	ug/mL	-6	30	0.0500	
2-Fluorophenol	1.4919	1.5015	20.00	20.13	ug/mL	1	30	0.0500	
Phenol-d5	1.8320	1.9581	20.00	21.38	ug/mL	7	30	0.0500	
Nitrobenzene-d5	0.4029	0.4511	20.00	22.39	ug/mL	12	30	0.0500	
2-Fluorobiphenyl	1.6449	1.6332	20.00	19.86	ug/mL	-1	30	0.0500	
2,4,6-Tribromophenol	0.1704	0.1691	20.00	19.84	ug/mL	-1	30	0.0500	
Terphenyl-d14	1.0607	1.0286	20.00	19.39	ug/mL	-3	30	0.0500	

KMH 05/27/15 [Aniline]: Picked or reassigned peak.

Analyst: KMH Date: 05/27/15 Reviewer: LW Date: 05/28/15

!=warning +=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 MSBNA Water
EPA 8270C

Inst : MSBNA09 IDF : 1.0
Seqnum : 585212327003 File : rer03 Time : 27-MAY-2015 11:30
Cal : 585053925002 Caldate : 06-FEB-2015
Standards: S26478

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
N-Nitrosodimethylamine	0.6143	0.8376	40.00	54.54	ug/mL	**36**	30	0.0500	c+ ***
Phenol	1.4887	1.6788	40.00	45.11	ug/mL	13	20	0.0500	
bis(2-Chloroethyl)ether	1.1557	1.2188	40.00	42.18	ug/mL	5	30	0.0500	
2-Chlorophenol	1.3624	1.3476	40.00	39.56	ug/mL	-1	30	0.0500	
1,3-Dichlorobenzene	1.5713	1.5539	40.00	39.56	ug/mL	-1	30	0.0500	
1,4-Dichlorobenzene	1.5932	1.6466	40.00	41.34	ug/mL	3	20	0.0500	
Benzyl alcohol	0.7552	0.8176	40.00	43.30	ug/mL	8	30	0.0500	
1,2-Dichlorobenzene	1.4539	1.4883	40.00	40.95	ug/mL	2	30	0.0500	
2-Methylphenol	0.9755	1.0687	40.00	43.82	ug/mL	10	30	0.0500	
bis(2-Chloroisopropyl) ether	1.3341	1.5032	40.00	45.07	ug/mL	13	30	0.0500	
4-Methylphenol	1.4417	1.6769	40.00	46.53	ug/mL	16	30	0.0500	!v-
N-Nitroso-di-n-propylamine	0.7671	1.0466	40.00	49.03	ug/mL	**23**	30	0.0500	!c+
Hexachloroethane	0.5683	0.6396	40.00	45.02	ug/mL	13	30	0.0500	
Nitrobenzene	0.3530	0.3811	40.00	43.17	ug/mL	8	30	0.0500	
Isophorone	0.8127	0.7097	40.00	34.93	ug/mL	-13	30	0.0500	
2-Nitrophenol	0.2060	0.1884	40.00	36.60	ug/mL	-9	20	0.0500	
2,4-Dimethylphenol	0.3866	0.3716	40.00	38.45	ug/mL	-4	30	0.0500	
bis(2-Chloroethoxy)methane	0.4339	0.3705	20.00	17.27	ug/mL	-14	30	0.0500	
Benzoic acid	0.2644	0.1697	90.00	63.03	ug/mL	**-30**	40	0.0500	!c-
2,4-Dichlorophenol	0.3349	0.3120	40.00	37.27	ug/mL	-7	20	0.0500	
1,2,4-Trichlorobenzene	0.3523	0.3513	40.00	39.88	ug/mL	0	30	0.0500	
Naphthalene	1.0718	0.9487	20.00	17.70	ug/mL	-11	30	0.0500	
4-Chloroaniline	0.5086	0.4361	40.00	32.68	ug/mL	-18	30	0.0500	
Hexachlorobutadiene	0.2042	0.2285	40.00	44.77	ug/mL	12	20	0.0500	
4-Chloro-3-methylphenol	0.4028	0.3498	40.00	34.74	ug/mL	-13	20	0.0500	
2-Methylnaphthalene	0.7963	0.7015	20.00	16.47	ug/mL	-18	30	0.0500	
Hexachlorocyclopentadiene	0.3838	0.4525	40.00	47.16	ug/mL	18	40	0.0500	!v-
2,4,6-Trichlorophenol	0.4350	0.4337	40.00	39.88	ug/mL	0	20	0.0500	
2,4,5-Trichlorophenol	0.4654	0.4679	40.00	40.22	ug/mL	1	30	0.0500	
2-Chloronaphthalene	1.2724	1.1856	20.00	18.64	ug/mL	-7	30	0.0500	
2-Nitroaniline	0.3700	0.4175	40.00	45.13	ug/mL	13	30	0.0500	
Dimethylphthalate	1.4964	1.5812	40.00	42.27	ug/mL	6	30	0.0500	
2,6-Dinitrotoluene	0.3593	0.3467	40.00	38.60	ug/mL	-4	30	0.0500	
Acenaphthylene	2.1015	1.8390	20.00	17.50	ug/mL	-12	30	0.0500	
3-Nitroaniline	0.3693	0.3306	40.00	35.81	ug/mL	-10	30	0.0500	
Acenaphthene	1.2466	1.0991	20.00	17.63	ug/mL	-12	20	0.0500	
2,4-Dinitrophenol	0.2246	0.1900	40.00	36.08	ug/mL	-10	40	0.0500	
4-Nitrophenol	0.1687	0.2124	40.00	50.38	ug/mL	**26**	40	0.0500	!c+
Dibenzofuran	1.8442	1.8758	20.00	20.34	ug/mL	2	30	0.0500	
2,4-Dinitrotoluene	0.4732	0.5221	40.00	44.13	ug/mL	10	30	0.0500	
Diethylphthalate	1.4948	1.5590	20.00	20.86	ug/mL	4	30	0.0500	
Fluorene	1.5586	1.5518	20.00	19.91	ug/mL	0	30	0.0500	
4-Chlorophenyl-phenylether	0.7828	0.8157	20.00	20.84	ug/mL	4	40	0.0500	
4-Nitroaniline	0.3752	0.3087	40.00	32.91	ug/mL	-18	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1644	0.1476	40.00	35.93	ug/mL	-10	30	0.0500	
N-Nitrosodiphenylamine	0.5976	0.5289	20.00	17.70	ug/mL	-12	20	0.0500	
Azobenzene	0.6931	0.7378	20.00	21.29	ug/mL	6	30	0.0500	
4-Bromophenyl-phenylether	0.2489	0.2200	20.00	17.68	ug/mL	-12	30	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Hexachlorobenzene	0.2534	0.2593	40.00	40.93	ug/mL	2	30	0.0500	
Pentachlorophenol	0.1756	0.1506	40.00	34.32	ug/mL	-14	20	0.0500	
Phenanthrene	1.1311	1.0433	20.00	18.45	ug/mL	-8	30	0.0500	
Anthracene	1.1468	1.0607	20.00	18.50	ug/mL	-8	30	0.0500	
Di-n-butylphthalate	1.2737	1.3011	20.00	20.43	ug/mL	2	30	0.0500	
Fluoranthene	1.2872	1.2144	20.00	18.87	ug/mL	-6	20	0.0500	
Pyrene	1.2738	1.1352	20.00	17.82	ug/mL	-11	30	0.0500	
Butylbenzylphthalate	0.5013	0.4756	20.00	18.98	ug/mL	-5	30	0.0500	
3,3'-Dichlorobenzidine	0.4545	0.4357	40.00	38.35	ug/mL	-4	40	0.0500	
Benzo(a)anthracene	1.1736	1.2034	20.00	20.51	ug/mL	3	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.7038	0.7975	20.00	22.66	ug/mL	13	30	0.0500	
Chrysene	1.1147	1.0095	20.00	18.11	ug/mL	-9	30	0.0500	
Di-n-octylphthalate	1.2834	1.4473	20.00	22.55	ug/mL	13	20	0.0500	
Benzo(b)fluoranthene	1.2391	1.2355	20.00	19.94	ug/mL	0	30	0.0500	
Benzo(k)fluoranthene	1.1493	1.1325	20.00	19.71	ug/mL	-1	30	0.0500	
Benzo(a)pyrene	1.1553	1.1321	20.00	19.60	ug/mL	-2	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2365	1.2178	20.00	19.70	ug/mL	-2	30	0.0500	
Dibenz(a,h)anthracene	1.0647	1.0080	20.00	18.93	ug/mL	-5	30	0.0500	
Benzo(g,h,i)perylene	1.0140	0.9716	20.00	19.17	ug/mL	-4	30	0.0500	
2-Fluorophenol	1.2757	1.1334	20.00	17.77	ug/mL	-11	30	0.0500	
Phenol-d5	1.4728	1.4733	20.00	20.01	ug/mL	0	30	0.0500	
Nitrobenzene-d5	0.3914	0.4079	20.00	20.84	ug/mL	4	30	0.0500	
2-Fluorobiphenyl	1.6889	1.6012	20.00	18.96	ug/mL	-5	30	0.0500	
2,4,6-Tribromophenol	0.2228	0.2242	20.00	20.12	ug/mL	1	30	0.0500	
Terphenyl-d14	1.0430	0.9609	20.00	18.43	ug/mL	-8	30	0.0500	

NPM 05/28/15 [Aniline]: Picked or reassigned peak.

Analyst: NPM Date: 05/28/15 Reviewer: LW Date: 05/28/15

!=warning +=high bias -=low bias c=CCV v=ICV

585212327003

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 565212348

Date : 05/27/15
Sequence : MSBNA07 zer

Reference : zer03
Analyzed : 05/27/15 11:58

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	303743	5.87	1218850	7.35	584892	9.50	1036331	11.34	1022799	14.68	931649	17.37
		LOWER LIMIT	151872	5.37	609425	6.85	292446	9.00	518166	10.84	511400	14.18	465825	16.87
		UPPER LIMIT	607486	6.37	2437700	7.85	1169784	10.00	2072662	11.84	2045598	15.18	1863298	17.87
003	CCV		303743	5.87	1218850	7.35	584892	9.50	1036331	11.34	1022799	14.68	931649	17.37
004	SAMPLE	266995-007	318531	5.87	1270788	7.35	633909	9.50	1161512	11.34	1164141	14.68	1129406	17.39
005	SAMPLE	266996-001	310359	5.86	1259019	7.35	600145	9.49	1111859	11.34	1121442	14.68	1091757	17.38
006	SAMPLE	266996-002	314756	5.86	1274723	7.35	616821	9.49	1118906	11.34	1118769	14.68	1104764	17.37
007	SAMPLE	266996-003	305328	5.86	1243363	7.35	593814	9.49	1085753	11.34	1090822	14.67	1080496	17.37
008	SAMPLE	266996-001	312168	5.86	1267078	7.35	596048	9.49	1118366	11.33	1129137	14.67	1123200	17.37
009	SAMPLE	266996-002	314427	5.86	1286783	7.35	604356	9.49	1133998	11.33	1142776	14.67	1155033	17.37
010	SAMPLE	267051-001	319731	5.86	1289279	7.35	603248	9.49	1163473	11.33	1119334	14.68	1089893	17.37
011	SAMPLE	267048-001	327291	5.86	1317429	7.35	630253	9.49	1134543	11.33	1167153	14.67	1155196	17.37
012	SAMPLE	267006-002	341801	5.86	1382658	7.35	675079	9.50	1156580	11.34	1023929	14.70	954100	17.42
013	SAMPLE	267021-004	347335	5.87	1381254	7.36	660934	9.52	996775	11.39	969663	14.75	842918	17.49
014	SAMPLE	267021-001	355549	5.87	1434483	7.36	678271	9.51	1120446	11.36	1026826	14.72	1119785	17.45
015	SAMPLE	267021-002	335542	5.87	1347328	7.36	627220	9.51	1052133	11.36	944240	14.72	916400	17.46
016	SAMPLE	267021-007	355269	5.87	1440938	7.36	669355	9.51	1088962	11.37	968335	14.75	604031	17.48
017	SAMPLE	267021-010	362379	5.87	1462772	7.36	710578	9.51	1226960	11.36	1013225	14.73	879495	17.47
018	SAMPLE	267026-006	326461	5.87	1307150	7.36	614613	9.51	1165978	11.35	1164710	14.69	1043754	17.42

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 585212327

Date : 05/27/15 Reference : rer03
Sequence : MSBNA09 rer Analyzed : 05/27/15 11:30

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	506658	5.63	1972127	7.10	1153277	9.23	2392159	11.07	2860716	14.36	2243273	16.80
		LOWER LIMIT	253329	5.13	986064	6.60	576639	8.73	1196080	10.57	1430358	13.86	1121637	16.30
		UPPER LIMIT	1013316	6.13	3944254	7.60	2306554	9.73	4784318	11.57	5721432	14.86	4486546	17.30
003	CCV		506658	5.63	1972127	7.10	1153277	9.23	2392159	11.07	2860716	14.36	2243273	16.80
004	BLANK	QC789368	537143	5.62	2173607	7.09	1253764	9.23	2495348	11.06	3152651	14.36	2771737	16.81
005	BS	QC789369	545109	5.63	2131080	7.10	1277059	9.23	2763385	11.07	3459210	14.36	2993780	16.81
006	BSD	QC789370	561331	5.63	2217350	7.10	1312145	9.24	2809992	11.07	3510693	14.36	2955834	16.81
007	SAMPLE	267006-005	594717	5.62	2355443	7.09	1357434	9.23	2811840	11.06	3479665	14.36	3198115	16.81
008	SAMPLE	267006-006	589700	5.62	2358391	7.09	1422084	9.23	3002232	11.06	3598177	14.36	2790865	16.82
009	SAMPLE	267006-007	580947	5.63	2322671	7.09	1374882	9.23	2915694	11.07	3358094	14.36	2561419	16.82
010	SAMPLE	267013-001	569133	5.63	2247729	7.10	1284095	9.23	2620801	11.06	3011093	14.36	2324705	16.80
011	SAMPLE	267021-003	590746	5.63	2440896	7.10	1590462	9.24	3334158	11.09	2732843	14.38	1159346	16.83
012	SAMPLE	267021-006	633425	5.63	2523920	7.10	1589770	9.24	3369896	11.08	3270821	14.38	1655056	16.83
013	SAMPLE	267021-009	628146	5.63	2495018	7.10	1541454	9.23	3118642	11.08	3212169	14.37	1586412	16.83
014	SAMPLE	267006-001	640065	5.63	2569997	7.10	1560452	9.24	3250370	11.08	3496188	14.38	1952837	16.83
015	SAMPLE	267006-004	660475	5.63	2609434	7.10	1543867	9.23	3203199	11.07	3542383	14.37	2068507	16.82
016	SAMPLE	267006-003	640733	5.63	2517297	7.10	1522213	9.24	3126312	11.08	2795957	14.37	1205663	16.83

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 565140315

Instrument : MSBNA07 Begun : 04/07/15 10:35
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	zd701	IB	IB			04/07/15 10:35	1.0		?t
002	zd702	TUN	DFTPP/PEM			04/07/15 11:04	1.0	1	
003	zd703	CCV				04/07/15 11:26	1.0	2	
004	zd704	TUN	DFTPP/PEM			04/07/15 12:07	1.0	1	
005	zd705	ICAL	ICAL			04/07/15 12:33	1.0	3	
006	zd706	ICAL	ICAL			04/07/15 13:11	1.0	4	
007	zd707	ICAL	ICAL			04/07/15 13:48	1.0	5	
008	zd708	ICAL	ICAL			04/07/15 14:26	1.0	6	
009	zd709	ICAL	ICAL			04/07/15 15:02	1.0	2	
010	zd710	ICAL	ICAL			04/07/15 15:39	1.0	7	
011	zd711	ICAL	ICAL			04/07/15 16:16	1.0	8	
012	zd712	ICAL	ICAL			04/07/15 16:54	1.0	9	
013	zd713	ICAL	ICAL			04/07/15 17:32	1.0	10	
014	zd714	ICV	ICV			04/07/15 18:10	1.0	11	

KMH 04/08/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

Standards used: 1=S26814 2=S26478 3=S26474 4=S26475 5=S26476 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S26696
Flags used: ?t=missing tune
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 565212348

Instrument : MSBNA07 Begun : 05/27/15 11:08
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	zer01	IB	IB			05/27/15 11:08	1.0		?t
002	zer02	TUN	DFTPP/PEM			05/27/15 11:37	1.0	1	
003	zer03	CCV				05/27/15 11:58	1.0	2	
004	zer04	SAMPLE	266995-007	Soil	223488	05/27/15 12:43	2.0	3	high NT
005	zer05	SAMPLE	266996-001	Soil	223488	05/27/15 13:21	5.0	3	1:PHAN=61
006	zer06	SAMPLE	266996-002	Soil	223488	05/27/15 13:58	10.0	3	1:PHAN=77
007	zer07	SAMPLE	266996-003	Soil	223488	05/27/15 14:36	10.0	3	
008	zer08	SAMPLE	266996-001	Soil	223488	05/27/15 15:13	10.0	3	
009	zer09	SAMPLE	266996-002	Soil	223488	05/27/15 15:51	20.0	3	
010	zer10	SAMPLE	267051-001	Water	223526	05/27/15 16:28	50.0	3	
011	zer11	SAMPLE	267048-001	Water	223526	05/27/15 17:05	150.0	3	high NT
012	zer12	SAMPLE	267006-002	Water	223526	05/27/15 17:43	1.0	3	
013	zer13	SAMPLE	267021-004	Water	223526	05/27/15 18:22	1.0	3	3:MTNPH1=80
014	zer14	SAMPLE	267021-001	Water	223526	05/27/15 19:01	1.0	3	
015	zer15	SAMPLE	267021-002	Water	223526	05/27/15 19:39	1.0	3	
016	zer16	SAMPLE	267021-007	Water	223526	05/27/15 20:18	1.0	3	2:ACNP=130
017	zer17	SAMPLE	267021-010	Water	223526	05/27/15 20:57	1.0	3	
018	zer18	SAMPLE	267026-006	Water	223526	05/27/15 21:34	5.0	3	

NPM 05/27/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

KMH 05/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Standards used: 1=S26814 2=S26478 3=S26738

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 585053925

Instrument : MSBNA09 Begun : 02/06/15 10:45
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	rb601	IB	IB			02/06/15 10:45	1.0		?t
002	rb602	TUN	DFTPP			02/06/15 11:12	1.0	1	
003	rb603	CCV				02/06/15 11:28	1.0	2	cc+
004	rb604	CCV				02/06/15 12:09	1.0	2	cc+
005	rb605	CCV	RFCHECK			02/06/15 12:45	1.0	3	cc- cc+
006	rb606	TUN	DFTPP			02/06/15 13:30	1.0	1	
007	rb607	ICAL	ICAL			02/06/15 13:54	1.0	4	
008	rb608	ICAL	ICAL			02/06/15 14:23	1.0	5	
009	rb609	ICAL	ICAL			02/06/15 14:54	1.0	3	
010	rb610	ICAL	ICAL			02/06/15 15:24	1.0	6	
011	rb611	ICAL	ICAL			02/06/15 15:54	1.0	2	
012	rb612	ICAL	ICAL			02/06/15 16:25	1.0	7	
013	rb613	ICAL	ICAL			02/06/15 16:55	1.0	8	
014	rb614	ICAL	ICAL			02/06/15 17:25	1.0	9	
015	rb615	ICAL	ICAL			02/06/15 17:55	1.0	10	
016	rb616	ICV	ICV			02/06/15 18:25	1.0	11	

NPM 02/09/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Standards used: 1=S26170 2=S26478 3=S26476 4=S26474 5=S26475 6=S26477 7=S26479 8=S26480 9=S26481 10=S26482 11=S25418
Flags used: +=high bias -=low bias ?t=missing tune cc=CCV CCC failure
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 585212327

Instrument : MSBNA09 Begun : 05/27/15 10:47
Method : EPA 8270C SOP Version : bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	rer01	IB	IB			05/27/15 10:47	1.0		?t
002	rer02	TUN	DFTPP			05/27/15 11:14	1.0	1	
003	rer03	CCV				05/27/15 11:30	1.0	2	
004	rer04	BLANK	QC789368	Water	223526	05/27/15 13:53	1.0	3	
005	rer05	BS	QC789369	Water	223526	05/27/15 14:23	1.0	3	
006	rer06	BSD	QC789370	Water	223526	05/27/15 14:53	1.0	3	
007	rer07	SAMPLE	267006-005	Water	223526	05/27/15 15:26	1.0	3	
008	rer08	SAMPLE	267006-006	Water	223526	05/27/15 15:57	1.0	3	
009	rer09	SAMPLE	267006-007	Water	223526	05/27/15 16:27	1.0	3	
010	rer10	SAMPLE	267013-001	Water	223526	05/27/15 16:57	150.0	3	high NT
011	rer11	SAMPLE	267021-003	Water	223526	05/27/15 17:27	1.0	3	
012	rer12	SAMPLE	267021-006	Water	223526	05/27/15 17:58	1.0	3	
013	rer13	SAMPLE	267021-009	Water	223526	05/27/15 18:28	1.0	3	
014	rer14	SAMPLE	267006-001	Water	223526	05/27/15 18:58	1.0	3	
015	rer15	SAMPLE	267006-004	Water	223526	05/27/15 19:29	1.0	3	
016	rer16	SAMPLE	267006-003	Water	223526	05/27/15 19:59	1.0	3	

KMH 05/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Standards used: 1=S26814 2=S26478 3=S26738

Flags used: ?t=missing tune

SAMPLE PREPARATION SUMMARY

Batch # : 223526
Started By : KKL
Prep Date : 26-MAY-2015 14:52
Method : 3520C
SOP Version : 8270_3520_rv20
Spike #1 ID : S26606
Spike #2 ID : S27315
Analysis : 8270-1
Finished By : JCD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267006-001		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-002		Water	1070	1	1	0.0009346	7	.4				8270-1	
267006-003		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-004		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-005		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-006		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-007		Water	1060	1	1	0.0009434	7	.4				8270-1	
267006-008		Water	1060	1	1	0.0009434	5	.4				8270-1	Prepped 27-MAY-2015 13:45
267013-001		Water	1000	10	1	0.01	10	.4				625	
267021-001		Water	1060	1	1	0.0009434	7	.4				8270-1	
267021-002		Water	1070	1	1	0.0009346	7	.4				8270-1	
267021-003		Water	1070	1	1	0.0009346	7	.4				8270-1	
267021-004		Water	1020	1	1	0.0009804	7	.4				8270-1	
267021-006		Water	1040	1	1	0.0009615	7	.4				8270-1	
267021-007		Water	1060	1	1	0.0009434	7	.4				8270-1	
267021-009		Water	1070	1	1	0.0009346	7	.4				8270-1	
267021-010		Water	1040	1	1	0.0009615	7	.4				8270-1	
267026-006		Water	1020	1	1	0.0009804	10	.4				8270-1	
267048-001		Water	900	5	1	0.005556	7	.4				625	Prepped 26-MAY-2015 19:35
267051-001		Water	1000	1	1	0.001	7	.4				8270-1	Prepped 26-MAY-2015 19:35
QC789368	BLANK	Water	1000	1	1	0.001		.4				8270-1	
QC789369	BS	Water	1000	1	1	0.001		.4	1			8270-1	
QC789370	BSD	Water	1000	1	1	0.001		.4	1			8270-1	

KMH 05/28/15 : Matrix spikes were not performed for this analysis in batch 223526 due to insufficient sample amount.

Analyst: NPM Date: 05/28/15 Reviewer: LW Date: 05/28/15

BNA (8270 & 625) Water Prep Log **Curtis & Tompkins, Ltd.**

Page 55 **BK 3648**

LIMS Batch No: 223526
LIMS Analysis: 8270-1
Date Extracted: 5/26/15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

	Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Confirmed pH ≤2	Comments
	267006-001	M	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
	2	K	1070	☑7 ☐___	☑1.0 ☐___	☑≤2	
	3	J	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
	4	I	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
5	5	H	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
	6	K	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
	7	I	1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
	267013-001	E	1000	☐7 ☑10	☑1.0 ☑10.0 JCD 5/27/15	☑≤2	
	267021-001	J	1060	☑7 ☐___	☑1.0 ☐___ JCD 5/27/15	☑≤2	Residue stuck to inside of flask
10	2	I	1070	☑7 ☐___	☑1.0 ☐___	☑≤2	
	3	J	1070	☑7 ☐___	☑1.0 ☐___	☑≤2	
	4	I	1020	☑7 ☐___	☑1.0 ☐___	☑≤2	
	6		1040	☑7 ☐___	☑1.0 ☐___	☑≤2	
	7		1060	☑7 ☐___	☑1.0 ☐___	☑≤2	
15	9	↓	1070	☑7 ☐___	☑1.0 ☐___	☑≤2	
	10	L	1040	☑7 ☐___	☑1.0 ☐___	☑≤2	
	267026-006	I	1020	☐7 ☑10	☑1.0 ☐___	☑≤2	
	MB QC789368	N/A	1000	☐7 ☑NA	☑1.0 ☐___	☑≤2	
	BS 69		1000	☐7 ☑NA	☑1.0 ☐___	☑≤2	
20	BSD 70	↓	1000	☐7 ☑NA	☑1.0 ☐___	☑≤2	
	267048-001	D	960	☑7 ☐___	☐1.0 ☑5.0	☑≤2	s/t @1935 by NPW
	267057-001	F	1000	☐7 ☐___	☑1.0 ☐___	☑≤2	↓
	267006-008	I	1060	☐7 ☑5	☐1.0 ☐___	☑≤2	a/o @ 13:45, 5/27/15 by KKL
	~~_____~~			☐7 ☐___	~~☐1.0 ☐___~~	☐≤2	NPW 5/28/15

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

	Lot# / LIMS # / Time	Date/ Initials
0.4 mL of surrogate solution was added to all samples	326606C	KKL 5/26/15
1.0 mL of matrix spiking solution was added to all spikes	S27315D	↓
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133088	
Cont. L/L extracted with 450mL of CH_2Cl_2	EM54351	
Extraction Start Time:	14:52 / 1935 / 13:45	↓
Extraction End Time:	0910 / ~~1365~~ 745	CAJ 5/27/15 / JCD 52715
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH	NA / ~~945~~ LEB 5/28	JCD 5/27/15
Extraction Start Time:		
Extraction End Time:	↓	
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	↓

Kristen Low 5/26/15
Extraction Chemist Date

Contined from Page ___
Continued on Page ___

5/28/15
Reviewed by Date

Laboratory Job Number 267026

ANALYTICAL REPORT

Semivolatile Organics by GC/MS SIM

Matrix: Water

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-1(GW)	Batch#:	223582
Lab ID:	267026-001	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/27/15
Diln Fac:	1.000	Analyzed:	06/01/15

Analyte	Result	RL
Naphthalene	ND	0.1
Acenaphthylene	ND	0.1
Acenaphthene	0.2	0.1
Fluorene	0.1	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	0.1	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	66	45-120
2-Fluorobiphenyl	55	46-120
Terphenyl-d14	62	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-2(GW)	Batch#:	223582
Lab ID:	267026-002	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/27/15
Diln Fac:	2.000	Analyzed:	06/01/15

Analyte	Result	RL
Naphthalene	ND	0.2
Acenaphthylene	ND	0.2
Acenaphthene	0.2	0.2
Fluorene	ND	0.2
Phenanthrene	ND	0.2
Anthracene	ND	0.2
Fluoranthene	ND	0.2
Pyrene	ND	0.2
Benzo(a)anthracene	ND	0.2
Chrysene	ND	0.2
Benzo(b)fluoranthene	ND	0.2
Benzo(k)fluoranthene	ND	0.2
Benzo(a)pyrene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.2
Dibenz(a,h)anthracene	ND	0.2
Benzo(g,h,i)perylene	ND	0.2

Surrogate	%REC	Limits
Nitrobenzene-d5	77	45-120
2-Fluorobiphenyl	71	46-120
Terphenyl-d14	71	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	DUP052315	Batch#:	223582
Lab ID:	267026-003	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/27/15
Diln Fac:	2.000	Analyzed:	06/01/15

Analyte	Result	RL
Naphthalene	ND	0.2
Acenaphthylene	ND	0.2
Acenaphthene	0.2	0.2
Fluorene	ND	0.2
Phenanthrene	ND	0.2
Anthracene	ND	0.2
Fluoranthene	ND	0.2
Pyrene	ND	0.2
Benzo(a)anthracene	ND	0.2
Chrysene	ND	0.2
Benzo(b)fluoranthene	ND	0.2
Benzo(k)fluoranthene	ND	0.2
Benzo(a)pyrene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.2
Dibenz(a,h)anthracene	ND	0.2
Benzo(g,h,i)perylene	ND	0.2

Surrogate	%REC	Limits
Nitrobenzene-d5	73	45-120
2-Fluorobiphenyl	69	46-120
Terphenyl-d14	52	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Field ID:	APLMW-3(GW)	Batch#:	223656
Lab ID:	267026-005	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/29/15
Diln Fac:	2.000	Analyzed:	06/01/15

Analyte	Result	RL
Naphthalene	ND	0.2
Acenaphthylene	ND	0.2
Acenaphthene	ND	0.2
Fluorene	ND	0.2
Phenanthrene	ND	0.2
Anthracene	ND	0.2
Fluoranthene	ND	0.2
Pyrene	ND	0.2
Benzo(a)anthracene	ND	0.2
Chrysene	ND	0.2
Benzo(b)fluoranthene	ND	0.2
Benzo(k)fluoranthene	ND	0.2
Benzo(a)pyrene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.2
Dibenz(a,h)anthracene	ND	0.2
Benzo(g,h,i)perylene	ND	0.2

Surrogate	%REC	Limits
Nitrobenzene-d5	74	45-120
2-Fluorobiphenyl	69	46-120
Terphenyl-d14	63	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789593	Batch#:	223582
Matrix:	Water	Prepared:	05/27/15
Units:	ug/L	Analyzed:	05/29/15

Analyte	Result	RL
Naphthalene	ND	0.1
Acenaphthylene	ND	0.1
Acenaphthene	ND	0.1
Fluorene	ND	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	ND	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	95	45-120
2-Fluorobiphenyl	90	46-120
Terphenyl-d14	75	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Matrix:	Water	Batch#:	223582
Units:	ug/L	Prepared:	05/27/15
Diln Fac:	1.000	Analyzed:	05/29/15

Type: BS Lab ID: QC789594

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	1.000	0.8261	83	61-120
Pyrene	1.000	0.6636	66	53-120

Surrogate	%REC	Limits
Nitrobenzene-d5	95	45-120
2-Fluorobiphenyl	89	46-120
Terphenyl-d14	69	30-120

Type: BSD Lab ID: QC789595

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	1.000	0.7186	72	61-120	14	30
Pyrene	1.000	0.6032	60	53-120	10	27

Surrogate	%REC	Limits
Nitrobenzene-d5	82	45-120
2-Fluorobiphenyl	80	46-120
Terphenyl-d14	65	30-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789876	Batch#:	223656
Matrix:	Water	Prepared:	05/29/15
Units:	ug/L	Analyzed:	06/01/15

Analyte	Result	RL
Naphthalene	ND	0.1
Acenaphthylene	ND	0.1
Acenaphthene	ND	0.1
Fluorene	ND	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	ND	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	61	45-120
2-Fluorobiphenyl	65	46-120
Terphenyl-d14	84	30-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3520C
Project#:	OD14170810.03	Analysis:	EPA 8270C-SIM
Matrix:	Water	Batch#:	223656
Units:	ug/L	Prepared:	05/29/15
Diln Fac:	1.000	Analyzed:	06/01/15

Type: BS Lab ID: QC789877

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	1.000	0.7045	70	61-120
Pyrene	1.000	0.6582	66	53-120

Surrogate	%REC	Limits
Nitrobenzene-d5	71	45-120
2-Fluorobiphenyl	66	46-120
Terphenyl-d14	76	30-120

Type: BSD Lab ID: QC789878

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	1.000	0.7347	73	61-120	4	30
Pyrene	1.000	0.6647	66	53-120	1	27

Surrogate	%REC	Limits
Nitrobenzene-d5	74	45-120
2-Fluorobiphenyl	72	46-120
Terphenyl-d14	81	30-120

RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSSIM Water
EPA 8270C

Inst : MSBNA02 Run Name : DFTPP IDF : 1.0
Seqnum : 515203657002 File : uel02 Time : 21-MAY-2015 10:44

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	39325	38.90	
68	< 2% of mass 69	0	0.00	
69		55403	100.00	
70	< 2% of mass 69	254	0.46	
127	40% - 60% of mass 198	48242	47.72	
197	< 1% of mass 198	0	0.00	
198		101093	100.00	
199	5% - 9% of mass 198	6460	6.39	
275	10% - 30% of mass 198	16623	16.44	
365	> 1% of mass 198	1411	1.40	
441	Present, < mass 443	9466	79.92	
442	> 40% and < 100% of mass 198	62592	61.92	
443	17% - 23% of mass 442	11845	18.92	

Analyst: KMH Date: 05/21/15 Reviewer: LW Date: 05/22/15

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSSIM Water
EPA 8270C

Inst : MSBNA02 Run Name : DFTPP IDF : 1.0
Seqnum : 515219544002 File : uf102 Time : 01-JUN-2015 11:31

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	39871	37.83	
68	< 2% of mass 69	0	0.00	
69		57172	100.00	
70	< 2% of mass 69	343	0.60	
127	40% - 60% of mass 198	49037	46.53	
197	< 1% of mass 198	0	0.00	
198		105386	100.00	
199	5% - 9% of mass 198	7064	6.70	
275	10% - 30% of mass 198	17550	16.65	
365	> 1% of mass 198	1701	1.61	
441	Present, < mass 443	9668	75.74	
442	> 40% and < 100% of mass 198	65405	62.06	
443	17% - 23% of mass 442	12764	19.52	

Analyst: KMH Date: 06/01/15 Reviewer: LW Date: 06/01/15

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSSIM Water
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525131701005 File : vd105 Time : 01-APR-2015 12:58

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	144572	42.83	
68	< 2% of mass 69	0	0.00	
69		166261	100.00	
70	< 2% of mass 69	1218	0.73	
127	40% - 60% of mass 198	186729	55.32	
197	< 1% of mass 198	0	0.00	
198		337514	100.00	
199	5% - 9% of mass 198	24104	7.14	
275	10% - 30% of mass 198	74893	22.19	
365	> 1% of mass 198	12658	3.75	
441	Present, < mass 443	47405	74.51	
442	> 40% and < 100% of mass 198	315029	93.34	
443	17% - 23% of mass 442	63621	20.20	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS DFTPP TUNE FOR 267026 MSSIM Water
EPA 8270C

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525215246002 File : veu02 Time : 29-MAY-2015 11:52

Standards: S26814

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	231471	41.09	
68	< 2% of mass 69	1284	0.65	
69		197878	100.00	
70	< 2% of mass 69	1796	0.91	
127	40% - 60% of mass 198	244537	43.41	
197	< 1% of mass 198	0	0.00	
198		563264	100.00	
199	5% - 9% of mass 198	40736	7.23	
275	10% - 30% of mass 198	151677	26.93	
365	> 1% of mass 198	38282	6.80	
441	Present, < mass 443	66810	82.07	
442	> 40% and < 100% of mass 198	425408	75.53	
443	17% - 23% of mass 442	81408	19.14	

Analyst: KMH Date: 05/29/15 Reviewer: LW Date: 05/29/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 MSSIM Water: EPA 8270C-SIM

Inst : MSBNA02
Calnum : 515203657001
Units : ug/mL

Name : 2PAHSIM
Date : 21-MAY-2015 11:40
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	uel04	515203657004	ICAL	21-MAY-2015 11:40	S27275
L2	uel05	515203657005	ICAL	21-MAY-2015 12:15	S27276
L3	uel06	515203657006	ICAL	21-MAY-2015 12:50	S27277
L4	uel07	515203657007	ICAL	21-MAY-2015 13:24	S27278
L5	uel08	515203657008	ICAL	21-MAY-2015 13:57	S27279
L6	uel09	515203657009	ICAL	21-MAY-2015 14:31	S27280
L7	uel10	515203657010	ICAL	21-MAY-2015 15:04	S27281

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.1084	1.1353	1.1212	1.0944	1.0812	1.0678	1.0564	AVRG		0.91329		1.0949	3	15	0.05	0.99	
Acenaphthylene	2.0067	2.0229	2.1075	2.0981	2.1520	2.0866	2.0699	AVRG		0.48131		2.0777	2	15	0.05	0.99	
Acenaphthene	1.2659	1.2823	1.3255	1.2955	1.3181	1.3046	1.3290	AVRG		0.76748		1.3030	2	15	0.05	0.99	
Fluorene	1.4344	1.4734	1.4859	1.4702	1.5063	1.4681	1.4718	AVRG		0.67895		1.4729	1	15	0.05	0.99	
Phenanthrene	1.3128	1.3445	1.3931	1.3117	1.2839	1.2611	1.2493	AVRG		0.76449		1.3081	4	15	0.05	0.99	
Anthracene	1.1377m	1.2065m	1.2920m	1.2442m	1.2377m	1.2356m	1.2462	AVRG		0.81395		1.2286	4	15	0.05	0.99	
Fluoranthene	1.3088m	1.3223	1.4414	1.3804	1.4120	1.3644	1.2750	AVRG		0.73650		1.3578	4	15	0.05	0.99	
Pyrene	1.8263	1.8655	1.8287	1.6729	1.6659	1.6233	1.7880	AVRG		0.57047		1.7529	6	15	0.05	0.99	
Benzo(a)anthracene	1.2002	1.2412	1.3180	1.3201	1.3526	1.3370	1.3262	AVRG		0.76962		1.2993	4	15	0.05	0.99	
Chrysene	1.0394m	1.0430m	1.0638m	1.0440m	1.0462m	1.0094m	1.0209m	AVRG		0.96330		1.0381	2	15	0.05	0.99	
Benzo(b)fluoranthene	1.3169	1.3616	1.4455	1.4356	1.4410	1.5305	1.4830	AVRG		0.69901		1.4306	5	15	0.05	0.99	
Benzo(k)fluoranthene	1.3812m	1.4254m	1.4013	1.3822	1.4138	1.3518	1.4959	AVRG		0.71056		1.4073	3	15	0.05	0.99	
Benzo(a)pyrene	1.0186	1.0463	1.1034	1.1368	1.1987	1.2437	1.2637	AVRG		0.87377		1.1445	8	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.0620	1.1236	1.2005	1.1951	1.2490	1.3154m	1.3954m	AVRG		0.81957		1.2202	9	15	0.05	0.99	
Dibenz(a,h)anthracene	0.7682	0.8147	0.8545	0.8778	0.9095	0.9814m	1.0431m	AVRG		1.12015		0.8927	11	15	0.05	0.99	
Benzo(g,h,i)perylene	1.0689	1.1084	1.1311	1.1193	1.1464	1.1909	1.2144m	AVRG		0.87725		1.1399	4	15	0.05	0.99	
Nitrobenzene-d5	0.3660	0.3864	0.4020	0.4083	0.4127	0.4051	0.4049	AVRG		2.51320		0.3979	4	15	0.05	0.99	
2-Fluorobiphenyl	1.8884	1.8560	1.8796	1.8208	1.8121	1.7774	1.7875	AVRG		0.54594		1.8317	2	15	0.05	0.99	
Terphenyl-d14	1.0748	1.0304	1.0861	1.0135	1.0255	0.9869	0.9006	AVRG		0.98345		1.0168	6	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	1	0.2000	4	0.5000	2	1.0000	0	2.0000	-1	5.0000	-2	10.000	-4
Acenaphthylene	0.1000	-3	0.2000	-3	0.5000	1	1.0000	1	2.0000	4	5.0000	0	10.000	0
Acenaphthene	0.1000	-3	0.2000	-2	0.5000	2	1.0000	-1	2.0000	1	5.0000	0	10.000	2
Fluorene	0.1000	-3	0.2000	0	0.5000	1	1.0000	0	2.0000	2	5.0000	0	10.000	0
Phenanthrene	0.1000	0	0.2000	3	0.5000	7	1.0000	0	2.0000	-2	5.0000	-4	10.000	-4
Anthracene	0.1000	-7	0.2000	-2	0.5000	5	1.0000	1	2.0000	1	5.0000	1	10.000	1
Fluoranthene	0.1000	-4	0.2000	-3	0.5000	6	1.0000	2	2.0000	4	5.0000	0	10.000	-6
Pyrene	0.1000	4	0.2000	6	0.5000	4	1.0000	-5	2.0000	-5	5.0000	-7	10.000	2
Benzo(a)anthracene	0.1000	-8	0.2000	-4	0.5000	1	1.0000	2	2.0000	4	5.0000	3	10.000	2
Chrysene	0.1000	0	0.2000	0	0.5000	2	1.0000	1	2.0000	1	5.0000	-3	10.000	-2
Benzo(b)fluoranthene	0.1000	-8	0.2000	-5	0.5000	1	1.0000	0	2.0000	1	5.0000	7	10.000	4
Benzo(k)fluoranthene	0.1000	-2	0.2000	1	0.5000	0	1.0000	-2	2.0000	0	5.0000	-4	10.000	6
Benzo(a)pyrene	0.1000	-11	0.2000	-9	0.5000	-4	1.0000	-1	2.0000	5	5.0000	9	10.000	10
Indeno(1,2,3-cd)pyrene	0.1000	-13	0.2000	-8	0.5000	-2	1.0000	-2	2.0000	2	5.0000	8	10.000	14
Dibenz(a,h)anthracene	0.1000	-14	0.2000	-9	0.5000	-4	1.0000	-2	2.0000	2	5.0000	10	10.000	17
Benzo(g,h,i)perylene	0.1000	-6	0.2000	-3	0.5000	-1	1.0000	-2	2.0000	1	5.0000	4	10.000	7
Nitrobenzene-d5	0.1000	-8	0.2000	-3	0.5000	1	1.0000	3	2.0000	4	5.0000	2	10.000	2
2-Fluorobiphenyl	0.1000	3	0.2000	1	0.5000	3	1.0000	-1	2.0000	-1	5.0000	-3	10.000	-2
Terphenyl-d14	0.1000	6	0.2000	1	0.5000	7	1.0000	0	2.0000	1	5.0000	-3	10.000	-11

KMH 05/21/15 [1,4-Dioxane]: Corrected automatically drawn baseline in multiple levels.

KMH 05/21/15 [Anthracene]: Corrected automatically drawn baseline in multiple levels.

KMH 05/21/15 [Fluoranthene]: Corrected automatically drawn baseline in ICAL (uel04).

KMH 05/21/15 [Chrysene]: Corrected automatically drawn baseline in all levels.

KMH 05/21/15 [Benzo(k)fluoranthene]: Corrected automatically drawn baseline in multiple levels.

KMH 05/21/15 [Indeno(1,2,3-cd)pyrene]: Corrected automatically drawn baseline in multiple levels.

KMH 05/21/15 [Dibenz(a,h)anthracene]: Corrected automatically drawn baseline in multiple levels.

KMH 05/21/15 [Benzo(g,h,i)perylene]: Corrected automatically drawn baseline in ICAL (uel10).

Analyst: KMH Date: 05/21/15 Reviewer: LW Date: 05/22/15

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

515203657001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 MSSIM Water
EPA 8270C-SIM

Inst : MSBNA02 Name : 2PAHSIM
Calnum : 515203657001 Cal Date : 21-MAY-2015

ICV 515203657011 (uel11 21-MAY-2015) stds: S27288

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.9464	ug/mL	-5	30	
Acenaphthylene	1.000	1.039	ug/mL	4	30	
Acenaphthene	1.000	0.9490	ug/mL	-5	20	
Fluorene	1.000	0.9396	ug/mL	-6	30	
Phenanthrene	1.000	0.9531	ug/mL	-5	30	
Anthracene	1.000	0.9564	ug/mL	-4	30	
Fluoranthene	1.000	0.9977	ug/mL	0	20	
Pyrene	1.000	1.011	ug/mL	1	30	
Benzo(a)anthracene	1.000	0.9688	ug/mL	-3	30	
Chrysene	1.000	1.200	ug/mL	20	30	
Benzo(b)fluoranthene	1.000	0.9313	ug/mL	-7	30	
Benzo(k)fluoranthene	1.000	0.9026	ug/mL	-10	30	
Benzo(a)pyrene	1.000	1.006	ug/mL	1	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9566	ug/mL	-4	30	
Dibenz(a,h)anthracene	1.000	1.057	ug/mL	6	30	
Benzo(g,h,i)perylene	1.000	0.9542	ug/mL	-5	30	

Analyst: KMH Date: 05/21/15 Reviewer: LW Date: 05/22/15

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 MSSIM Water: EPA 8270C-SIM

Inst : MSBNA03
Calnum : 525131701001
Units : ug/mL

Name : 3PAHSIM
Date : 01-APR-2015 13:17
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	vd106	525131701006	ICAL	01-APR-2015 13:17	S26126
L2	vd107	525131701007	ICAL	01-APR-2015 13:50	S26127
L3	vd108	525131701008	ICAL	01-APR-2015 14:24	S26919
L4	vd109	525131701009	ICAL	01-APR-2015 14:57	S26920
L5	vd110	525131701010	ICAL	01-APR-2015 15:30	S26130
L6	vd111	525131701011	ICAL	01-APR-2015 16:03	S26131
L7	vd112	525131701012	ICAL	01-APR-2015 16:36	S26132

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene	1.0149	1.0289	1.0641	1.0871	1.0618	1.0776	1.1597	AVRG		0.93405		1.0706	4	15	0.05	0.99	
Acenaphthylene	1.7445	1.7619	2.0357	2.0852	1.8385	1.8877	2.0244	AVRG		0.52325		1.9111	7	15	0.05	0.99	
Acenaphthene	1.1518	1.1546	1.3343	1.3635	1.2251	1.2296	1.3413	AVRG		0.79544		1.2572	7	15	0.05	0.99	
Fluorene	1.2852	1.3126	1.5176	1.5180	1.3771	1.4726	1.6612	AVRG		0.69005		1.4492	9	15	0.05	0.99	
Phenanthrene	1.0751	1.0919	1.1075	1.1303	1.1292	1.1693	1.2351	AVRG		0.88179		1.1341	5	15	0.05	0.99	
Anthracene	1.0472	1.0715	1.0845	1.0926	1.1015	1.1636	1.2267	AVRG		0.89886		1.1125	6	15	0.05	0.99	
Fluoranthene	1.2044	1.2242	1.2327	1.2515	1.2696	1.3195	1.4104	AVRG		0.78542		1.2732	6	15	0.05	0.99	
Pyrene	1.2698	1.2713	1.3017	1.2862	1.2973	1.2606	1.3668	AVRG		0.77316		1.2934	3	15	0.05	0.99	
Benzo(a)anthracene	1.1612	1.1342	1.1513	1.1677	1.1912	1.2423	1.3566	AVRG		0.83290		1.2006	6	15	0.05	0.99	
Chrysene	1.0584	1.0738	1.0954	1.1042	1.1142	1.1056	1.1762	AVRG		0.90581		1.1040	3	15	0.05	0.99	
Benzo(b)fluoranthene	1.0931	1.1271	1.1614	1.1894	1.2318	1.3145	1.4314	AVRG		0.81883		1.2213	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0825	1.1143	1.1019	1.2027	1.2171	1.2750	1.4384	AVRG		0.83017		1.2046	10	15	0.05	0.99	
Benzo(a)pyrene	0.9393	0.9772	1.0307	1.0484	1.0950	1.1681	1.2650	AVRG		0.93039		1.0748	10	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	1.1076	1.1400	1.1697	1.2539	1.3238	1.4807		AVRG		0.80260		1.2459	11	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8945	0.9304	0.9427	1.0116	1.0792	1.2108		AVRG		0.98859		1.0115	12	15	0.05	0.99	
Benzo(g,h,i)perylene	0.9997	1.0119	1.0071	1.0727	1.1105	1.1724	1.2619	AVRG		0.91668		1.0909	9	15	0.05	0.99	
Nitrobenzene-d5	0.2927	0.2862	0.3037	0.3172	0.3142	0.3243	0.3460	AVRG		3.20468		0.3120	6	15	0.05	0.99	
2-Fluorobiphenyl	1.5354	1.5623	1.8123	1.8183	1.6439	1.6800	1.8067	AVRG		0.59027		1.6941	7	15	0.05	0.99	
Terphenyl-d14	0.9490	0.9736	0.9598	0.9801	0.9874	0.9955	1.0694	AVRG		1.01233		0.9878	4	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Naphthalene	0.1000	-5	0.2000	-4	0.5000	-1	1.0000	2	2.0000	-1	5.0000	1	10.000	8
Acenaphthylene	0.1000	-9	0.2000	-8	0.5000	7	1.0000	9	2.0000	-4	5.0000	-1	10.000	6
Acenaphthene	0.1000	-8	0.2000	-8	0.5000	6	1.0000	8	2.0000	-3	5.0000	-2	10.000	7
Fluorene	0.1000	-11	0.2000	-9	0.5000	5	1.0000	5	2.0000	-5	5.0000	2	10.000	15
Phenanthrene	0.1000	-5	0.2000	-4	0.5000	-2	1.0000	0	2.0000	0	5.0000	3	10.000	9
Anthracene	0.1000	-6	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	-1	5.0000	5	10.000	10
Fluoranthene	0.1000	-5	0.2000	-4	0.5000	-3	1.0000	-2	2.0000	0	5.0000	4	10.000	11
Pyrene	0.1000	-2	0.2000	-2	0.5000	1	1.0000	-1	2.0000	0	5.0000	-3	10.000	6
Benzo(a)anthracene	0.1000	-3	0.2000	-6	0.5000	-4	1.0000	-3	2.0000	-1	5.0000	3	10.000	13
Chrysene	0.1000	-4	0.2000	-3	0.5000	-1	1.0000	0	2.0000	1	5.0000	0	10.000	7
Benzo(b)fluoranthene	0.1000	-10	0.2000	-8	0.5000	-5	1.0000	-3	2.0000	1	5.0000	8	10.000	17
Benzo(k)fluoranthene	0.1000	-10	0.2000	-7	0.5000	-9	1.0000	0	2.0000	1	5.0000	6	10.000	19
Benzo(a)pyrene	0.1000	-13	0.2000	-9	0.5000	-4	1.0000	-2	2.0000	2	5.0000	9	10.000	18
Indeno(1,2,3-cd)pyrene	0.1000	-11	0.2000	-9	0.5000	-6	1.0000	1	2.0000	6	5.0000	19		
Dibenz(a,h)anthracene	0.1000	-12	0.2000	-8	0.5000	-7	1.0000	0	2.0000	7	5.0000	20		
Benzo(g,h,i)perylene	0.1000	-8	0.2000	-7	0.5000	-8	1.0000	-2	2.0000	2	5.0000	7	10.000	16
Nitrobenzene-d5	0.1000	-6	0.2000	-8	0.5000	-3	1.0000	2	2.0000	1	5.0000	4	10.000	11
2-Fluorobiphenyl	0.1000	-9	0.2000	-8	0.5000	7	1.0000	7	2.0000	-3	5.0000	-1	10.000	7
Terphenyl-d14	0.1000	-4	0.2000	-1	0.5000	-3	1.0000	-1	2.0000	0	5.0000	1	10.000	8

KMH 04/02/15 [1,4-Dioxane]: Corrected automatically drawn baseline in multiple levels.

KMH 05/30/15 : cut 2 loops of column

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

525131701001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 MSSIM Water
EPA 8270C-SIM

Inst : MSBNA03 Name : 3PAHSIM
Calnum : 525131701001 Cal Date : 01-APR-2015

ICV 525131701013 (vd113 01-APR-2015) stds: S26530

Analyte	Spiked	Quant	Units	%D	Max	Flags
Naphthalene	1.000	0.8880	ug/mL	-11	30	
Acenaphthylene	1.000	0.9299	ug/mL	-7	30	
Acenaphthene	1.000	0.8706	ug/mL	-13	20	
Fluorene	1.000	0.8700	ug/mL	-13	30	
Phenanthrene	1.000	0.9112	ug/mL	-9	30	
Anthracene	1.000	0.9398	ug/mL	-6	30	
Fluoranthene	1.000	0.9169	ug/mL	-8	20	
Pyrene	1.000	1.016	ug/mL	2	30	
Benzo(a)anthracene	1.000	0.8835	ug/mL	-12	30	
Chrysene	1.000	0.9391	ug/mL	-6	30	
Benzo(b)fluoranthene	1.000	0.9116	ug/mL	-9	30	
Benzo(k)fluoranthene	1.000	0.8596	ug/mL	-14	30	
Benzo(a)pyrene	1.000	0.9589	ug/mL	-4	20	
Indeno(1,2,3-cd)pyrene	1.000	0.9374	ug/mL	-6	30	
Dibenz(a,h)anthracene	1.000	0.9568	ug/mL	-4	30	
Benzo(g,h,i)perylene	1.000	0.9333	ug/mL	-7	30	

Analyst: KMH Date: 04/01/15 Reviewer: LW Date: 04/02/15

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 MSSIM Water
EPA 8270C-SIM

Inst : MSBNA02 Run Name : PAHDIOX IDF : 1.0
Seqnum : 515219544003 File : uf103 Time : 01-JUN-2015 11:55
Cal : 515203657001 Caldate : 21-MAY-2015
Standards: S27279

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0949	1.0813	2.000	1.975	ug/mL	-1	30	0.0500	
Acenaphthylene	2.0777	2.1158	2.000	2.037	ug/mL	2	30	0.0500	
Acenaphthene	1.3030	1.3063	2.000	2.005	ug/mL	0	20	0.0500	
Fluorene	1.4729	1.4325	2.000	1.945	ug/mL	-3	30	0.0500	
Phenanthrene	1.3081	1.2844	2.000	1.964	ug/mL	-2	30	0.0500	
Anthracene	1.2286	1.1808	2.000	1.922	ug/mL	-4	30	0.0500	
Fluoranthene	1.3578	1.4458	2.000	2.130	ug/mL	6	20	0.0500	
Pyrene	1.7529	1.5931	2.000	1.818	ug/mL	-9	30	0.0500	
Benzo(a)anthracene	1.2993	1.3467	2.000	2.073	ug/mL	4	30	0.0500	
Chrysene	1.0381	1.0261	2.000	1.977	ug/mL	-1	30	0.0500	m
Benzo(b)fluoranthene	1.4306	1.4796	2.000	2.069	ug/mL	3	30	0.0500	
Benzo(k)fluoranthene	1.4073	1.3094	2.000	1.861	ug/mL	-7	30	0.0500	
Benzo(a)pyrene	1.1445	1.1784	2.000	2.059	ug/mL	3	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2202	1.2497	2.000	2.048	ug/mL	2	30	0.0500	
Dibenz(a,h)anthracene	0.8927	0.9266	2.000	2.076	ug/mL	4	30	0.0500	
Benzo(g,h,i)perylene	1.1399	1.1274	2.000	1.978	ug/mL	-1	30	0.0500	
Nitrobenzene-d5	0.3979	0.3977	2.000	1.999	ug/mL	0	30	0.0500	
2-Fluorobiphenyl	1.8317	1.8004	2.000	1.966	ug/mL	-2	30	0.0500	
Terphenyl-d14	1.0168	1.0171	2.000	2.001	ug/mL	0	30	0.0500	

KMH 06/01/15 [1,4-Dioxane]: Corrected automatically drawn baseline.

KMH 06/01/15 [Chrysene]: Corrected automatically drawn baseline.

Analyst: KMH Date: 06/01/15 Reviewer: LW Date: 06/01/15

m=manual integration

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 MSSIM Water
EPA 8270C-SIM

Inst : MSBNA03 Run Name : DFTPP IDF : 1.0
Seqnum : 525215246003 File : veu03 Time : 29-MAY-2015 12:10
Cal : 525131701001 Caldate : 01-APR-2015
Standards: S27277

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Naphthalene	1.0706	1.1278	0.5000	0.5267	ug/mL	5	30	0.0500	
Acenaphthylene	1.9111	2.1235	0.5000	0.5556	ug/mL	11	30	0.0500	
Acenaphthene	1.2572	1.3338	0.5000	0.5305	ug/mL	6	20	0.0500	
Fluorene	1.4492	1.5540	0.5000	0.5362	ug/mL	7	30	0.0500	
Phenanthrene	1.1341	1.1217	0.5000	0.4946	ug/mL	-1	30	0.0500	
Anthracene	1.1125	1.0425	0.5000	0.4685	ug/mL	-6	30	0.0500	
Fluoranthene	1.2732	1.3572	0.5000	0.5330	ug/mL	7	20	0.0500	
Pyrene	1.2934	1.1920	0.5000	0.4608	ug/mL	-8	30	0.0500	
Benzo(a)anthracene	1.2006	1.2310	0.5000	0.5126	ug/mL	3	30	0.0500	
Chrysene	1.1040	0.9608	0.5000	0.4352	ug/mL	-13	30	0.0500	
Benzo(b)fluoranthene	1.2213	1.2321	0.5000	0.5044	ug/mL	1	30	0.0500	
Benzo(k)fluoranthene	1.2046	1.2312	0.5000	0.5111	ug/mL	2	30	0.0500	
Benzo(a)pyrene	1.0748	1.0999	0.5000	0.5117	ug/mL	2	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.2459	1.2515	0.5000	0.5022	ug/mL	0	30	0.0500	
Dibenz(a,h)anthracene	1.0115	0.9535	0.5000	0.4713	ug/mL	-6	30	0.0500	
Benzo(g,h,i)perylene	1.0909	1.1123	0.5000	0.5098	ug/mL	2	30	0.0500	
Nitrobenzene-d5	0.3120	0.3702	0.5000	0.5932	ug/mL	19	30	0.0500	
2-Fluorobiphenyl	1.6941	2.0630	0.5000	0.6089	ug/mL	**22**	30	0.0500	!c+
Terphenyl-d14	0.9878	0.9236	0.5000	0.4675	ug/mL	-6	30	0.0500	

KMH 05/29/15 [1,4-Dioxane]: Corrected automatically drawn baseline.

Analyst: KMH Date: 05/29/15 Reviewer: LW Date: 05/29/15

!=warning +=high bias c=CCV

Logbooks & Sequences

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 515219544

Date : 06/01/15 Reference : uf103
Sequence : MSBNA02 uf1 Analyzed : 06/01/15 11:55

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	24142	8.20	89531	9.78	39180	12.06	66328	14.00	55087	17.59	44898	19.58
		LOWER LIMIT	12071	7.70	44766	9.28	19590	11.56	33164	13.50	27544	17.09	22449	19.08
		UPPER LIMIT	48284	8.70	179062	10.28	78360	12.56	132656	14.50	110174	18.09	89796	20.08
003	CCV	PAHDIOX	24142	8.20	89531	9.78	39180	12.06	66328	14.00	55087	17.59	44898	19.58
004	BLANK	QC789876	25076	8.20	94904	9.78	42743	12.06	72321	14.00	58021	17.59	43140	19.58
005	BS	QC789877	26927	8.20	97794	9.78	44667	12.06	79603	14.00	66299	17.59	52920	19.58
006	BSD	QC789878	26455	8.20	99552	9.78	43859	12.06	78500	14.00	65284	17.59	52120	19.58
009	SAMPLE	267084-001	26914	8.20	104669	9.78	49347	12.04	82759	14.00	71882	17.59	56954	19.57
010	SAMPLE	267084-002	28548	8.20	108732	9.78	49819	12.04	85910	14.00	66227	17.59	54296	19.57
011	SAMPLE	267021-010	28743	8.20	121980	9.78	59924	12.06	97486	14.02	72087	17.60	24759	19.59
012	BLANK	QC790093	22661	8.20	84174	9.78	38526	12.04	66862	14.00	53631	17.59	41486	19.57
013	BS	QC790094	23106	8.20	87224	9.78	40345	12.04	71465	14.00	57865	17.59	44952	19.57
014	BSD	QC790095	25551	8.20	94126	9.78	43705	12.04	76864	14.00	62059	17.59	47538	19.57
015	SAMPLE	266999-028	22337	8.20	84610	9.78	38696	12.04	64389	14.00	49824	17.59	37831	19.58
016	SAMPLE	267026-001	28042	8.20	112138	9.78	60223	12.04	88570	14.00	77002	17.59	61606	19.58
017	SAMPLE	267026-002	29770	8.20	116053	9.78	54143	12.05	91139	14.02	79078	17.59	49700	19.58
018	SAMPLE	267026-003	28327	8.20	111123	9.78	51750	12.06	87848	14.00	76830	17.59	50393	19.59
019	SAMPLE	267026-005	29507	8.20	112888	9.78	54131	12.06	86799	14.00	75200	17.59	50240	19.59

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 525215246

Date : 05/29/15
Sequence : MSBNA03 veu

Reference : veu03
Analyzed : 05/29/15 12:10

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+CCV/BS+CCV/LCS+ICV+ICV/BS+ICV/CCV+ICV/LCS+RCCV+RICV STD	21692	7.27	93233	8.90	31620	11.19	68711	13.14	82710	16.58	81555	18.31
		LOWER LIMIT	10846	6.77	46617	8.40	15810	10.69	34356	12.64	41355	16.08	40778	17.81
		UPPER LIMIT	43384	7.77	186466	9.40	63240	11.69	137422	13.64	165420	17.08	163110	18.81
003	CCV	DFTPP	21692	7.27	93233	8.90	31620	11.19	68711	13.14	82710	16.58	81555	18.31
004	BLANK	QC789593	24137	7.27	100795	8.90	36148	11.20	83301	13.14	98525	16.58	91140	18.31
005	BS	QC789594	24307	7.27	102396	8.90	36651	11.20	81214	13.14	104246	16.58	93578	18.31
006	BSD	QC789595	24987	7.27	104961	8.90	36781	11.19	82638	13.13	100629	16.58	91144	18.31
007	SAMPLE	267007-001	21165	7.27	90742	8.90	28837	11.20	69276	13.14	95028	16.58	86927	18.31
008	SAMPLE	267006-001	22402	7.27	94285	8.90	43100	11.20	125256	13.14	195478 *	16.61	98754	18.34
009	SAMPLE	267006-002	16762	7.28	74588	8.90	27824	11.20	60545	13.14	95641	16.60	78260	18.32
010	SAMPLE	267006-003	18764	7.28	79926	8.90	30381	11.20	66500	13.14	119765	16.60	89009	18.33
011	SAMPLE	267006-004	19109	7.28	83541	8.90	29727	11.20	70520	13.14	167914 *	16.61	109844	18.34
012	SAMPLE	267006-005	16772	7.28	71767	8.90	23066	11.20	56923	13.14	78712	16.59	74406	18.32
013	SAMPLE	267006-006	19989	7.28	85181	8.90	29863	11.20	62992	13.14	112575	16.60	90260	18.33
014	SAMPLE	267006-007	18758	7.28	82354	8.90	28722	11.20	61507	13.14	120826	16.60	93482	18.33
015	SAMPLE	267006-008	17848	7.28	76733	8.90	24106	11.20	60019	13.14	80886	16.59	77442	18.32
016	SAMPLE	267021-001	17965	7.28	82532	8.90	32478	11.20	157479 *	13.16	282844 *	16.63	114453	18.36
017	SAMPLE	267021-002	16092	7.28	68884	8.90	32029	11.20	138615 *	13.16	248658 *	16.63	130743	18.36
018	SAMPLE	267021-003	15629	7.28	71689	8.91	60830	11.21	363168 *	13.18	446340 *	16.66	162954	18.39
019	SAMPLE	267021-004	11036	7.28	50838	8.91	27506	11.21	61272	13.17	142787	16.62	91190	18.35

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 515203657

Instrument : MSBNA02 Begun : 05/21/15 10:17
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	uel01	IB	IB			05/21/15 10:17	1.0		?t
002	uel02	TUN	DFTPP			05/21/15 10:44	1.0	1	
003	uel03	CCV	PAHDIOX			05/21/15 11:05	1.0	2	
004	uel04	ICAL	ICAL			05/21/15 11:40	1.0	3	
005	uel05	ICAL	ICAL			05/21/15 12:15	1.0	4	
006	uel06	ICAL	ICAL			05/21/15 12:50	1.0	2	
007	uel07	ICAL	ICAL			05/21/15 13:24	1.0	5	
008	uel08	ICAL	ICAL			05/21/15 13:57	1.0	6	
009	uel09	ICAL	ICAL			05/21/15 14:31	1.0	7	
010	uel10	ICAL	ICAL			05/21/15 15:04	1.0	8	
011	uel11	ICV	ICV			05/21/15 15:38	1.0	9	

KMH 05/21/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 11.

Standards used: 1=S26814 2=S27277 3=S27275 4=S27276 5=S27278 6=S27279 7=S27280 8=S27281 9=S27288

Flags used: ?t=missing tune

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 515219544

Instrument : MSBNA02 Begun : 06/01/15 11:04
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	uf101	IB	IB			06/01/15 11:04	1.0		?t
002	uf102	TUN	DFTPP			06/01/15 11:31	1.0	1	
003	uf103	CCV	PAHDIOX			06/01/15 11:55	1.0	2	
004	uf104	BLANK	QC789876	Water	223656	06/01/15 12:32	1.0	3	
005	uf105	BS	QC789877	Water	223656	06/01/15 13:06	1.0	3	
006	uf106	BSD	QC789878	Water	223656	06/01/15 13:40	1.0	3	
007	uf107	SAMPLE	267011-001	Miscell.	223619	06/01/15 14:15	400.0	3	
008	uf108	SAMPLE	267011-002	Miscell.	223619	06/01/15 14:48	200.0	3	
009	uf109	SAMPLE	267084-001	Water	223656	06/01/15 15:22	1.0	3	
010	uf110	SAMPLE	267084-002	Water	223656	06/01/15 15:56	1.0	3	
011	uf111	SAMPLE	267021-010	Water	223582	06/01/15 16:29	1.0	3	2:NAPH=17
012	uf112	BLANK	QC790093	Soil	223708	06/01/15 17:03	1.0	3	
013	uf113	BS	QC790094	Soil	223708	06/01/15 17:37	1.0	3	
014	uf114	BSD	QC790095	Soil	223708	06/01/15 18:11	1.0	3	
015	uf115	SAMPLE	266999-028	Soil	223708	06/01/15 18:45	1.0	3	
016	uf116	SAMPLE	267026-001	Water	223582	06/01/15 19:18	1.0	3	
017	uf117	SAMPLE	267026-002	Water	223582	06/01/15 19:52	2.0	3	high NT
018	uf118	SAMPLE	267026-003	Water	223582	06/01/15 20:26	2.0	3	high NT
019	uf119	SAMPLE	267026-005	Water	223656	06/01/15 21:01	2.0	3	high NT

NPM 06/01/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 11.

KMH 06/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S27279 3=S26952
Flags used: ?t=missing tune
Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525131701

Instrument : MSBNA03 Begun : 04/01/15 11:01
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	vd101	TUN	DFTPP			04/01/15 11:01	1.0	1	
002	vd102	TUN	DFTPP			04/01/15 11:35	1.0	1	
003	vd103	CCV	RTCHECK			04/01/15 11:55	1.0	2	
004	vd104	IB	IB			04/01/15 12:32	1.0		
005	vd105	TUN	DFTPP			04/01/15 12:58	1.0	1	
006	vd106	ICAL	ICAL			04/01/15 13:17	1.0	3	
007	vd107	ICAL	ICAL			04/01/15 13:50	1.0	4	
008	vd108	ICAL	ICAL			04/01/15 14:24	1.0	5	
009	vd109	ICAL	ICAL			04/01/15 14:57	1.0	6	
010	vd110	ICAL	ICAL			04/01/15 15:30	1.0	7	
011	vd111	ICAL	ICAL			04/01/15 16:03	1.0	8	
012	vd112	ICAL	ICAL			04/01/15 16:36	1.0	9	
013	vd113	ICV	ICV			04/01/15 17:08	1.0	10	
014	vd114	CCV	PAHDIOX			04/01/15 17:42	1.0	6	
015	vd115	LOD	209076-066	Soil	221583	04/01/15 18:14	1.0	11	
016	vd116	LOD	209076-067	Soil	221583	04/01/15 18:47	1.0	11	
017	vd117	LOD	209076-068	Soil	221583	04/01/15 19:21	1.0	11	

KMH 04/02/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

Standards used: 1=S26814 2=S26129 3=S26126 4=S26127 5=S26919 6=S26920 7=S26130 8=S26131 9=S26132 10=S26530 11=S26588

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 525215246

Instrument : MSBNA03 Begun : 05/29/15 11:26
Method : EPA 8270C, EPA 8270C-SIM SOP Version : 8270-SIM_OBPA_rv1, bna_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	veu01	IB	IB			05/29/15 11:26	1.0		?t
002	veu02	TUN	DFTPP			05/29/15 11:52	1.0	1	
003	veu03	CCV	DFTPP			05/29/15 12:10	1.0	2	
004	veu04	BLANK	QC789593	Water	223582	05/29/15 12:43	1.0	3	
005	veu05	BS	QC789594	Water	223582	05/29/15 13:16	1.0	3	
006	veu06	BSD	QC789595	Water	223582	05/29/15 13:48	1.0	3	
007	veu07	SAMPLE	267007-001	Water	223582	05/29/15 14:20	1.0	3	
008	veu08	SAMPLE	267006-001	Water	223582	05/29/15 14:53	1.0	3	
009	veu09	SAMPLE	267006-002	Water	223582	05/29/15 15:25	5.0	3	
010	veu10	SAMPLE	267006-003	Water	223582	05/29/15 15:57	3.0	3	
011	veu11	SAMPLE	267006-004	Water	223582	05/29/15 16:31	1.0	3	
012	veu12	SAMPLE	267006-005	Water	223582	05/29/15 17:04	1.0	3	
013	veu13	SAMPLE	267006-006	Water	223582	05/29/15 17:37	1.0	3	3:FLA=46
014	veu14	SAMPLE	267006-007	Water	223582	05/29/15 18:10	1.0	3	3:FLA=59
015	veu15	SAMPLE	267006-008	Water	223582	05/29/15 18:42	1.0	3	
016	veu16	SAMPLE	267021-001	Water	223582	05/29/15 19:15	1.0	3	
017	veu17	SAMPLE	267021-002	Water	223582	05/29/15 19:48	1.0	3	
018	veu18	SAMPLE	267021-003	Water	223582	05/29/15 20:22	1.0	3	1:MTNPH1=37
019	veu19	SAMPLE	267021-004	Water	223582	05/29/15 20:55	5.0	3	high NT, 3:MTNPH2=21

KMH 05/30/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

Standards used: 1=S26814 2=S27277 3=S26952

Flags used: ?t=missing tune

SAMPLE PREPARATION SUMMARY

Batch # : 223582 Analysis : 8270-SIM
Started By : ARW Prep Date : 27-MAY-2015 16:55 Finished By : JCD
Method : 3520C SOP Version : 8270-SIM_3520_rv5 Units : mL
Spike #1 ID : S27222 Spike #2 ID : S26609

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267006-001		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-002		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-003		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-004		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-005		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-006		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-007		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267006-008		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267007-001		Water	1060	1	1	0.0009434	10	1				8270-SIM	
267021-001		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-002		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-003		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-004		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-006		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-007		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-009		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267021-010		Water	1040	1	1	0.0009615	7	1				8270-SIM	
267026-001		Water	1000	1	1	0.001	7	1				8270-SIM	
267026-002		Water	1000	1	1	0.001	7	1				8270-SIM	
267026-003		Water	1000	1	1	0.001	7	1				8270-SIM	
QC789593	BLANK	Water	1000	1	1	0.001		1				8270-SIM	
QC789594	BS	Water	1000	1	1	0.001		1	1			8270-SIM	
QC789595	BSD	Water	1000	1	1	0.001		1	1			8270-SIM	

KMH 05/29/15 : Matrix spikes were not performed for this analysis in batch 223582 due to insufficient sample amount.

Analyst: KMH Date: 05/29/15 Reviewer: LW Date: 05/29/15

BNA (8270 & 625) Water Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 223582 Extraction Method:
LIMS Analysis: 8270-SM ☑ EPA 3520c cont. L/L
Date Extracted: 5/27/15 ☐ _____

	Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Confirmed pH ≤2	Comments
	267006-001	K	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	"	U	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	3	K	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	4	U	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
5	5	K	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	6	H	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	7	K	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	8	H	1060	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	267007-001	Q	1060	☐7 ☑10	☐ 1.0 ☐___	☑ ≤2	
10	267021-001	L	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	2	K	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	3	K	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	4	J	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	6	J	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
15	7	J	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	9	J	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	10	K	1040	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	267026-001	I	1000	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	2	G	1000	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
20	3	H	1000	☑7 ☐___	☐ 1.0 ☐___	☑ ≤2	
	MB QC789593	MA	1000	☐7 ☑___	☐ 1.0 ☐___	☑ ≤2	
	BS 4		1000	☐7 ☑___	☐ 1.0 ☐___	☑ ≤2	
	BSD 5		1000	☐7 ☑___	☐ 1.0 ☐___	☑ ≤2	
				☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	

☒ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) BS/BSD

	Lot# / LIMS # / Time	Date/ Initials
1.0 mL of surrogate solution was added to all samples	S 27222C	AEM 5/27/15
1.0 mL of matrix spiking solution was added to all spikes	S 260607F	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS13708R	
Cont. L/L extracted with 450mL of CH_2Cl_2	FM 5/27/15	
Extraction Start Time:	1655	
Extraction End Time:	1055	CAJ 5/28/15
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH	NA	JCD 5/28/15
Extraction Start Time:		
Extraction End Time:		
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	

Ai R. Ung 5/27/15
Extraction Chemist **Date**

Contined from Page ____
Continued on Page ____

Kmm 5/29/15
Reviewed by **Date**

SAMPLE PREPARATION SUMMARY

Batch # : 223656 Analysis : 14DIOXANE
Started By : KKL Prep Date : 29-MAY-2015 14:57 Finished By : ARG
Method : 3520C Units : mL
Spike #1 ID : S27222 Spike #2 ID : S27221

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267026-005		Water	1000	1	1	0.001	7	1				8270-SIM	
267084-001		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267084-002		Water	1060	1	1	0.0009434	7	1				14DIOXANE, 8270-SIM	
267087-001		Water	1060	1	1	0.0009434	7	1				8270-SIM	
267087-002		Water	1060	1	1	0.0009434	7	1				8270-SIM	
QC789876	BLANK	Water	1000	1	1	0.001		1				8270-SIM	
QC789877	BS	Water	1000	1	1	0.001		1	1			8270-SIM	
QC789878	BSD	Water	1000	1	1	0.001		1	1			8270-SIM	

NPM 06/01/15 : Matrix spikes were not performed for this analysis in batch 223656 due to insufficient sample amount.

Analyst: NPM Date: 06/01/15 Reviewer: LW Date: 06/01/15

BNA (8270 & 625) Water Prep Log

Curtis & Tompkins, Ltd.

Page 59 **BK 3648**

LIMS Batch No: 223656
LIMS Analysis: 8270-SIM
Date Extracted: 5/29/15

Extraction Method:
☑ EPA 3520c cont. L/L
☐ _____

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Confirmed pH ≤2	Comments
267026-005	H	1000	☑7 ☐___	☑ 1.0 ☐___	☑ ≤2	
267084-001	K	1060	☑7 ☐___	☑ 1.0 ☐___	☑ ≤2	
↓ 2	O	1060	☑7 ☐___	☑ 1.0 ☐___	☑ ≤2	
267087-001	L	1060	☑7 ☐___	☑ 1.0 ☐___	☑ ≤2	
↓ 2	1	1060	☑7 ☐___	☑ 1.0 ☐___	☑ ≤2	
MB QC789876	N/A	1000	☐7 ☑NA	☑ 1.0 ☐___	☑ ≤2	
BS ↓ 7	↓	1000	☐7 ☑NA	☑ 1.0 ☐___	☑ ≤2	
BSD ↓ 8	↓	1000	☐7 ☑NA	☑ 1.0 ☐___	☑ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	
			☐7 ☐___	☐ 1.0 ☐___	☐ ≤2	

☑ MS/MSD not included due to: ☑ insufficent volume, or ☐ other (reason)_____

EKL 6/1/15

	Lot# / LIMS # / Time	Date/ Initials
1.0 mL of surrogate solution was added to all samples	327222C	EKL 5/29/15
1.0 mL of matrix spiking solution was added to all spikes	327221B	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS133088	
Cont. L/L extracted with 450mL of CH_2Cl_2	EMS4351	
Extraction Start Time:	14:57	
Extraction End Time:	0900	EKL 5/30/15
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH	NA	AR 6/1/15
Extraction Start Time:		
Extraction End Time:		
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EMXF27F	
Concentrated to final volume at temperature (degrees C)	70	
Relinquished to BNA department	✓	

Kristen Low 5/29/15
Extraction Chemist **Date**

Contined from Page ___
Continued on Page ___/___

Reviewed by 6/1/15 **Date** EKL 6/1/15

Laboratory Job Number 267026

ANALYTICAL REPORT

Metals

Matrix: Water

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	267026	Project#:	OD14170810.03
Client:	AMEC Environment & Infrastructure	Location:	Port of Oakland Former APC Terminal
Field ID:	RW052315	Diln Fac:	1.000
Lab ID:	267026-006	Sampled:	05/23/15
Matrix:	Water	Received:	05/23/15
Units:	ug/L	Prepared:	05/28/15

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	10	223586	06/04/15	EPA 3010A	EPA 6010B
Arsenic	ND	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Barium	71	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	223586	06/04/15	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Chromium	37	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Cobalt	6.5	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Copper	8.8	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Lead	ND	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Mercury	ND	0.20	223604	05/28/15	METHOD	EPA 7470A
Molybdenum	30	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Nickel	9.3	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Selenium	ND	10	223586	06/05/15	EPA 3010A	EPA 6010B
Silver	ND	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Thallium	ND	10	223586	06/04/15	EPA 3010A	EPA 6010B
Vanadium	26	5.0	223586	06/04/15	EPA 3010A	EPA 6010B
Zinc	24	20	223586	06/04/15	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC789606	Batch#:	223586
Matrix:	Water	Prepared:	05/28/15
Units:	ug/L	Analyzed:	05/29/15

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	5.0
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	223586
Units:	ug/L	Prepared:	05/28/15
Diln Fac:	1.000	Analyzed:	05/29/15

Type: BS Lab ID: QC789607

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	96.89	97	79-120
Arsenic	100.0	96.88	97	80-120
Barium	100.0	102.4	102	80-120
Beryllium	100.0	104.1	104	80-120
Cadmium	100.0	102.0	102	80-120
Chromium	100.0	108.4	108	80-120
Cobalt	100.0	100.5	101	80-120
Copper	100.0	97.87	98	80-120
Lead	100.0	98.19	98	80-120
Molybdenum	100.0	103.6	104	80-120
Nickel	100.0	98.57	99	80-120
Selenium	100.0	92.03	92	80-120
Silver	100.0	96.68	97	77-120
Thallium	50.00	53.62	107	80-121
Vanadium	100.0	101.8	102	80-120
Zinc	100.0	112.5	112	80-120

Type: BSD Lab ID: QC789608

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	96.78	97	79-120	0	20
Arsenic	100.0	95.57	96	80-120	1	20
Barium	100.0	101.9	102	80-120	0	20
Beryllium	100.0	102.6	103	80-120	1	20
Cadmium	100.0	101.4	101	80-120	1	20
Chromium	100.0	109.3	109	80-120	1	20
Cobalt	100.0	99.34	99	80-120	1	20
Copper	100.0	98.24	98	80-120	0	20
Lead	100.0	97.28	97	80-120	1	20
Molybdenum	100.0	103.2	103	80-120	0	20
Nickel	100.0	97.50	97	80-120	1	20
Selenium	100.0	94.72	95	80-120	3	20
Silver	100.0	96.71	97	77-120	0	20
Thallium	50.00	52.55	105	80-121	2	20
Vanadium	100.0	102.7	103	80-120	1	20
Zinc	100.0	110.9	111	80-120	1	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	223586
MSS Lab ID:	267066-001	Sampled:	05/27/15
Matrix:	Water	Received:	05/27/15
Units:	ug/L	Prepared:	05/28/15
Diln Fac:	1.000	Analyzed:	05/29/15

Type: MS Lab ID: QC789609

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.893	100.0	97.61	98	74-120
Arsenic	24.56	100.0	128.7	104	80-127
Barium	211.8	100.0	309.3	98	80-120
Beryllium	<0.1141	100.0	105.1	105	80-120
Cadmium	<0.2919	100.0	100.2	100	80-120
Chromium	25.35	100.0	128.5	103	80-120
Cobalt	4.545	100.0	103.5	99	80-120
Copper	11.85	100.0	108.8	97	80-120
Lead	2.107	100.0	99.11	97	67-120
Molybdenum	8.829	100.0	110.2	101	80-120
Nickel	21.98	100.0	117.5	95	80-120
Selenium	<3.146	100.0	97.87	98	73-132
Silver	<0.6588	100.0	99.23	99	67-120
Thallium	1.839	50.00	50.78	98	76-121
Vanadium	20.40	100.0	122.1	102	80-120
Zinc	63.66	100.0	154.7	91	80-122

Type: MSD Lab ID: QC789610

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	101.8	102	74-120	4	24
Arsenic	100.0	133.5	109	80-127	4	25
Barium	100.0	318.6	107	80-120	3	20
Beryllium	100.0	109.8	110	80-120	4	20
Cadmium	100.0	104.3	104	80-120	4	20
Chromium	100.0	133.7	108	80-120	4	20
Cobalt	100.0	107.5	103	80-120	4	20
Copper	100.0	112.1	100	80-120	3	20
Lead	100.0	103.2	101	67-120	4	23
Molybdenum	100.0	115.3	106	80-120	4	20
Nickel	100.0	120.3	98	80-120	2	20
Selenium	100.0	100.5	101	73-132	3	30
Silver	100.0	103.4	103	67-120	4	22
Thallium	50.00	52.23	101	76-121	3	20
Vanadium	100.0	125.5	105	80-120	3	20
Zinc	100.0	161.8	98	80-122	5	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	223586
MSS Lab ID:	267066-001	Sampled:	05/27/15
Lab ID:	QC789611	Received:	05/27/15
Matrix:	Water	Analyzed:	05/29/15
Units:	ug/L		

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	ND	10.00	ND	50.00	NC	10
Arsenic	24.56	5.000	32.66	25.00	NC	10
Barium	211.8	5.000	231.0	25.00	9	10
Beryllium	ND	2.000	1.509 J	10.00	NC	10
Cadmium	ND	5.000	ND	25.00	NC	10
Chromium	25.35	5.000	25.15	25.00	1	10
Cobalt	4.545	5.000	8.356 J	25.00	NC	10
Copper	11.85	5.000	15.31 J	25.00	NC	10
Lead	2.107	5.000	ND	25.00	NC	10
Molybdenum	8.829	5.000	14.32 J	25.00	NC	10
Nickel	21.98	5.000	25.39	25.00	NC	10
Selenium	ND	10.00	ND	50.00	NC	10
Silver	ND	5.000	ND	25.00	NC	10
Thallium	1.839	10.00	7.061 J	50.00	NC	10
Vanadium	20.40	5.000	21.94 J	25.00	NC	10
Zinc	63.66	20.00	71.31 J	100.0	NC	10

J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Type:	Post Digest Spike	Batch#:	223586
MSS Lab ID:	267066-001	Sampled:	05/27/15
Lab ID:	QC789612	Received:	05/27/15
Matrix:	Water	Analyzed:	05/29/15
Units:	ug/L		

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.893	100.0	99.43	99	75-125
Arsenic	24.56	100.0	128.1	104	75-125
Barium	211.8	100.0	301.4	90	75-125
Beryllium	<0.1141	100.0	103.0	103	75-125
Cadmium	<0.2919	100.0	99.46	99	75-125
Chromium	25.35	100.0	131.0	106	75-125
Cobalt	4.545	100.0	102.7	98	75-125
Copper	11.85	100.0	106.3	94	75-125
Lead	2.107	100.0	100.3	98	75-125
Molybdenum	8.829	100.0	111.3	102	75-125
Nickel	21.98	100.0	118.3	96	75-125
Selenium	<3.146	100.0	93.71	94	75-125
Silver	<0.6588	100.0	91.28	91	75-125
Thallium	1.839	50.00	51.41	99	75-125
Vanadium	20.40	100.0	120.1	100	75-125
Zinc	63.66	100.0	165.4	102	75-125

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	223604
Lab ID:	QC789677	Prepared:	05/28/15
Matrix:	Water	Analyzed:	05/28/15
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	223604
Matrix:	Water	Prepared:	05/28/15
Units:	ug/L	Analyzed:	05/28/15
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC789679	2.500	2.413	97	80-120		
BSD	QC789680	2.500	2.448	98	80-120	1	24

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	223604
Field ID:	ZZZZZZZZZZ	Sampled:	05/27/15
MSS Lab ID:	267066-001	Received:	05/27/15
Matrix:	Water	Prepared:	05/28/15
Units:	ug/L	Analyzed:	05/28/15
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC789681	0.1640	2.500	2.577	97	60-130		
MSD	QC789682		2.500	2.568	96	60-130	0	34

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	267026	Location:	Port of Oakland Former APC Terminal
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	EPA 7470A
Analyte:	Mercury	Units:	ug/L
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	223604
MSS Lab ID:	267066-001	Sampled:	05/27/15
Lab ID:	QC789683	Received:	05/27/15
Matrix:	Water	Analyzed:	05/28/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
0.1640	0.2000	0.5194 J	1.000	NC	10

J= Estimated value
NC= Not Calculated
RL= Reporting Limit

REPORTING SUMMARY FOR 267026 METALS Water
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
267026-006	MET54	05/28/15 15:18	1.0										+							
267026-006	MET08	06/04/15 14:19	1.0	+	+	+	+	+	+	+	+	+		+	+		+	+	+	+
267026-006	MET09	06/05/15 12:27	1.0													+				
QC789606	MET08	05/29/15 00:48	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789607	MET08	05/29/15 00:53	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789608	MET08	05/29/15 00:57	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789609	MET08	05/29/15 12:59	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789610	MET08	05/29/15 13:03	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789611	MET08	05/29/15 13:07	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789612	MET08	05/29/15 13:11	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC789677	MET54	05/28/15 14:48	1.0										+							
QC789677	MET54	05/29/15 14:29	1.0																	
QC789678	MET54	05/28/15 14:49	1.0										+							
QC789678	MET54	05/29/15 14:30	1.0																	
QC789679	MET54	05/28/15 14:50	1.0										+							
QC789679	MET54	05/29/15 14:31	1.0																	
QC789680	MET54	05/28/15 14:51	1.0										+							
QC789680	MET54	05/29/15 14:32	1.0																	
QC789681	MET54	05/28/15 14:53	1.0										+							
QC789682	MET54	05/28/15 14:54	1.0										+							
QC789683	MET54	05/28/15 14:55	5.0										+							

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met08_sn_6010	ICALBLK				05/28/15 06:57	1.0		
002	met08_sn_6010	ICAL	L1			05/28/15 07:02	1.0	1	
003	met08_sn_6010	ICAL	L2			05/28/15 07:07	1.0	2	
004	met08_sn_6010	ICAL	L3			05/28/15 07:11	1.0	3	
005	met08_sn_6010	ICAL	L4			05/28/15 07:17	1.0	4	
006	met08_sn_6010	ICAL	L5			05/28/15 07:23	1.0	5	
007	met08_sn_6010	ICV				05/28/15 07:30	1.0	6	
008	met08_sn_6010	CRI				05/28/15 07:49	1.0	7	
009	met08_sn_6010	ICB				05/28/15 08:07	1.0		
010	met08_sn_6010	ICSA				05/28/15 08:12	1.0	8	10:MG=490000
011	met08_sn_6010	ICSAB				05/28/15 09:04	1.0	9	5:MG=500000
012	met08_sn_6010	MSS	266995-001	Soil	223523	05/28/15 09:09	1.0		4:FE=340000
013	met08_sn_6010	MS	QC789357	Soil	223523	05/28/15 09:16	5.0		
014	met08_sn_6010	MSD	QC789358	Soil	223523	05/28/15 09:24	5.0		
015	met08_sn_6010	SER	QC789359	Soil	223523	05/28/15 09:31	5.0		
016	met08_sn_6010	PDS	QC789360	Soil	223523	05/28/15 09:39	1.0	10 11 12	
017	met08_sn_6010	SAMPLE	266995-002	Soil	223523	05/28/15 09:46	1.0		4:FE=360000
018	met08_sn_6010	SAMPLE	266995-003	Soil	223523	05/28/15 09:52	1.0		4:FE=330000
019	met08_sn_6010	SAMPLE	266995-004	Soil	223523	05/28/15 09:59	1.0		4:FE=420000
020	met08_sn_6010	SAMPLE	266995-005	Soil	223523	05/28/15 10:06	1.0		5:FE=420000
021	met08_sn_6010	SAMPLE	266995-006	Soil	223523	05/28/15 10:12	1.0		5:FE=380000
022	met08_sn_6010	CCV				05/28/15 10:19	1.0	13	
023	met08_sn_6010	CCB				05/28/15 10:26	1.0		
024	met08_sn_6010	SAMPLE	267030-008	Water	223549	05/28/15 10:31	1.0		
025	met08_sn_6010	SAMPLE	266996-003	Soil	223520	05/28/15 10:39	1.0		4:FE=380000
026	met08_sn_6010	SAMPLE	266995-006	Soil	223523	05/28/15 10:46	1.0		5:FE=380000
027	met08_sn_6010	SAMPLE	266996-003	Soil	223520	05/28/15 10:52	1.0		4:FE=390000
028	met08_sn_6010	SAMPLE	266995-005	Soil	223523	05/28/15 10:59	1.0		5:FE=420000
029	met08_sn_6010	SAMPLE	266996-002	Soil	223520	05/28/15 11:06	1.0		3:FE=380000
030	met08_sn_6010	SAMPLE	266996-001	Soil	223520	05/28/15 11:12	1.0		4:FE=350000
031	met08_sn_6010	SAMPLE	266994-001	Soil	223520	05/28/15 11:19	1.0		4:FE=320000
032	met08_sn_6010	SAMPLE	266995-007	Soil	223523	05/28/15 11:26	1.0		5:CA=590000
033	met08_sn_6010	CCV				05/28/15 11:32	1.0	13	
034	met08_sn_6010	CCB				05/28/15 11:39	1.0		
035	met08_sn_6010	BLANK	QC789337	Soil	223520	05/28/15 11:46	1.0		
036	met08_sn_6010	BLANK	QC789354	Soil	223523	05/28/15 11:51	1.0		
037	met08_sn_6010	SAMPLE	267032-002	Soil	223532	05/28/15 11:56	1.0		
038	met08_sn_6010	SAMPLE	267032-001	Soil	223532	05/28/15 12:02	1.0		5:FE=530000
039	met08_sn_6010	SAMPLE	267032-002	Soil	223532	05/28/15 12:09	1.0		3:FE=330000
040	met08_sn_6010	SAMPLE	266994-001	Soil	223520	05/28/15 12:16	1.0		4:FE=360000
041	met08_sn_6010	SAMPLE	266995-007	Soil	223523	05/28/15 12:22	1.0		5:CA=580000
042	met08_sn_6010	SAMPLE	267032-002	Soil	223532	05/28/15 12:29	1.0		3:FE=340000
043	met08_sn_6010	CCV				05/28/15 12:35	1.0	13	
044	met08_sn_6010	CCB				05/28/15 12:43	1.0		
045	met08_sn_6010	SAMPLE	267030-009	Water	223549	05/28/15 12:48	1.0		
046	met08_sn_6010	SAMPLE	267030-010	Water	223549	05/28/15 12:53	1.0		
047	met08_sn_6010	SAMPLE	267030-011	Water	223549	05/28/15 12:58	1.0		
048	met08_sn_6010	SAMPLE	267030-012	Water	223549	05/28/15 13:03	1.0		
049	met08_sn_6010	SAMPLE	267030-013	Water	223549	05/28/15 13:08	1.0		
050	met08_sn_6010	SAMPLE	267030-014	Water	223549	05/28/15 13:13	1.0		
051	met08_sn_6010	SAMPLE	267030-015	Water	223549	05/28/15 13:18	1.0		
052	met08_sn_6010	SAMPLE	267030-016	Water	223549	05/28/15 13:23	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met08_sn_6010	SAMPLE	267030-017	Water	223549	05/28/15 13:28	1.0		
054	met08_sn_6010	SAMPLE	267030-018	Water	223549	05/28/15 13:34	1.0		
055	met08_sn_6010	CCV				05/28/15 13:39	1.0	13	
056	met08_sn_6010	CCB				05/28/15 13:45	1.0		
057	met08_sn_6010	SAMPLE	267030-019	Water	223549	05/28/15 13:51	1.0		
058	met08_sn_6010	SAMPLE	267030-020	Water	223549	05/28/15 13:56	1.0		
059	met08_sn_6010	CCV				05/28/15 14:01	1.0	13	
060	met08_sn_6010	CCB				05/28/15 14:08	1.0		
061	met08_sn_6010	MS	QC789220	Soil	223492	05/28/15 14:50	5.0		
062	met08_sn_6010	MSD	QC789221	Soil	223492	05/28/15 14:57	5.0		
063	met08_sn_6010	SER	QC789222	Soil	223492	05/28/15 15:05	5.0		
064	met08_sn_6010	PDS	QC789223	Soil	223492	05/28/15 15:13	1.0	10 11 12	
065	met08_sn_6010	SAMPLE	266935-021	Soil	223492	05/28/15 15:19	1.0		4:FE=440000
066	met08_sn_6010	SAMPLE	266935-022	Soil	223492	05/28/15 15:26	1.0		5:FE=410000
067	met08_sn_6010	SAMPLE	266935-023	Soil	223492	05/28/15 15:33	1.0		5:FE=470000
068	met08_sn_6010	SAMPLE	266935-024	Soil	223492	05/28/15 15:40	1.0		4:CA=440000
069	met08_sn_6010	SAMPLE	266935-025	Soil	223492	05/28/15 15:46	1.0		4:CA=560000
070	met08_sn_6010	SAMPLE	266935-026	Soil	223492	05/28/15 15:53	1.0		4:FE=470000
071	met08_sn_6010	CCV				05/28/15 16:00	1.0	13	
072	met08_sn_6010	CCB				05/28/15 16:07	1.0		
073	met08_sn_6010	SAMPLE	266935-027	Soil	223492	05/28/15 16:12	1.0		4:FE=510000
074	met08_sn_6010	SAMPLE	266935-028	Soil	223492	05/28/15 16:18	1.0		4:FE=530000
075	met08_sn_6010	SAMPLE	266935-029	Soil	223492	05/28/15 16:25	1.0		3:FE=570000
076	met08_sn_6010	SAMPLE	266935-030	Soil	223492	05/28/15 16:32	1.0		4:FE=550000
077	met08_sn_6010	SAMPLE	266935-031	Soil	223492	05/28/15 16:39	1.0		4:FE=590000
078	met08_sn_6010	SAMPLE	266935-032	Soil	223492	05/28/15 16:46	1.0		5:FE=600000
079	met08_sn_6010	SAMPLE	266935-033	Soil	223492	05/28/15 16:52	1.0		5:FE=600000
080	met08_sn_6010	X	RINSE			05/28/15 16:59	1.0		
081	met08_sn_6010	SAMPLE	267006-002	Water	223507	05/28/15 17:04	1.0		2:NA=180000
082	met08_sn_6010	SAMPLE	267006-003	Water	223507	05/28/15 17:08	1.0		1:NA=280000
083	met08_sn_6010	CCV				05/28/15 17:13	1.0	13	
084	met08_sn_6010	CCB				05/28/15 17:19	1.0		
085	met08_sn_6010	MSS	266911-004	Soil	223492	05/28/15 17:25	1.0		3:FE=300000
086	met08_sn_6010	MSS	266935-001	Soil	223493	05/28/15 17:32	1.0		5:FE=480000
087	met08_sn_6010	MS	QC789227	Soil	223493	05/28/15 17:39	5.0		
088	met08_sn_6010	MSD	QC789228	Soil	223493	05/28/15 17:46	5.0		
089	met08_sn_6010	MSS	266911-004	Soil	223492	05/28/15 17:54	1.0		3:FE=320000
090	met08_sn_6010	MSS	266935-002	Soil	223493	05/28/15 18:01	1.0		3:FE=550000
091	met08_sn_6010	SAMPLE	266935-003	Soil	223493	05/28/15 18:07	1.0		5:FE=420000
092	met08_sn_6010	SAMPLE	266935-004	Soil	223493	05/28/15 18:14	1.0		5:FE=410000
093	met08_sn_6010	SAMPLE	266935-005	Soil	223493	05/28/15 18:21	1.0		4:FE=520000
094	met08_sn_6010	SAMPLE	266935-006	Soil	223493	05/28/15 18:28	1.0		4:FE=420000
095	met08_sn_6010	CCV				05/28/15 18:35	1.0	13	
096	met08_sn_6010	CCB				05/28/15 18:41	1.0		
097	met08_sn_6010	SAMPLE	266935-007	Soil	223493	05/28/15 18:46	1.0		4:FE=460000
098	met08_sn_6010	SAMPLE	266935-008	Soil	223493	05/28/15 18:53	1.0		4:FE=580000
099	met08_sn_6010	SAMPLE	266935-009	Soil	223493	05/28/15 19:00	1.0		4:FE=380000
100	met08_sn_6010	SAMPLE	266935-010	Soil	223493	05/28/15 19:07	1.0		3:FE=590000
101	met08_sn_6010	SAMPLE	266935-011	Soil	223493	05/28/15 19:14	1.0		3:FE=510000
102	met08_sn_6010	SAMPLE	266935-012	Soil	223493	05/28/15 19:20	1.0		3:FE=410000
103	met08_sn_6010	SAMPLE	266935-013	Soil	223493	05/28/15 19:27	1.0		4:FE=560000
104	met08_sn_6010	SAMPLE	266935-014	Soil	223493	05/28/15 19:34	1.0		4:FE=560000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met08_sn_6010	SAMPLE	266935-015	Soil	223493	05/28/15 19:41	1.0		4:FE=490000
106	met08_sn_6010	SAMPLE	266935-016	Soil	223493	05/28/15 19:48	1.0		3:FE=520000
107	met08_sn_6010	CCV				05/28/15 19:54	1.0	13	
108	met08_sn_6010	CCB				05/28/15 20:02	1.0		
109	met08_sn_6010	CCB				05/28/15 20:06	1.0		
110	met08_sn_6010	SAMPLE	266935-017	Soil	223493	05/28/15 20:11	1.0		4:FE=530000
111	met08_sn_6010	SAMPLE	266935-018	Soil	223493	05/28/15 20:18	1.0		3:FE=370000
112	met08_sn_6010	SAMPLE	266935-019	Soil	223493	05/28/15 20:25	1.0		3:FE=540000
113	met08_sn_6010	XSAMPLE	266935-019	Soil	223493	05/28/15 20:31	1.0		
114	met08_sn_6010	SAMPLE	266935-020	Soil	223493	05/28/15 20:37	1.0		4:FE=570000
115	met08_sn_6010	SAMPLE	266935-022	Soil	223492	05/28/15 20:43	1.0		5:FE=390000
116	met08_sn_6010	SAMPLE	266935-024	Soil	223492	05/28/15 20:50	1.0		4:CA=450000
117	met08_sn_6010	SAMPLE	266935-026	Soil	223492	05/28/15 20:57	1.0		4:FE=480000
118	met08_sn_6010	SAMPLE	266935-027	Soil	223492	05/28/15 21:04	1.0		4:FE=510000
119	met08_sn_6010	CCV				05/28/15 21:21	1.0	13	
120	met08_sn_6010	CCB				05/28/15 21:29	1.0		
121	met08_sn_6010	SAMPLE	266935-028	Soil	223492	05/28/15 21:34	1.0		4:FE=500000
122	met08_sn_6010	SAMPLE	266935-029	Soil	223492	05/28/15 21:41	1.0		3:FE=620000
123	met08_sn_6010	SAMPLE	266935-030	Soil	223492	05/28/15 21:48	1.0		3:FE=490000
124	met08_sn_6010	SAMPLE	266935-031	Soil	223492	05/28/15 21:55	1.0		4:FE=580000
125	met08_sn_6010	SAMPLE	266935-032	Soil	223492	05/28/15 22:01	1.0		5:FE=520000
126	met08_sn_6010	SAMPLE	266935-033	Soil	223492	05/28/15 22:08	1.0		5:FE=590000
127	met08_sn_6010	SAMPLE	266935-002	Soil	223493	05/28/15 22:15	1.0		3:FE=540000
128	met08_sn_6010	SAMPLE	266935-003	Soil	223493	05/28/15 22:22	1.0		5:FE=400000
129	met08_sn_6010	SAMPLE	266935-006	Soil	223493	05/28/15 22:29	1.0		4:FE=430000
130	met08_sn_6010	SAMPLE	266935-008	Soil	223493	05/28/15 22:35	1.0		4:FE=600000
131	met08_sn_6010	CCV				05/28/15 22:42	1.0	13	
132	met08_sn_6010	CCB				05/28/15 22:50	1.0		
133	met08_sn_6010	SAMPLE	266935-009	Soil	223493	05/28/15 22:55	1.0		4:FE=350000
134	met08_sn_6010	SAMPLE	266935-011	Soil	223493	05/28/15 23:02	1.0		3:FE=520000
135	met08_sn_6010	SAMPLE	266935-012	Soil	223493	05/28/15 23:09	1.0		3:FE=410000
136	met08_sn_6010	SAMPLE	266935-013	Soil	223493	05/28/15 23:16	1.0		4:FE=580000
137	met08_sn_6010	SAMPLE	266935-016	Soil	223493	05/28/15 23:22	1.0		3:FE=540000
138	met08_sn_6010	SAMPLE	266935-017	Soil	223493	05/28/15 23:29	1.0		3:FE=520000
139	met08_sn_6010	SAMPLE	266935-018	Soil	223493	05/28/15 23:36	1.0		3:FE=360000
140	met08_sn_6010	SAMPLE	266935-019	Soil	223493	05/28/15 23:43	1.0		3:FE=510000
141	met08_sn_6010	SAMPLE	266935-020	Soil	223493	05/28/15 23:49	1.0		4:FE=530000
142	met08_sn_6010	X	RINSE			05/28/15 23:56	1.0		
143	met08_sn_6010	CCV				05/29/15 00:01	1.0	13	
144	met08_sn_6010	CCB				05/29/15 00:08	1.0		
145	met08_sn_6010	SAMPLE	266999-012	Soil	223532	05/29/15 00:13	1.0		4:AL=460000
146	met08_sn_6010	SAMPLE	266999-013	Soil	223532	05/29/15 00:20	1.0		4:FE=610000
147	met08_sn_6010	SAMPLE	266999-014	Soil	223532	05/29/15 00:27	1.0		3:FE=430000
148	met08_sn_6010	BLANK	QC789462	Soil	223553	05/29/15 00:33	1.0		
149	met08_sn_6010	BS	QC789463	Soil	223553	05/29/15 00:38	5.0		
150	met08_sn_6010	BSD	QC789464	Soil	223553	05/29/15 00:44	5.0		
151	met08_sn_6010	BLANK	QC789606	Water	223586	05/29/15 00:48	1.0		
152	met08_sn_6010	BS	QC789607	Water	223586	05/29/15 00:53	1.0		
153	met08_sn_6010	BSD	QC789608	Water	223586	05/29/15 00:57	1.0		
154	met08_sn_6010	BLANK	QC789633	Soil	223592	05/29/15 01:01	1.0		
155	met08_sn_6010	CCV				05/29/15 01:06	1.0	13	
156	met08_sn_6010	CCB				05/29/15 01:13	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met08_sn_6010	BS	QC789634	Soil	223592	05/29/15 01:18	5.0		
158	met08_sn_6010	BSD	QC789635	Soil	223592	05/29/15 01:22	5.0		
159	met08_sn_6010	SAMPLE	266999-001	Soil	223523	05/29/15 01:26	1.0		4:FE=580000
160	met08_sn_6010	SAMPLE	266999-002	Soil	223523	05/29/15 01:33	1.0		4:FE=660000
161	met08_sn_6010	SAMPLE	266999-003	Soil	223523	05/29/15 01:40	1.0		4:FE=420000
162	met08_sn_6010	SAMPLE	266999-004	Soil	223523	05/29/15 01:47	1.0		4:FE=480000
163	met08_sn_6010	SAMPLE	266999-005	Soil	223523	05/29/15 01:53	1.0		4:FE=560000
164	met08_sn_6010	SAMPLE	266999-006	Soil	223523	05/29/15 02:00	1.0		4:FE=450000
165	met08_sn_6010	SAMPLE	266999-007	Soil	223523	05/29/15 02:07	1.0		5:CA=880000
166	met08_sn_6010	SAMPLE	266999-008	Soil	223523	05/29/15 02:14	1.0		5:CA=1000000
167	met08_sn_6010	CCV				05/29/15 02:20	1.0	13	
168	met08_sn_6010	XCCB				05/29/15 02:27	1.0		
169	met08_sn_6010	CCB				05/29/15 02:31	1.0		
170	met08_sn_6010	SAMPLE	266999-009	Soil	223523	05/29/15 02:36	1.0		4:FE=500000
171	met08_sn_6010	SAMPLE	266999-010	Soil	223523	05/29/15 02:43	1.0		3:FE=610000
172	met08_sn_6010	SAMPLE	266999-011	Soil	223523	05/29/15 02:50	1.0		5:FE=480000
173	met08_sn_6010	SAMPLE	266999-012	Soil	223532	05/29/15 02:57	1.0		4:AL=470000
174	met08_sn_6010	SAMPLE	266999-013	Soil	223532	05/29/15 03:03	1.0		3:FE=580000
175	met08_sn_6010	SAMPLE	266999-014	Soil	223532	05/29/15 03:10	1.0		3:FE=400000
176	met08_sn_6010	SAMPLE	266999-015	Soil	223532	05/29/15 03:17	1.0		4:AL=550000
177	met08_sn_6010	SAMPLE	266999-016	Soil	223532	05/29/15 03:24	1.0		4:FE=500000
178	met08_sn_6010	SAMPLE	266999-017	Soil	223532	05/29/15 03:30	1.0		5:FE=540000
179	met08_sn_6010	SAMPLE	266999-018	Soil	223532	05/29/15 03:37	1.0		4:FE=580000
180	met08_sn_6010	CCV				05/29/15 03:44	1.0	13	
181	met08_sn_6010	XCCB				05/29/15 03:52	1.0		
182	met08_sn_6010	CCB				05/29/15 03:56	1.0		
183	met08_sn_6010	SAMPLE	266999-019	Soil	223532	05/29/15 04:01	1.0		3:FE=610000
184	met08_sn_6010	SAMPLE	266999-020	Soil	223532	05/29/15 04:08	1.0		4:FE=490000
185	met08_sn_6010	SAMPLE	266999-021	Soil	223532	05/29/15 04:15	1.0		4:FE=580000
186	met08_sn_6010	SAMPLE	266999-022	Soil	223532	05/29/15 04:21	1.0		4:FE=620000
187	met08_sn_6010	SAMPLE	266999-023	Soil	223532	05/29/15 04:28	1.0		4:FE=410000
188	met08_sn_6010	SAMPLE	266999-024	Soil	223532	05/29/15 04:35	1.0		4:FE=550000
189	met08_sn_6010	SAMPLE	266999-025	Soil	223532	05/29/15 04:42	1.0		4:FE=570000
190	met08_sn_6010	X	RINSE			05/29/15 04:48	1.0		
191	met08_sn_6010	MSS	267062-001	Soil	223592	05/29/15 04:53	1.0		5:FE=610000
192	met08_sn_6010	MS	QC789636	Soil	223592	05/29/15 05:00	5.0		
193	met08_sn_6010	CCV				05/29/15 05:08	1.0	13	
194	met08_sn_6010	XCCB				05/29/15 05:15	1.0		
195	met08_sn_6010	CCB				05/29/15 05:19	1.0		
196	met08_sn_6010	MSD	QC789637	Soil	223592	05/29/15 05:24	5.0		
197	met08_sn_6010	SAMPLE	267062-002	Soil	223592	05/29/15 05:31	1.0		4:FE=520000
198	met08_sn_6010	SAMPLE	267062-003	Soil	223592	05/29/15 05:38	1.0		3:FE=580000
199	met08_sn_6010	SAMPLE	267062-004	Soil	223592	05/29/15 05:45	1.0		2:FE=360000
200	met08_sn_6010	SAMPLE	267062-005	Soil	223592	05/29/15 05:52	1.0		2:FE=470000
201	met08_sn_6010	SAMPLE	267062-006	Soil	223592	05/29/15 05:58	1.0		3:FE=450000
202	met08_sn_6010	SAMPLE	267062-007	Soil	223592	05/29/15 06:05	1.0		2:FE=460000
203	met08_sn_6010	SAMPLE	267062-008	Soil	223592	05/29/15 06:12	1.0		2:FE=410000
204	met08_sn_6010	SAMPLE	267062-009	Soil	223592	05/29/15 06:19	1.0		3:FE=550000
205	met08_sn_6010	SAMPLE	267062-010	Soil	223592	05/29/15 06:25	1.0		5:FE=740000
206	met08_sn_6010	CCV				05/29/15 06:32	1.0	13	
207	met08_sn_6010	XCCB				05/29/15 06:39	1.0		
208	met08_sn_6010	CCB				05/29/15 06:43	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
209	met08_sn_6010	SAMPLE	267062-011	Soil	223592	05/29/15 06:48	1.0		1:FE=230000
210	met08_sn_6010	SAMPLE	267062-012	Soil	223592	05/29/15 06:56	1.0		2:FE=600000
211	met08_sn_6010	SAMPLE	267062-013	Soil	223592	05/29/15 07:02	1.0		5:FE=470000
212	met08_sn_6010	SAMPLE	267062-014	Soil	223592	05/29/15 07:09	1.0		2:FE=510000
213	met08_sn_6010	SAMPLE	267062-015	Soil	223592	05/29/15 07:16	1.0		3:FE=500000
214	met08_sn_6010	SAMPLE	267062-016	Miscell.	223592	05/29/15 07:23	1.0		5:FE=550000
215	met08_sn_6010	SAMPLE	267062-017	Miscell.	223592	05/29/15 07:29	1.0		2:FE=130000
216	met08_sn_6010	SAMPLE	267062-018	Miscell.	223592	05/29/15 07:37	1.0		3:FE=610000
217	met08_sn_6010	SAMPLE	267062-019	Miscell.	223592	05/29/15 07:44	1.0		5:FE=540000
218	met08_sn_6010	SAMPLE	267062-020	Miscell.	223592	05/29/15 07:51	1.0		6:FE=740000
219	met08_sn_6010	CCV				05/29/15 07:57	1.0	13	
220	met08_sn_6010	CCB				05/29/15 08:10	1.0		
221	met08_sn_6010	CCV				05/29/15 08:49	1.0	13	
222	met08_sn_6010	CCB				05/29/15 08:56	1.0		
223	met08_sn_6010	BLANK	QC789538	Soil	223572	05/29/15 09:02	1.0		
224	met08_sn_6010	BS	QC789539	Soil	223572	05/29/15 09:08	5.0		
225	met08_sn_6010	BSD	QC789540	Soil	223572	05/29/15 09:12	5.0		
226	met08_sn_6010	MSS	267010-001	Soil	223572	05/29/15 09:16	1.0		4:FE=610000
227	met08_sn_6010	SAMPLE	266935-004	Soil	223493	05/29/15 09:22	1.0		5:FE=440000
228	met08_sn_6010	SAMPLE	266935-007	Soil	223493	05/29/15 09:29	1.0		4:FE=510000
229	met08_sn_6010	SAMPLE	266935-010	Soil	223493	05/29/15 09:36	1.0		3:FE=640000
230	met08_sn_6010	SAMPLE	266935-014	Soil	223493	05/29/15 09:43	1.0		3:FE=560000
231	met08_sn_6010	SAMPLE	266935-015	Soil	223493	05/29/15 09:49	1.0		4:FE=520000
232	met08_sn_6010	MS	QC789541	Soil	223572	05/29/15 09:56	5.0		
233	met08_sn_6010	CCV				05/29/15 10:04	1.0	13	
234	met08_sn_6010	CCB				05/29/15 10:11	1.0		
235	met08_sn_6010	MSD	QC789542	Soil	223572	05/29/15 10:16	5.0		
236	met08_sn_6010	SAMPLE	266999-026	Soil	223572	05/29/15 10:23	1.0		4:FE=480000
237	met08_sn_6010	SAMPLE	266999-027	Soil	223572	05/29/15 10:30	1.0		4:FE=590000
238	met08_sn_6010	SAMPLE	266999-028	Soil	223572	05/29/15 10:37	1.0		3:FE=570000
239	met08_sn_6010	SAMPLE	266999-029	Soil	223572	05/29/15 10:44	1.0		3:FE=420000
240	met08_sn_6010	SAMPLE	266999-030	Soil	223572	05/29/15 10:50	1.0		4:FE=390000
241	met08_sn_6010	SAMPLE	266999-031	Soil	223572	05/29/15 10:57	1.0		4:FE=590000
242	met08_sn_6010	X	RINSE			05/29/15 11:04	1.0		
243	met08_sn_6010	MSS	267002-002	Soil	223553	05/29/15 11:09	1.0		5:FE=1400000
244	met08_sn_6010	MS	QC789465	Soil	223553	05/29/15 11:16	5.0		
245	met08_sn_6010	CCV				05/29/15 11:22	1.0	13	
246	met08_sn_6010	XCCB				05/29/15 11:30	1.0		
247	met08_sn_6010	CCB				05/29/15 11:34	1.0		
248	met08_sn_6010	MSD	QC789466	Soil	223553	05/29/15 11:39	5.0		
249	met08_sn_6010	SAMPLE	267002-004	Soil	223553	05/29/15 11:46	1.0		5:FE=1400000
250	met08_sn_6010	SAMPLE	267002-006	Soil	223553	05/29/15 11:53	1.0		5:FE=1400000
251	met08_sn_6010	SAMPLE	267002-008	Soil	223553	05/29/15 11:59	1.0		5:FE=1600000
252	met08_sn_6010	SAMPLE	267002-010	Soil	223553	05/29/15 12:06	1.0		6:FE=1500000
253	met08_sn_6010	SAMPLE	267002-012	Soil	223553	05/29/15 12:13	1.0		6:FE=1300000
254	met08_sn_6010	SAMPLE	267002-014	Soil	223553	05/29/15 12:20	1.0		6:FE=1200000
255	met08_sn_6010	SAMPLE	267002-016	Soil	223553	05/29/15 12:27	1.0		6:FE=1300000
256	met08_sn_6010	X	RINSE			05/29/15 12:34	1.0		
257	met08_sn_6010	MSS	267066-001	Water	223586	05/29/15 12:39	1.0		1:NA=210000
258	met08_sn_6010	CCV				05/29/15 12:43	1.0	13	
259	met08_sn_6010	XCCB				05/29/15 12:50	1.0		
260	met08_sn_6010	CCB				05/29/15 12:54	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
261	met08_sn_6010	MS	QC789609	Water	223586	05/29/15 12:59	1.0		
262	met08_sn_6010	MSD	QC789610	Water	223586	05/29/15 13:03	1.0		
263	met08_sn_6010	SER	QC789611	Water	223586	05/29/15 13:07	5.0		
264	met08_sn_6010	PDS	QC789612	Water	223586	05/29/15 13:11	1.0	10 11 12	
265	met08_sn_6010	X	RINSE			05/29/15 13:16	1.0		
266	met08_sn_6010	CCV				05/29/15 13:22	1.0	13	
267	met08_sn_6010	CCB				05/29/15 13:29	1.0		
268	met08_sn_6010	MSS	267002-002	Soil	223553	05/29/15 13:34	1.0		5:FE=1400000
269	met08_sn_6010	SAMPLE	267002-004	Soil	223553	05/29/15 13:40	1.0		5:FE=1400000
270	met08_sn_6010	SAMPLE	267002-006	Soil	223553	05/29/15 13:47	1.0		5:FE=1300000
271	met08_sn_6010	SAMPLE	267002-008	Soil	223553	05/29/15 13:54	1.0		5:FE=1500000
272	met08_sn_6010	SAMPLE	267002-010	Soil	223553	05/29/15 14:01	1.0		6:FE=1500000
273	met08_sn_6010	SAMPLE	267002-012	Soil	223553	05/29/15 14:08	1.0		6:FE=1200000
274	met08_sn_6010	SAMPLE	267002-014	Soil	223553	05/29/15 14:15	1.0		6:FE=1300000
275	met08_sn_6010	SAMPLE	267002-016	Soil	223553	05/29/15 14:22	1.0		6:FE=1300000
276	met08_sn_6010	X	RINSE			05/29/15 14:28	1.0		
277	met08_sn_6010	SAMPLE	266999-001	Soil	223523	05/29/15 14:33	1.0		4:FE=620000
278	met08_sn_6010	CCV				05/29/15 14:40	1.0	13	
279	met08_sn_6010	XCCB				05/29/15 14:47	1.0		
280	met08_sn_6010	CCB				05/29/15 14:51	1.0		
281	met08_sn_6010	SAMPLE	266999-005	Soil	223523	05/29/15 14:56	1.0		4:FE=660000
282	met08_sn_6010	SAMPLE	266999-007	Soil	223523	05/29/15 15:03	1.0		5:CA=940000
283	met08_sn_6010	SAMPLE	266999-008	Soil	223523	05/29/15 15:09	1.0		5:CA=1000000
284	met08_sn_6010	SAMPLE	266999-009	Soil	223523	05/29/15 15:16	1.0		4:FE=560000
285	met08_sn_6010	SAMPLE	266999-010	Soil	223523	05/29/15 15:23	1.0		3:FE=620000
286	met08_sn_6010	X	RINSE			05/29/15 15:30	1.0		
287	met08_sn_6010	MSS	267062-001	Soil	223592	05/29/15 15:35	1.0		5:FE=630000
288	met08_sn_6010	SAMPLE	267062-014	Soil	223592	05/29/15 15:42	1.0		2:FE=580000
289	met08_sn_6010	SAMPLE	267062-018	Miscell.	223592	05/29/15 15:48	1.0		2:FE=570000
290	met08_sn_6010	SAMPLE	267062-020	Miscell.	223592	05/29/15 15:55	1.0		6:FE=800000
291	met08_sn_6010	CCV				05/29/15 16:02	1.0	13	
292	met08_sn_6010	XCCB				05/29/15 16:09	1.0		
293	met08_sn_6010	CCB				05/29/15 16:13	1.0		
294	met08_sn_6010	SAMPLE	266999-031	Soil	223572	05/29/15 16:18	1.0		4:FE=590000
295	met08_sn_6010	SAMPLE	266999-017	Soil	223532	05/29/15 16:24	1.0		5:FE=520000
296	met08_sn_6010	SAMPLE	266999-018	Soil	223532	05/29/15 16:31	1.0		4:FE=600000
297	met08_sn_6010	SAMPLE	266999-019	Soil	223532	05/29/15 16:38	1.0		3:FE=590000
298	met08_sn_6010	SAMPLE	266999-020	Soil	223532	05/29/15 16:45	1.0		4:FE=460000
299	met08_sn_6010	SAMPLE	266999-021	Soil	223532	05/29/15 16:52	1.0		3:FE=550000
300	met08_sn_6010	SAMPLE	266999-022	Soil	223532	05/29/15 16:58	1.0		4:FE=610000
301	met08_sn_6010	SAMPLE	266999-023	Soil	223532	05/29/15 17:05	1.0		4:FE=440000
302	met08_sn_6010	SAMPLE	266999-024	Soil	223532	05/29/15 17:12	1.0		4:FE=550000
303	met08_sn_6010	SAMPLE	266999-025	Soil	223532	05/29/15 17:19	1.0		4:FE=540000
304	met08_sn_6010	CCV				05/29/15 17:25	1.0	13	
305	met08_sn_6010	X				05/29/15 17:32	1.0		
306	met08_sn_6010	CCB				05/29/15 17:36	1.0		
307	met08_sn_6010	SAMPLE	266999-026	Soil	223572	05/29/15 17:41	1.0		4:FE=490000
308	met08_sn_6010	SAMPLE	266999-027	Soil	223572	05/29/15 17:48	1.0		4:FE=590000
309	met08_sn_6010	SAMPLE	266999-028	Soil	223572	05/29/15 17:55	1.0		3:FE=550000
310	met08_sn_6010	SAMPLE	266999-029	Soil	223572	05/29/15 18:02	1.0		3:FE=420000
311	met08_sn_6010	MSS	267010-001	Soil	223572	05/29/15 18:08	1.0		4:FE=610000
312	met08_sn_6010	X	RINSE			05/29/15 18:15	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85213537

Instrument : MET08 Begun : 05/28/15 06:57
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
313	met08_sn_6010	BLANK	QC789543	Soil	223573	05/29/15 18:20	1.0		
314	met08_sn_6010	BS	QC789544	Soil	223573	05/29/15 18:25	5.0		
315	met08_sn_6010	BSD	QC789545	Soil	223573	05/29/15 18:29	5.0		
316	met08_sn_6010	MSS	266999-032	Soil	223573	05/29/15 18:33	1.0		4:FE=490000
317	met08_sn_6010	CCV				05/29/15 18:40	1.0	13	
318	met08_sn_6010	CCB				05/29/15 18:47	1.0		
319	met08_sn_6010	CCB				05/29/15 18:51	1.0		
320	met08_sn_6010	MSS	266999-032	Soil	223573	05/29/15 18:56	1.0		5:FE=490000
321	met08_sn_6010	MS	QC789546	Soil	223573	05/29/15 19:03	5.0		
322	met08_sn_6010	MSD	QC789547	Soil	223573	05/29/15 19:10	5.0		
323	met08_sn_6010	CCV				05/29/15 19:18	1.0	13	

NCD 05/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 44.

CRT 05/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 45 through 293.

JDB 05/29/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 294 through 306.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S26229 11=S26230 12=S26912 13=S27133

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y	A
		ICAL STD	5004070	
		LOWER LIMIT	1501221	
		UPPER LIMIT	10008140	
009	ICB		5166316	
010	ICSA		4326151	
011	ICSAB		4343165	
012	MSS	266995-001	4855939	
013	MS	QC789357	4920047	
014	MSD	QC789358	4932243	
015	SER	QC789359	5117838	
016	PDS	QC789360	4773667	
017	SAMPLE	266995-002	4995179	
018	SAMPLE	266995-003	4909317	
019	SAMPLE	266995-004	4850273	
020	SAMPLE	266995-005	4685634	
021	SAMPLE	266995-006	4845013	
022	CCV		4962570	
023	CCB		5062483	
024	SAMPLE	267030-008	5117316	
025	SAMPLE	266996-003	4961001	
026	SAMPLE	266995-006	4823096	
027	SAMPLE	266996-003	4764381	
028	SAMPLE	266995-005	4971063	
029	SAMPLE	266996-002	4919680	
030	SAMPLE	266996-001	5002872	
031	SAMPLE	266994-001	4958919	
032	SAMPLE	266995-007	4760965	
033	CCV		5016588	
034	CCB		5290346	
035	BLANK	QC789337	5261539	
036	BLANK	QC789354	5445762	
037	SAMPLE	267032-002	14219308	*
038	SAMPLE	267032-001	4914753	
039	SAMPLE	267032-002	4993683	
040	SAMPLE	266994-001	4767075	
041	SAMPLE	266995-007	4695417	
042	SAMPLE	267032-002	5120369	
043	CCV		4981896	
044	CCB		5144588	
045	SAMPLE	267030-009	5235192	
046	SAMPLE	267030-010	5222427	
047	SAMPLE	267030-011	5270662	
048	SAMPLE	267030-012	5236555	
049	SAMPLE	267030-013	5234362	
050	SAMPLE	267030-014	5224169	
051	SAMPLE	267030-015	5234497	
052	SAMPLE	267030-016	5115788	
053	SAMPLE	267030-017	5205279	
054	SAMPLE	267030-018	5288594	
055	CCV		4879502	
056	CCB		5191676	

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y A
057	SAMPLE	267030-019	5272500
058	SAMPLE	267030-020	5263808
059	CCV		4982493
060	CCB		5244727
061	MS	QC789220	5009885
062	MSD	QC789221	5001001
063	SER	QC789222	5021108
064	PDS	QC789223	4845843
065	SAMPLE	266935-021	4834863
066	SAMPLE	266935-022	5069097
067	SAMPLE	266935-023	4918945
068	SAMPLE	266935-024	4829650
069	SAMPLE	266935-025	4652693
070	SAMPLE	266935-026	4881274
071	CCV		5087189
072	CCB		5115935
073	SAMPLE	266935-027	4710296
074	SAMPLE	266935-028	4870377
075	SAMPLE	266935-029	4871810
076	SAMPLE	266935-030	4975569
077	SAMPLE	266935-031	4922549
078	SAMPLE	266935-032	4774088
079	SAMPLE	266935-033	4768737
081	SAMPLE	267006-002	4840934
082	SAMPLE	267006-003	4897268
083	CCV		4976245
084	CCB		5303618
085	MSS	266911-004	4823533
086	MSS	266935-001	4804850
087	MS	QC789227	4903264
088	MSD	QC789228	4806638
089	MSS	266911-004	4783362
090	MSS	266935-002	4719818
091	SAMPLE	266935-003	4738231
092	SAMPLE	266935-004	4910961
093	SAMPLE	266935-005	4830059
094	SAMPLE	266935-006	4740758
095	CCV		4863215
096	CCB		4552683
097	SAMPLE	266935-007	4846212
098	SAMPLE	266935-008	4731909
099	SAMPLE	266935-009	4760312
100	SAMPLE	266935-010	4782759
101	SAMPLE	266935-011	4831153
102	SAMPLE	266935-012	4805981
103	SAMPLE	266935-013	4799409
104	SAMPLE	266935-014	4829996
105	SAMPLE	266935-015	4810063
106	SAMPLE	266935-016	5005879
107	CCV		5013974
108	CCB		5088783
109	CCB		5224848

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y A
110	SAMPLE	266935-017	4710261
111	SAMPLE	266935-018	4943715
112	SAMPLE	266935-019	4863320
114	SAMPLE	266935-020	4796556
115	SAMPLE	266935-022	4882269
116	SAMPLE	266935-024	4675877
117	SAMPLE	266935-026	4871449
118	SAMPLE	266935-027	4762686
119	CCV		4979846
120	CCB		5161069
121	SAMPLE	266935-028	4762170
122	SAMPLE	266935-029	4804161
123	SAMPLE	266935-030	4866110
124	SAMPLE	266935-031	4855002
125	SAMPLE	266935-032	4790424
126	SAMPLE	266935-033	4703128
127	SAMPLE	266935-002	4860329
128	SAMPLE	266935-003	4679319
129	SAMPLE	266935-006	4966905
130	SAMPLE	266935-008	4782251
131	CCV		4917780
132	CCB		5317655
133	SAMPLE	266935-009	4878516
134	SAMPLE	266935-011	4766937
135	SAMPLE	266935-012	4954366
136	SAMPLE	266935-013	4763523
137	SAMPLE	266935-016	4898708
138	SAMPLE	266935-017	4992193
139	SAMPLE	266935-018	5042137
140	SAMPLE	266935-019	5086369
141	SAMPLE	266935-020	4791725
143	CCV		5066572
144	CCB		5184727
145	SAMPLE	266999-012	4700220
146	SAMPLE	266999-013	4862214
147	SAMPLE	266999-014	4901521
148	BLANK	QC789462	5097195
149	BS	QC789463	4928678
150	BSD	QC789464	4851961
151	BLANK	QC789606	5209132
152	BS	QC789607	4938826
153	BSD	QC789608	4940570
154	BLANK	QC789633	5305937
155	CCV		4809915
156	CCB		5129259
157	BS	QC789634	4987826
158	BSD	QC789635	5041867
159	SAMPLE	266999-001	4777327
160	SAMPLE	266999-002	4868090
161	SAMPLE	266999-003	4864671
162	SAMPLE	266999-004	4722016
163	SAMPLE	266999-005	4843666

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y A
164	SAMPLE	266999-006	4742559
165	SAMPLE	266999-007	4653290
166	SAMPLE	266999-008	4693186
167	CCV		4916135
169	CCB		5222688
170	SAMPLE	266999-009	4867649
171	SAMPLE	266999-010	4698723
172	SAMPLE	266999-011	4711097
173	SAMPLE	266999-012	4473976
174	SAMPLE	266999-013	4914679
175	SAMPLE	266999-014	4944415
176	SAMPLE	266999-015	4605638
177	SAMPLE	266999-016	4692735
178	SAMPLE	266999-017	4822522
179	SAMPLE	266999-018	4747047
180	CCV		4873061
182	CCB		5097708
183	SAMPLE	266999-019	4858538
184	SAMPLE	266999-020	4877038
185	SAMPLE	266999-021	4875143
186	SAMPLE	266999-022	4727677
187	SAMPLE	266999-023	4867198
188	SAMPLE	266999-024	4791162
189	SAMPLE	266999-025	4449331
191	MSS	267062-001	4866342
192	MS	QC789636	4880574
193	CCV		4938017
195	CCB		5158347
196	MSD	QC789637	4929272
197	SAMPLE	267062-002	4998187
198	SAMPLE	267062-003	5180843
199	SAMPLE	267062-004	5287355
200	SAMPLE	267062-005	5932543
201	SAMPLE	267062-006	5436111
202	SAMPLE	267062-007	5839283
203	SAMPLE	267062-008	5328418
204	SAMPLE	267062-009	5175003
205	SAMPLE	267062-010	4901431
206	CCV		4879608
208	CCB		4946284
209	SAMPLE	267062-011	4979620
210	SAMPLE	267062-012	5286578
211	SAMPLE	267062-013	4981216
212	SAMPLE	267062-014	5433701
213	SAMPLE	267062-015	5081200
214	SAMPLE	267062-016	5013129
215	SAMPLE	267062-017	5132924
216	SAMPLE	267062-018	5211948
217	SAMPLE	267062-019	4982499
218	SAMPLE	267062-020	4751156
219	CCV		4967519
220	CCB		5098622

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y A
221	CCV		4993522
222	CCB		5180506
223	BLANK	QC789538	5257455
224	BS	QC789539	4837347
225	BSD	QC789540	4976365
226	MSS	267010-001	4976299
227	SAMPLE	266935-004	4712150
228	SAMPLE	266935-007	4844816
229	SAMPLE	266935-010	4899624
230	SAMPLE	266935-014	4896419
231	SAMPLE	266935-015	4659743
232	MS	QC789541	4945613
233	CCV		4966890
234	CCB		5087050
235	MSD	QC789542	4866835
236	SAMPLE	266999-026	4869139
237	SAMPLE	266999-027	4861993
238	SAMPLE	266999-028	4919164
239	SAMPLE	266999-029	5015239
240	SAMPLE	266999-030	4931863
241	SAMPLE	266999-031	4879663
243	MSS	267002-002	4692090
244	MS	QC789465	4915553
245	CCV		4952907
247	CCB		5299925
248	MSD	QC789466	4811673
249	SAMPLE	267002-004	4911630
250	SAMPLE	267002-006	4885353
251	SAMPLE	267002-008	4755899
252	SAMPLE	267002-010	4620627
253	SAMPLE	267002-012	4760044
254	SAMPLE	267002-014	4675387
255	SAMPLE	267002-016	4880548
257	MSS	267066-001	4968712
258	CCV		5007241
260	CCB		5088145
261	MS	QC789609	4862345
262	MSD	QC789610	4856422
263	SER	QC789611	5003422
264	PDS	QC789612	4855476
266	CCV		4954277
267	CCB		5259918
268	MSS	267002-002	4675455
269	SAMPLE	267002-004	4853521
270	SAMPLE	267002-006	4943119
271	SAMPLE	267002-008	4784043
272	SAMPLE	267002-010	4590896
273	SAMPLE	267002-012	4818598
274	SAMPLE	267002-014	4757722
275	SAMPLE	267002-016	4799289
277	SAMPLE	266999-001	4849391
278	CCV		5025930

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85213537

Date : 05/28/15 Reference : met08_sn_6010
Sequence : MET08 05/28/15 Analyzed : 05/28/15 07:02

#	Type	Sample ID	Y A
280	CCB		5215806
281	SAMPLE	266999-005	4876873
282	SAMPLE	266999-007	4707699
283	SAMPLE	266999-008	4737944
284	SAMPLE	266999-009	4922098
285	SAMPLE	266999-010	5038520
287	MSS	267062-001	5222542
288	SAMPLE	267062-014	5592822
289	SAMPLE	267062-018	5321820
290	SAMPLE	267062-020	5117491
291	CCV		5024814
293	CCB		5112352
294	SAMPLE	266999-031	4899770
295	SAMPLE	266999-017	4875569
296	SAMPLE	266999-018	4758815
297	SAMPLE	266999-019	4789111
298	SAMPLE	266999-020	4953601
299	SAMPLE	266999-021	4953932
300	SAMPLE	266999-022	4835079
301	SAMPLE	266999-023	4966466
302	SAMPLE	266999-024	4900581
303	SAMPLE	266999-025	4883950
304	CCV		5055874
306	CCB		5145914
307	SAMPLE	266999-026	4860124
308	SAMPLE	266999-027	4896347
309	SAMPLE	266999-028	4842691
310	SAMPLE	266999-029	4931812
311	MSS	267010-001	5068735
313	BLANK	QC789543	5280929
314	BS	QC789544	5098527
315	BSD	QC789545	5025192
316	MSS	266999-032	4899749
317	CCV		4948288
318	CCB		5131842
319	CCB		5239766
320	MSS	266999-032	4782753
321	MS	QC789546	4823743
322	MSD	QC789547	4986476
323	CCV		4980255

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 METALS Water: EPA 6010B

Inst : MET08
Calnum : 85213537001
Units : ug/L

Date : 28-MAY-2015 06:57
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met08_sn_6010	85213537002	L1	28-MAY-2015 07:02	S27129
L2	met08_sn_6010	85213537003	L2	28-MAY-2015 07:07	S27130
L3	met08_sn_6010	85213537004	L3	28-MAY-2015 07:11	S27131
L4	met08_sn_6010	85213537005	L4	28-MAY-2015 07:17	S27132
L5	met08_sn_6010	85213537006	L5	28-MAY-2015 07:23	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	15.780	18.949	19.179	19.722		LOR0	0.00000	0.05072		18.407	1.000	0.995	
Arsenic	A	12.960	13.232	13.385	13.840		LOR0	0.00000	0.07228		13.354	1.000	0.995	
Barium	A	355.34	349.54	353.39	345.09		LOR0	0.00000	0.00290		350.84	1.000	0.995	
Beryllium	A	3699.2	3665.8	3676.9			LOR0	0.00000	2.72E-4		3680.6	1.000	0.995	
Cadmium	A	143.06	146.75	146.65	146.46		LOR0	0.00000	0.00683		145.73	1.000	0.995	
Chromium	A	22.080	21.335	22.884	20.659		LOR0	0.00000	0.04835		21.739	1.000	0.995	
Cobalt	A	98.160	100.63	107.63	105.53		LOR0	0.00000	0.00947		102.99	1.000	0.995	
Copper	A	344.96	337.65	343.58	355.29		LOR0	0.00000	0.00282		345.37	1.000	0.995	
Lead	A	29.760	34.283	35.138	35.110		LOR0	0.00000	0.02848		33.573	1.000	0.995	
Molybdenum	A	24.760	24.082	24.123	24.039		LOR0	0.00000	0.04160		24.251	1.000	0.995	
Nickel	A	36.960	35.424	37.649	37.394		LOR0	0.00000	0.02674		36.857	1.000	0.995	
Selenium	A	4.4600	18.294	20.405	20.988		LOR0	0.00000	0.04766		16.037	1.000	0.995	
Silver	A	1756.4	1856.6	1868.9	1882.5		LOR0	0.00000	5.31E-4		1841.1	1.000	0.995	
Thallium	A	13.990	13.210	13.703	12.884		LOR0	0.00000	0.07757		13.447	1.000	0.995	
Vanadium	A	133.34	126.23	126.18	126.62		LOR0	0.00000	0.00790		128.09	1.000	0.995	
Zinc	A	49.145	49.800	50.606	50.425		LOR0	0.00000	0.01983		49.994	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-20	100.00	-4	1000.0	-3	10000	0		
Arsenic	A	5.0000	-6	100.00	-4	1000.0	-3	10000	0		
Barium	A	5.0000	3	100.00	1	1000.0	2	10000	0		
Beryllium	A	2.0000	1	100.00	0	1000.0	0				
Cadmium	A	5.0000	-2	100.00	0	1000.0	0	10000	0		
Chromium	A	5.0000	7	100.00	3	1000.0	11	10000	0		
Cobalt	A	5.0000	-7	100.00	-5	1000.0	2	10000	0		
Copper	A	5.0000	-3	100.00	-5	1000.0	-3	10000	0		
Lead	A	5.0000	-15	100.00	-2	1000.0	0	10000	0		
Molybdenum	A	5.0000	3	100.00	0	1000.0	0	10000	0		
Nickel	A	5.0000	-1	100.00	-5	1000.0	1	10000	0		
Selenium	A	10.000	**-79**	100.00	-13	1000.0	-3	10000	0		
Silver	A	5.0000	-7	20.000	-1	200.00	-1	2000.0	0		
Thallium	A	10.000	9	100.00	2	1000.0	6	10000	0		
Vanadium	A	5.0000	5	100.00	0	1000.0	0	10000	0		
Zinc	A	20.000	-3	100.00	-1	1000.0	0	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

85213537001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 METALS Water
EPA 6010B

Inst : MET08
Calnum : 85213537001 Cal Date : 28-MAY-2015

ICV 85213537007 (28-MAY-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4778	ug/L	-4	10	
Arsenic	A	5000	4905	ug/L	-2	10	
Barium	A	5000	4890	ug/L	-2	10	
Beryllium	A	500.0	509.4	ug/L	2	10	
Cadmium	A	5000	5079	ug/L	2	10	
Chromium	A	5000	4847	ug/L	-3	10	
Cobalt	A	5000	4840	ug/L	-3	10	
Copper	A	5000	4792	ug/L	-4	10	
Lead	A	5000	4760	ug/L	-5	10	
Molybdenum	A	5000	5063	ug/L	1	10	
Nickel	A	5000	4894	ug/L	-2	10	
Selenium	A	5000	4802	ug/L	-4	10	
Silver	A	1000	986.5	ug/L	-1	10	
Thallium	A	5000	4819	ug/L	-4	10	
Vanadium	A	5000	5066	ug/L	1	10	
Zinc	A	5000	4943	ug/L	-1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537009 File : met08_sn_6010 Time : 28-MAY-2015 08:07
Cal : 85213537001 Caldate : 28-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5166316	3.24

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537010 File : met08_sn_6010 Time : 28-MAY-2015 08:12
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[9.942]	10.00	ug/L	
Arsenic	A	[-0.7216]	5.000	ug/L	
Barium	A	[-2.863]	5.000	ug/L	
Beryllium	A	[-1.239]	2.000	ug/L	
Cadmium	A	[-2.015]	5.000	ug/L	
Cobalt	A	[-2.852]	5.000	ug/L	
Lead	A	[-0.2174]	5.000	ug/L	
Molybdenum	A	[-0.2437]	5.000	ug/L	
Selenium	A	[3.906]	10.00	ug/L	
Silver	A	[-1.345]	5.000	ug/L	
Thallium	A	[3.021]	10.00	ug/L	
Zinc	A	[13.43]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19110	ug/L	96
Copper	A	20000	19840	ug/L	99
Manganese	A	20000	17890	ug/L	89
Nickel	A	20000	17250	ug/L	86
Vanadium	A	20000	19960	ug/L	100
Aluminum	R	500000	492600	ug/L	99
Calcium	R	500000	475100	ug/L	95
Iron	R	200000	185800	ug/L	93
Magnesium	R	500000	494500	ug/L	99
Titanium	R	20000	18960	ug/L	95

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	4326151	-13.55

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537011 File : met08_sn_6010 Time : 28-MAY-2015 09:04
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	529.3	ug/L	6	20	
Arsenic	A	500.0	519.1	ug/L	4	20	
Barium	A	500.0	508.3	ug/L	2	20	
Beryllium	A	500.0	520.2	ug/L	4	20	
Cadmium	A	1000	980.1	ug/L	-2	20	
Chromium	A	500.0	487.9	ug/L	-2	20	
Cobalt	A	500.0	440.7	ug/L	-12	20	
Copper	A	500.0	509.3	ug/L	2	20	
Lead	A	1000	948.1	ug/L	-5	20	
Molybdenum	A	500.0	512.7	ug/L	3	20	
Nickel	A	1000	909.4	ug/L	-9	20	
Selenium	A	500.0	428.9	ug/L	-14	20	
Silver	A	1000	1082	ug/L	8	20	
Thallium	A	500.0	452.5	ug/L	-9	20	
Vanadium	A	500.0	542.6	ug/L	9	20	
Zinc	A	1000	981.0	ug/L	-2	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	4343165	-13.21

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537143 File : met08_sn_6010 Time : 29-MAY-2015 00:01
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	18.407	18.969	5000	4810	ug/L	-4	10	
Arsenic	A	13.354	13.446	5000	4859	ug/L	-3	10	
Barium	A	350.84	332.86	5000	4822	ug/L	-4	10	
Beryllium	A	3680.6	3668.9	500.0	498.9	ug/L	0	10	
Cadmium	A	145.73	146.27	5000	4993	ug/L	0	10	
Chromium	A	21.739	20.703	5000	5005	ug/L	0	10	
Cobalt	A	102.99	101.67	5000	4806	ug/L	-4	10	
Copper	A	345.37	331.06	5000	4661	ug/L	-7	10	
Lead	A	33.573	33.512	5000	4772	ug/L	-5	10	
Molybdenum	A	24.251	23.526	5000	4893	ug/L	-2	10	
Nickel	A	36.857	36.103	5000	4827	ug/L	-3	10	
Selenium	A	16.037	20.302	5000	4838	ug/L	-3	10	
Silver	A	1841.1	1789.4	1000	950.6	ug/L	-5	10	
Thallium	A	13.447	12.545	5000	4865	ug/L	-3	10	
Vanadium	A	128.09	125.00	5000	4936	ug/L	-1	10	
Zinc	A	49.994	49.394	5000	4898	ug/L	-2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5066572	1.25

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537144 File : met08_sn_6010 Time : 29-MAY-2015 00:08
Cal : 85213537001 Caldate : 28-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	[1.457]	5.000	1.250	ug/L	!CCB
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	[1.815]	5.000	1.250	ug/L	!CCB
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	[1.409]	5.000	1.250	ug/L	!CCB
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5184727	3.61

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537155 File : met08_sn_6010 Time : 29-MAY-2015 01:06
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	18.407	19.610	5000	4973	ug/L	-1	10	
Arsenic	A	13.354	13.892	5000	5020	ug/L	0	10	
Barium	A	350.84	344.62	5000	4992	ug/L	0	10	
Beryllium	A	3680.6	3827.8	500.0	520.5	ug/L	4	10	
Cadmium	A	145.73	152.23	5000	5197	ug/L	4	10	
Chromium	A	21.739	21.563	5000	5213	ug/L	4	10	
Cobalt	A	102.99	105.68	5000	4996	ug/L	0	10	
Copper	A	345.37	344.59	5000	4851	ug/L	-3	10	
Lead	A	33.573	34.543	5000	4919	ug/L	-2	10	
Molybdenum	A	24.251	24.317	5000	5058	ug/L	1	10	
Nickel	A	36.857	37.358	5000	4995	ug/L	0	10	
Selenium	A	16.037	20.852	5000	4969	ug/L	-1	10	
Silver	A	1841.1	1864.1	1000	990.3	ug/L	-1	10	
Thallium	A	13.447	12.914	5000	5009	ug/L	0	10	
Vanadium	A	128.09	128.98	5000	5093	ug/L	2	10	
Zinc	A	49.994	51.503	5000	5107	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	4809915	-3.88

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537156 File : met08_sn_6010 Time : 29-MAY-2015 01:13
Cal : 85213537001 Caldate : 28-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5129259	2.50

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537258 File : met08_sn_6010 Time : 29-MAY-2015 12:43
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	18.407	18.933	5000	4801	ug/L	-4	10	
Arsenic	A	13.354	13.688	5000	4947	ug/L	-1	10	
Barium	A	350.84	333.92	5000	4837	ug/L	-3	10	
Beryllium	A	3680.6	3689.3	500.0	501.7	ug/L	0	10	
Cadmium	A	145.73	148.90	5000	5083	ug/L	2	10	
Chromium	A	21.739	19.989	5000	4833	ug/L	-3	10	
Cobalt	A	102.99	102.01	5000	4821	ug/L	-4	10	
Copper	A	345.37	331.40	5000	4665	ug/L	-7	10	
Lead	A	33.573	33.830	5000	4818	ug/L	-4	10	
Molybdenum	A	24.251	23.426	5000	4872	ug/L	-3	10	
Nickel	A	36.857	36.640	5000	4899	ug/L	-2	10	
Selenium	A	16.037	20.365	5000	4853	ug/L	-3	10	
Silver	A	1841.1	1806.6	1000	959.8	ug/L	-4	10	
Thallium	A	13.447	12.564	5000	4873	ug/L	-3	10	
Vanadium	A	128.09	124.90	5000	4932	ug/L	-1	10	
Zinc	A	49.994	50.233	5000	4981	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5007241	0.06

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537260 File : met08_sn_6010 Time : 29-MAY-2015 12:54
Cal : 85213537001 Caldate : 28-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	[1.739]	5.000	1.250	ug/L	!CCB
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	[1.738]	5.000	1.250	ug/L	!CCB
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	[1.875]	5.000	1.250	ug/L	!CCB
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[2.963]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5088145	1.68

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537266 File : met08_sn_6010 Time : 29-MAY-2015 13:22
Cal : 85213537001 Caldate : 28-MAY-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	18.407	18.750	5000	4755	ug/L	-5	10	
Arsenic	A	13.354	13.512	5000	4883	ug/L	-2	10	
Barium	A	350.84	337.72	5000	4892	ug/L	-2	10	
Beryllium	A	3680.6	3747.2	500.0	509.6	ug/L	2	10	
Cadmium	A	145.73	149.72	5000	5111	ug/L	2	10	
Chromium	A	21.739	20.509	5000	4958	ug/L	-1	10	
Cobalt	A	102.99	103.42	5000	4889	ug/L	-2	10	
Copper	A	345.37	336.55	5000	4738	ug/L	-5	10	
Lead	A	33.573	33.446	5000	4763	ug/L	-5	10	
Molybdenum	A	24.251	23.563	5000	4901	ug/L	-2	10	
Nickel	A	36.857	36.952	5000	4941	ug/L	-1	10	
Selenium	A	16.037	20.336	5000	4846	ug/L	-3	10	
Silver	A	1841.1	1829.0	1000	971.7	ug/L	-3	10	
Thallium	A	13.447	12.489	5000	4844	ug/L	-3	10	
Vanadium	A	128.09	125.74	5000	4965	ug/L	-1	10	
Zinc	A	49.994	50.884	5000	5045	ug/L	1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	4954277	-1.00

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85213537267 File : met08_sn_6010 Time : 29-MAY-2015 13:29
Cal : 85213537001 Caldate : 28-MAY-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	[2.084]	5.000	1.250	ug/L	!CCB
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	[2.325]	5.000	1.250	ug/L	!CCB
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	[1.866]	5.000	1.250	ug/L	!CCB
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	[2.790]	10.00	2.500	ug/L	!CCB
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	5004070	5259918	5.11

!=warning CCB=instrument blank

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85223802

Instrument : MET08 Begun : 06/04/15 10:02
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met08_sn_6010	ICALBLK				06/04/15 10:02	1.0		
002	met08_sn_6010	ICAL	L1			06/04/15 10:07	1.0	1	
003	met08_sn_6010	ICAL	L2			06/04/15 10:12	1.0	2	
004	met08_sn_6010	ICAL	L3			06/04/15 10:16	1.0	3	
005	met08_sn_6010	ICAL	L4			06/04/15 10:21	1.0	4	
006	met08_sn_6010	ICAL	L5			06/04/15 10:28	1.0	5	
007	met08_sn_6010	XICV				06/04/15 10:34	1.0	6	
008	met08_sn_6010	XICV				06/04/15 10:42	1.0	6	
009	met08_sn_6010	ICV				06/04/15 10:52	1.0	6	
010	met08_sn_6010	CRI				06/04/15 10:57	1.0	7	
011	met08_sn_6010	ICB				06/04/15 11:02	1.0		
012	met08_sn_6010	ICSA				06/04/15 11:07	1.0	8	10:AL=500000
013	met08_sn_6010	ICSAB				06/04/15 11:19	1.0	9	5:AL=520000
014	met08_sn_6010	BLANK	QC790333	Water	223770	06/04/15 11:32	1.0		
015	met08_sn_6010	BS	QC790334	Water	223770	06/04/15 11:37	1.0		
016	met08_sn_6010	BSD	QC790335	Water	223770	06/04/15 11:42	1.0		
017	met08_sn_6010	MSS	267075-007	Water	223770	06/04/15 11:46	1.0		3:MG=500000
018	met08_sn_6010	MS	QC790336	Water	223770	06/04/15 11:54	1.0		
019	met08_sn_6010	MSD	QC790337	Water	223770	06/04/15 12:02	1.0		
020	met08_sn_6010	SER	QC790338	Water	223770	06/04/15 12:09	5.0		
021	met08_sn_6010	PDS	QC790339	Water	223770	06/04/15 12:18	1.0	10 11 12	
022	met08_sn_6010	SAMPLE	267016-002	Water	223770	06/04/15 12:26	1.0		
023	met08_sn_6010	SAMPLE	267071-011	Water	223770	06/04/15 12:31	1.0		3:MG=600000
024	met08_sn_6010	CCV				06/04/15 12:40	1.0	13	
025	met08_sn_6010	XCCB				06/04/15 12:47	1.0		
026	met08_sn_6010	CCB				06/04/15 12:51	1.0		
027	met08_sn_6010	SAMPLE	267160-001	Water	223770	06/04/15 12:56	1.0		
028	met08_sn_6010	SAMPLE	267184-001	Water	223770	06/04/15 13:00	1.0		1:NA=620000
029	met08_sn_6010	SAMPLE	267200-001	Water	223770	06/04/15 13:09	1.0		1:NA=330000
030	met08_sn_6010	SAMPLE	267160-001	Water	223770	06/04/15 13:14	1.0		
031	met08_sn_6010	CCV				06/04/15 13:18	1.0	13	
032	met08_sn_6010	CCB				06/04/15 13:26	1.0		
033	met08_sn_6010	SAMPLE	267021-001	Water	223586	06/04/15 13:31	1.0		2:MG=220000
034	met08_sn_6010	SAMPLE	267021-002	Water	223586	06/04/15 13:40	1.0		1:NA=200000
035	met08_sn_6010	SAMPLE	267021-003	Water	223586	06/04/15 13:45	1.0		2:NA=390000
036	met08_sn_6010	SAMPLE	267021-004	Water	223586	06/04/15 13:50	1.0		1:NA=730000
037	met08_sn_6010	SAMPLE	267021-006	Water	223586	06/04/15 13:58	1.0		1:NA=480000
038	met08_sn_6010	SAMPLE	267021-007	Water	223586	06/04/15 14:04	1.0		2:NA=220000
039	met08_sn_6010	SAMPLE	267021-009	Water	223586	06/04/15 14:09	1.0		1:NA=290000
040	met08_sn_6010	SAMPLE	267021-010	Water	223586	06/04/15 14:14	1.0		1:NA=310000
041	met08_sn_6010	SAMPLE	267026-006	Water	223586	06/04/15 14:19	1.0		1:MG=100000
042	met08_sn_6010	SAMPLE	267063-001	Water	223586	06/04/15 14:27	1.0		1:NA=100000
043	met08_sn_6010	CCV				06/04/15 14:33	1.0	13	
044	met08_sn_6010	CCB				06/04/15 14:40	1.0		
045	met08_sn_6010	CCB				06/04/15 14:44	1.0		
046	met08_sn_6010	SAMPLE	267021-010	Water	223586	06/04/15 14:52	1.0		1:NA=310000
047	met08_sn_6010	SAMPLE	267021-002	Water	223586	06/04/15 14:57	1.0		1:NA=200000
048	met08_sn_6010	SAMPLE	267021-003	Water	223586	06/04/15 15:02	1.0		2:NA=390000
049	met08_sn_6010	SAMPLE	267021-006	Water	223586	06/04/15 15:07	1.0		1:NA=460000
050	met08_sn_6010	X	RINSE			06/04/15 15:12	1.0		
051	met08_sn_6010	SAMPLE	267034-004	Miscell.	223572	06/04/15 15:18	1.0		
052	met08_sn_6010	X	RINSE			06/04/15 15:22	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85223802

Instrument : MET08 Begun : 06/04/15 10:02
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met08_sn_6010	BLANK	QC790002	Soil	223684	06/04/15 15:27	1.0		
054	met08_sn_6010	BS	QC790003	Soil	223684	06/04/15 15:32	5.0		
055	met08_sn_6010	BSD	QC790004	Soil	223684	06/04/15 15:37	5.0		
056	met08_sn_6010	CCV				06/04/15 15:42	1.0	13	
057	met08_sn_6010	CCB				06/04/15 15:50	1.0		
058	met08_sn_6010	MSS	267083-001	Soil	223684	06/04/15 15:55	1.0		2:FE=360000
059	met08_sn_6010	MS	QC790005	Soil	223684	06/04/15 16:01	5.0		
060	met08_sn_6010	MSD	QC790006	Soil	223684	06/04/15 16:09	5.0		
061	met08_sn_6010	SER	QC790007	Soil	223684	06/04/15 16:17	5.0		
062	met08_sn_6010	PDS	QC790008	Soil	223684	06/04/15 16:24	1.0	10 11 12	
063	met08_sn_6010	SAMPLE	267108-001	Soil	223684	06/04/15 16:31	1.0		4:FE=480000
064	met08_sn_6010	SAMPLE	267108-002	Soil	223684	06/04/15 16:38	1.0		4:FE=500000
065	met08_sn_6010	SAMPLE	267108-003	Soil	223684	06/04/15 16:44	1.0		4:FE=500000
066	met08_sn_6010	SAMPLE	267108-004	Soil	223684	06/04/15 16:51	1.0		5:FE=490000
067	met08_sn_6010	SAMPLE	267108-005	Soil	223684	06/04/15 16:58	1.0		5:FE=510000
068	met08_sn_6010	CCV				06/04/15 17:05	1.0	13	
069	met08_sn_6010	CCB				06/04/15 17:12	1.0		
070	met08_sn_6010	SAMPLE	267108-006	Soil	223684	06/04/15 17:18	1.0		3:FE=460000
071	met08_sn_6010	X	RINSE			06/04/15 17:24	1.0		
072	met08_sn_6010	BLANK	QC789949	Wipe	223672	06/04/15 17:29	1.0		
073	met08_sn_6010	BS	QC789950	Wipe	223672	06/04/15 17:34	1.0		2:K=110000
074	met08_sn_6010	BSD	QC789951	Wipe	223672	06/04/15 17:43	1.0		4:K=110000
075	met08_sn_6010	SAMPLE	267052-001	Wipe	223672	06/04/15 17:52	1.0		
076	met08_sn_6010	SAMPLE	267052-002	Wipe	223672	06/04/15 17:56	1.0		
077	met08_sn_6010	SAMPLE	267052-003	Wipe	223672	06/04/15 18:00	1.0		
078	met08_sn_6010	SAMPLE	267052-004	Wipe	223672	06/04/15 18:04	1.0		
079	met08_sn_6010	SAMPLE	267052-005	Wipe	223672	06/04/15 18:08	1.0		
080	met08_sn_6010	CCV				06/04/15 18:12	1.0	13	
081	met08_sn_6010	CCB				06/04/15 18:20	1.0		
082	met08_sn_6010	SAMPLE	267052-006	Wipe	223672	06/04/15 18:25	1.0		
083	met08_sn_6010	SAMPLE	267052-007	Wipe	223672	06/04/15 18:30	1.0		
084	met08_sn_6010	X	RINSE			06/04/15 18:35	1.0		
085	met08_sn_6010	BLANK	QC790232	Miscell.	223746	06/04/15 18:40	1.0		
086	met08_sn_6010	BS	QC790233	Miscell.	223746	06/04/15 18:46	1.0		3:NA=110000
087	met08_sn_6010	BSD	QC790234	Miscell.	223746	06/04/15 18:54	1.0		5:NA=120000
088	met08_sn_6010	SAMPLE	266950-001	Miscell.	223746	06/04/15 19:03	10.0		
089	met08_sn_6010	SAMPLE	266956-001	Miscell.	223746	06/04/15 19:08	10.0		
090	met08_sn_6010	SAMPLE	266961-001	Miscell.	223746	06/04/15 19:13	10.0		
091	met08_sn_6010	X	RINSE			06/04/15 19:18	1.0		
092	met08_sn_6010	CCV				06/04/15 19:23	1.0	13	
093	met08_sn_6010	CCB				06/04/15 19:31	1.0		
094	met08_sn_6010	BLANK	QC790204	Wipe	223739	06/04/15 19:36	1.0		
095	met08_sn_6010	BS	QC790205	Wipe	223739	06/04/15 19:41	1.0		3:NA=110000
096	met08_sn_6010	BSD	QC790206	Wipe	223739	06/04/15 19:50	1.0		3:NA=110000
097	met08_sn_6010	SAMPLE	266950-001	Wipe	223739	06/04/15 19:59	1.0		
098	met08_sn_6010	SAMPLE	266956-001	Wipe	223739	06/04/15 20:04	1.0		
099	met08_sn_6010	SAMPLE	266961-001	Wipe	223739	06/04/15 20:09	1.0		
100	met08_sn_6010	SAMPLE	266964-001	Wipe	223739	06/04/15 20:14	1.0		
101	met08_sn_6010	X	RINSE			06/04/15 20:19	1.0		
102	met08_sn_6010	BLANK	QC790386	Air	223785	06/04/15 20:24	1.0		
103	met08_sn_6010	BS	QC790387	Air	223785	06/04/15 20:29	1.0		6:NA=110000
104	met08_sn_6010	CCV				06/04/15 20:38	1.0	13	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 85223802

Instrument : MET08 Begun : 06/04/15 10:02
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met08_sn_6010	CCB				06/04/15 20:46	1.0		
106	met08_sn_6010	BSD	QC790388	Air	223785	06/04/15 20:51	1.0		6:NA=120000
107	met08_sn_6010	SAMPLE	267122-003	Air	223785	06/04/15 20:59	1.0		
108	met08_sn_6010	X	RINSE			06/04/15 21:04	1.0		
109	met08_sn_6010	SAMPLE	267110-001	Soil	223684	06/04/15 21:10	1.0		3:FE=480000
110	met08_sn_6010	SAMPLE	267110-003	Soil	223684	06/04/15 21:16	1.0		3:FE=460000
111	met08_sn_6010	SAMPLE	267110-004	Soil	223684	06/04/15 21:23	1.0		2:FE=300000
112	met08_sn_6010	SAMPLE	267110-006	Soil	223684	06/04/15 21:30	1.0		3:FE=360000
113	met08_sn_6010	SAMPLE	267110-007	Soil	223684	06/04/15 21:36	1.0		3:CA=1400000
114	met08_sn_6010	SAMPLE	267044-001	Soil	223684	06/04/15 21:43	1.0		6:FE=540000
115	met08_sn_6010	SAMPLE	267044-002	Soil	223684	06/04/15 21:50	1.0		2:CA=160000
116	met08_sn_6010	CCV				06/04/15 21:58	1.0	13	
117	met08_sn_6010	CCB				06/04/15 22:05	1.0		
118	met08_sn_6010	SAMPLE	267044-003	Soil	223684	06/04/15 22:10	1.0		6:FE=460000
119	met08_sn_6010	SAMPLE	267044-004	Soil	223684	06/04/15 22:17	1.0		4:FE=410000
120	met08_sn_6010	SAMPLE	267057-001	Soil	223684	06/04/15 22:24	1.0		5:CA=620000
121	met08_sn_6010	SAMPLE	267057-002	Soil	223684	06/04/15 22:31	1.0		6:FE=540000
122	met08_sn_6010	SAMPLE	267057-003	Soil	223684	06/04/15 22:37	1.0		6:FE=630000
123	met08_sn_6010	SAMPLE	267057-004	Soil	223684	06/04/15 22:44	1.0		2:FE=180000
124	met08_sn_6010	CCV				06/04/15 22:52	1.0	13	
125	met08_sn_6010	CCB				06/04/15 22:59	1.0		

CRT 06/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

JDB 06/04/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 35 through 86.

CRT 06/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 87 through 125.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S26229 11=S26230 12=S26912 13=S27133

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85223802

Date : 06/04/15 Reference : met08_sn_6010
Sequence : MET08 06/04/15 Analyzed : 06/04/15 10:07

#	Type	Sample ID	Y A
		ICAL STD	4068543
		LOWER LIMIT	1220563
		UPPER LIMIT	8137086
011	ICB		3958856
012	ICSA		3391506
013	ICSAB		3334524
014	BLANK	QC790333	4066881
015	BS	QC790334	4022164
016	BSD	QC790335	3955089
017	MSS	267075-007	3148535
018	MS	QC790336	3145035
019	MSD	QC790337	3225138
020	SER	QC790338	3559654
021	PDS	QC790339	3094461
022	SAMPLE	267016-002	4179195
023	SAMPLE	267071-011	3087679
024	CCV		3897039
026	CCB		4250181
027	SAMPLE	267160-001	3763827
028	SAMPLE	267184-001	3808935
029	SAMPLE	267200-001	3942067
030	SAMPLE	267160-001	4024420
031	CCV		3907978
032	CCB		4054179
033	SAMPLE	267021-001	3016082
034	SAMPLE	267021-002	3863986
035	SAMPLE	267021-003	3765198
036	SAMPLE	267021-004	3736456
037	SAMPLE	267021-006	3556156
038	SAMPLE	267021-007	3616319
039	SAMPLE	267021-009	3610378
040	SAMPLE	267021-010	3711280
041	SAMPLE	267026-006	3452113
043	CCV		3718025
044	CCB		4061610
045	CCB		4016589
046	SAMPLE	267021-010	3691791
047	SAMPLE	267021-002	3767167
048	SAMPLE	267021-003	3533933
049	SAMPLE	267021-006	3558952
051	SAMPLE	267034-004	3770461
053	BLANK	QC790002	4125642
054	BS	QC790003	3736991
055	BSD	QC790004	3707625
056	CCV		3695082
057	CCB		4071075
058	MSS	267083-001	3759320
059	MS	QC790005	3629099
060	MSD	QC790006	3781714
061	SER	QC790007	3851701
062	PDS	QC790008	3588247

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85223802

Date : 06/04/15 Reference : met08_sn_6010
Sequence : MET08 06/04/15 Analyzed : 06/04/15 10:07

#	Type	Sample ID	Y A
063	SAMPLE	267108-001	3708029
064	SAMPLE	267108-002	3772748
065	SAMPLE	267108-003	3836073
066	SAMPLE	267108-004	3685925
067	SAMPLE	267108-005	3783737
068	CCV		3902396
069	CCB		3812051
070	SAMPLE	267108-006	3836703
072	BLANK	QC789949	4020333
073	BS	QC789950	3546530
074	BSD	QC789951	3510495
075	SAMPLE	267052-001	3760406
076	SAMPLE	267052-002	3724651
077	SAMPLE	267052-003	3614143
078	SAMPLE	267052-004	2671754
079	SAMPLE	267052-005	3677255
080	CCV		3504928
081	CCB		3910856
082	SAMPLE	267052-006	3786264
083	SAMPLE	267052-007	3793339
085	BLANK	QC790232	3736925
086	BS	QC790233	3461513
087	BSD	QC790234	3522892
088	SAMPLE	266950-001	3902662
089	SAMPLE	266956-001	3906552
090	SAMPLE	266961-001	3769325
092	CCV		3806833
093	CCB		3938298
094	BLANK	QC790204	3740860
095	BS	QC790205	3511508
096	BSD	QC790206	3567558
097	SAMPLE	266950-001	3771464
098	SAMPLE	266956-001	3701067
099	SAMPLE	266961-001	3765031
100	SAMPLE	266964-001	3702019
102	BLANK	QC790386	3959760
103	BS	QC790387	3536963
104	CCV		3624018
105	CCB		3865097
106	BSD	QC790388	3436065
107	SAMPLE	267122-003	3957943
109	SAMPLE	267110-001	3557855
110	SAMPLE	267110-003	3559310
111	SAMPLE	267110-004	3717471
112	SAMPLE	267110-006	3790116
113	SAMPLE	267110-007	3401420
114	SAMPLE	267044-001	3698916
115	SAMPLE	267044-002	3468055
116	CCV		3492329
117	CCB		3736940
118	SAMPLE	267044-003	3468393
119	SAMPLE	267044-004	3645549

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 85223802

Date : 06/04/15 Reference : met08_sn_6010
Sequence : MET08 06/04/15 Analyzed : 06/04/15 10:07

#	Type	Sample ID	Y A
120	SAMPLE	267057-001	3329472
121	SAMPLE	267057-002	3593800
122	SAMPLE	267057-003	3409524
123	SAMPLE	267057-004	3640235
124	CCV		3696486
125	CCB		3825842

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 METALS Water: EPA 6010B

Inst : MET08
Calnum : 85223802001
Units : ug/L

Reviewer : ---
Date : 04-JUN-2015 10:02
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met08_sn_6010	85223802002	L1	04-JUN-2015 10:07	S27129
L2	met08_sn_6010	85223802003	L2	04-JUN-2015 10:12	S27130
L3	met08_sn_6010	85223802004	L3	04-JUN-2015 10:16	S27131
L4	met08_sn_6010	85223802005	L4	04-JUN-2015 10:21	S27132
L5	met08_sn_6010	85223802006	L5	04-JUN-2015 10:28	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	15.540	18.508	18.219	19.293		LOR0	0.00000	0.05186		17.890	1.000	0.995	
Arsenic	A	6.7600	13.216	13.074	13.665		LOR0	0.00000	0.07321		11.679	1.000	0.995	
Barium	A	279.74	352.13	344.85	351.49		LOR0	0.00000	0.00285		332.05	1.000	0.995	
Beryllium	A	3482.9	3813.5	3732.7			LOR0	0.00000	2.68E-4		3676.4	1.000	0.995	
Cadmium	A	111.24	143.32	139.18	145.48		LOR0	0.00000	0.00688		134.81	1.000	0.995	
Chromium	A	22.280	24.271	25.635	23.956		LOR0	0.00000	0.04171		24.035	1.000	0.995	
Cobalt	A	91.140	101.97	106.41	108.90		LOR0	0.00000	0.00918		102.11	1.000	0.995	
Copper	A	291.38	336.39	337.04	359.79		LOR0	0.00000	0.00278		331.15	1.000	0.995	
Lead	A	24.520	34.126	33.952	35.597		LOR0	0.00000	0.02811		32.049	1.000	0.995	
Molybdenum	A	18.260	23.856	23.282	24.315		LOR0	0.00000	0.04114		22.428	1.000	0.995	
Nickel	A	28.440	35.665	36.638	38.287		LOR0	0.00000	0.02613		34.758	1.000	0.995	
Selenium	A	14.050	20.320	20.364	20.981		LOR0	0.00000	0.04768		18.929	1.000	0.995	
Silver	A	1857.3	2040.6	1884.8	1973.8		LOR0	0.00000	5.07E-4		1939.1	1.000	0.995	
Thallium	A	10.210	12.825	13.082	12.959		LOR0	0.00000	0.07716		12.269	1.000	0.995	
Vanadium	A	107.22	132.30	128.04	134.78		LOR0	0.00000	0.00742		125.59	1.000	0.995	
Zinc	A	47.700	49.841	49.582	51.414		LOR0	0.00000	0.01946		49.634	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-19	100.00	-4	1000.0	-6	10000	0		
Arsenic	A	5.0000	**-51**	100.00	-3	1000.0	-4	10000	0		
Barium	A	5.0000	-20	100.00	0	1000.0	-2	10000	0		
Beryllium	A	2.0000	-7	100.00	2	1000.0	0				
Cadmium	A	5.0000	**-24**	100.00	-1	1000.0	-4	10000	0		
Chromium	A	5.0000	-7	100.00	1	1000.0	7	10000	0		
Cobalt	A	5.0000	-16	100.00	-6	1000.0	-2	10000	0		
Copper	A	5.0000	-19	100.00	-6	1000.0	-6	10000	0		
Lead	A	5.0000	**-31**	100.00	-4	1000.0	-5	10000	0		
Molybdenum	A	5.0000	**-25**	100.00	-2	1000.0	-4	10000	0		
Nickel	A	5.0000	**-26**	100.00	-7	1000.0	-4	10000	0		
Selenium	A	10.000	**-33**	100.00	-3	1000.0	-3	10000	0		
Silver	A	5.0000	-6	20.000	3	200.00	-4	2000.0	0		
Thallium	A	10.000	**-21**	100.00	-1	1000.0	1	10000	0		
Vanadium	A	5.0000	-20	100.00	-2	1000.0	-5	10000	0		
Zinc	A	20.000	-7	100.00	-3	1000.0	-4	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 METALS Water
EPA 6010B

Inst : MET08
Calnum : 85223802001 Cal Date : 04-JUN-2015

ICV 85223802009 (04-JUN-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4828	ug/L	-3	10	
Arsenic	A	5000	4911	ug/L	-2	10	
Barium	A	5000	4857	ug/L	-3	10	
Beryllium	A	500.0	513.7	ug/L	3	10	
Cadmium	A	5000	4928	ug/L	-1	10	
Chromium	A	5000	4936	ug/L	-1	10	
Cobalt	A	5000	4784	ug/L	-4	10	
Copper	A	5000	4738	ug/L	-5	10	
Lead	A	5000	4776	ug/L	-4	10	
Molybdenum	A	5000	4931	ug/L	-1	10	
Nickel	A	5000	4807	ug/L	-4	10	
Selenium	A	5000	4935	ug/L	-1	10	
Silver	A	1000	954.7	ug/L	-5	10	
Thallium	A	5000	4923	ug/L	-2	10	
Vanadium	A	5000	4903	ug/L	-2	10	
Zinc	A	5000	4935	ug/L	-1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802011 File : met08_sn_6010 Time : 04-JUN-2015 11:02
Cal : 85223802001 Caldate : 04-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	3958856	-2.70

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802012 File : met08_sn_6010 Time : 04-JUN-2015 11:07
Cal : 85223802001 Caldate : 04-JUN-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-0.2308]	10.00	ug/L	
Arsenic	A	[2.627]	5.000	ug/L	
Barium	A	[-3.937]	5.000	ug/L	
Beryllium	A	[-1.103]	2.000	ug/L	
Cadmium	A	[-3.681]	5.000	ug/L	
Cobalt	A	[0.7832]	5.000	ug/L	
Lead	A	[-1.535]	5.000	ug/L	
Molybdenum	A	[-1.744]	5.000	ug/L	
Selenium	A	[8.375]	10.00	ug/L	
Silver	A	[1.739]	5.000	ug/L	
Thallium	A	[-2.839]	10.00	ug/L	
Zinc	A	[3.791]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18610	ug/L	93
Copper	A	20000	20020	ug/L	100
Manganese	A	20000	18100	ug/L	90
Nickel	A	20000	17010	ug/L	85
Vanadium	A	20000	19380	ug/L	97
Aluminum	R	500000	499600	ug/L	100
Calcium	R	500000	482500	ug/L	97
Iron	R	200000	186500	ug/L	93
Magnesium	R	500000	492500	ug/L	98
Titanium	R	20000	19570	ug/L	98

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	3391506	-16.64

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 267026 METALS Water EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802013 File : met08_sn_6010 Time : 04-JUN-2015 11:19
Cal : 85223802001 Caldate : 04-JUN-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	532.6	ug/L	7	20	
Arsenic	A	500.0	525.7	ug/L	5	20	
Barium	A	500.0	520.7	ug/L	4	20	
Beryllium	A	500.0	541.1	ug/L	8	20	
Cadmium	A	1000	988.8	ug/L	-1	20	
Chromium	A	500.0	499.8	ug/L	0	20	
Cobalt	A	500.0	453.8	ug/L	-9	20	
Copper	A	500.0	523.4	ug/L	5	20	
Lead	A	1000	971.2	ug/L	-3	20	
Molybdenum	A	500.0	516.0	ug/L	3	20	
Nickel	A	1000	915.1	ug/L	-8	20	
Selenium	A	500.0	527.8	ug/L	6	20	
Silver	A	1000	1078	ug/L	8	20	
Thallium	A	500.0	474.7	ug/L	-5	20	
Vanadium	A	500.0	538.4	ug/L	8	20	
Zinc	A	1000	996.4	ug/L	0	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	3334524	-18.04

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802031 File : met08_sn_6010 Time : 04-JUN-2015 13:18
Cal : 85223802001 Caldate : 04-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	17.890	17.966	5000	4659	ug/L	-7	10	
Arsenic	A	11.679	13.148	5000	4813	ug/L	-4	10	
Barium	A	332.05	343.76	5000	4891	ug/L	-2	10	
Beryllium	A	3676.4	3840.9	500.0	514.4	ug/L	3	10	
Cadmium	A	134.81	141.92	5000	4880	ug/L	-2	10	
Chromium	A	24.035	23.546	5000	4911	ug/L	-2	10	
Cobalt	A	102.11	102.84	5000	4713	ug/L	-6	10	
Copper	A	331.15	341.67	5000	4751	ug/L	-5	10	
Lead	A	32.049	33.180	5000	4663	ug/L	-7	10	
Molybdenum	A	22.428	22.520	5000	4633	ug/L	-7	10	
Nickel	A	34.758	36.333	5000	4747	ug/L	-5	10	
Selenium	A	18.929	20.036	5000	4776	ug/L	-4	10	
Silver	A	1939.1	1867.3	1000	946.5	ug/L	-5	10	
Thallium	A	12.269	12.321	5000	4753	ug/L	-5	10	
Vanadium	A	125.59	132.96	5000	4935	ug/L	-1	10	
Zinc	A	49.634	48.621	5000	4730	ug/L	-5	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	3907978	-3.95

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802032 File : met08_sn_6010 Time : 04-JUN-2015 13:26
Cal : 85223802001 Caldate : 04-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	4054179	-0.35

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802043 File : met08_sn_6010 Time : 04-JUN-2015 14:33
Cal : 85223802001 Caldate : 04-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	17.890	18.296	5000	4744	ug/L	-5	10	
Arsenic	A	11.679	13.268	5000	4857	ug/L	-3	10	
Barium	A	332.05	352.75	5000	5019	ug/L	0	10	
Beryllium	A	3676.4	3965.3	500.0	531.0	ug/L	6	10	
Cadmium	A	134.81	142.65	5000	4905	ug/L	-2	10	
Chromium	A	24.035	23.431	5000	4887	ug/L	-2	10	
Cobalt	A	102.11	104.05	5000	4768	ug/L	-5	10	
Copper	A	331.15	357.74	5000	4975	ug/L	-1	10	
Lead	A	32.049	33.141	5000	4657	ug/L	-7	10	
Molybdenum	A	22.428	22.593	5000	4648	ug/L	-7	10	
Nickel	A	34.758	36.906	5000	4822	ug/L	-4	10	
Selenium	A	18.929	19.982	5000	4763	ug/L	-5	10	
Silver	A	1939.1	1930.0	1000	978.2	ug/L	-2	10	
Thallium	A	12.269	12.442	5000	4800	ug/L	-4	10	
Vanadium	A	125.59	138.13	5000	5127	ug/L	3	10	
Zinc	A	49.634	47.949	5000	4665	ug/L	-7	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	3718025	-8.62

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET08 IDF : 1.0
Seqnum : 85223802044 File : met08_sn_6010 Time : 04-JUN-2015 14:40
Cal : 85223802001 Caldate : 04-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	5.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	1.250	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	4.000	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	2.500	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	10.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4068543	4061610	-0.17

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95224975

Instrument : MET09 Begun : 06/05/15 05:35
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				06/05/15 05:35	1.0		
002	met09_sn_	ICAL	L1			06/05/15 05:40	1.0	1	
003	met09_sn_	ICAL	L2			06/05/15 05:45	1.0	2	
004	met09_sn_	ICAL	L3			06/05/15 05:50	1.0	3	
005	met09_sn_	ICAL	L4			06/05/15 05:54	1.0	4	
006	met09_sn_	ICAL	L5			06/05/15 06:01	1.0	5	
007	met09_sn_	XICV				06/05/15 06:08	1.0	6	
008	met09_sn_	ICV				06/05/15 06:24	1.0	6	
009	met09_sn_	XCRI				06/05/15 06:43	1.0	7	
010	met09_sn_	CRI				06/05/15 06:58	1.0	7	
011	met09_sn_	ICB				06/05/15 07:03	1.0		
012	met09_sn_	ICSA				06/05/15 07:08	1.0	8	10:AL=500000
013	met09_sn_	ICSAB				06/05/15 07:24	1.0	9	5:AL=510000
014	met09_sn_	X	RINSE			06/05/15 08:10	1.0		
015	met09_sn_	CCV				06/05/15 08:16	1.0	10	
016	met09_sn_	CCB				06/05/15 08:23	1.0		
017	met09_sn_	SAMPLE	267255-001	Water	223770	06/05/15 09:00	1.0		
018	met09_sn_	X	RINSE			06/05/15 09:04	1.0		
019	met09_sn_	BLANK	QC790594	Filtrate	223835	06/05/15 09:09	1.0		
020	met09_sn_	BS	QC790595	Filtrate	223835	06/05/15 09:15	1.0		
021	met09_sn_	BSD	QC790596	Filtrate	223835	06/05/15 09:19	1.0		
022	met09_sn_	MSS	267242-001	Filtrate	223835	06/05/15 09:23	10.0		
023	met09_sn_	MS	QC790597	Filtrate	223835	06/05/15 09:27	10.0		
024	met09_sn_	MSD	QC790598	Filtrate	223835	06/05/15 09:32	10.0		
025	met09_sn_	SER	QC790599	Filtrate	223835	06/05/15 09:36	50.0		
026	met09_sn_	PDS	QC790600	Filtrate	223835	06/05/15 09:41	10.0	11 12 13	
027	met09_sn_	CCV				06/05/15 09:46	1.0	10	
028	met09_sn_	CCB				06/05/15 09:53	1.0		
029	met09_sn_	SAMPLE	267265-001	Filtrate	223835	06/05/15 09:58	1.0		5:MG=550000
030	met09_sn_	X	RINSE			06/05/15 10:06	1.0		
031	met09_sn_	SAMPLE	267265-002	Filtrate	223835	06/05/15 10:11	1.0		5:CA=520000
032	met09_sn_	X	RINSE			06/05/15 10:19	1.0		
033	met09_sn_	SAMPLE	267265-002	Filtrate	223835	06/05/15 10:24	100.0		
034	met09_sn_	X	RINSE			06/05/15 10:29	1.0		
035	met09_sn_	CCV				06/05/15 10:34	1.0	10	
036	met09_sn_	CCB				06/05/15 10:41	1.0		
037	met09_sn_	BLANK	QC790197	Air	223738	06/05/15 11:10	1.0		
038	met09_sn_	BS	QC790198	Air	223738	06/05/15 11:15	1.0		1:FE=100000
039	met09_sn_	BSD	QC790199	Air	223738	06/05/15 11:23	1.0		5:FE=110000
040	met09_sn_	MSS	267095-001	Air	223738	06/05/15 11:31	1.0		
041	met09_sn_	MS	QC790200	Air	223738	06/05/15 11:35	1.0		3:CA=240000
042	met09_sn_	MSD	QC790201	Air	223738	06/05/15 11:43	1.0		2:CA=170000
043	met09_sn_	SER	QC790202	Air	223738	06/05/15 11:51	5.0		
044	met09_sn_	PDS	QC790203	Air	223738	06/05/15 11:56	1.0	11 12 13	
045	met09_sn_	SAMPLE	267095-002	Air	223738	06/05/15 12:01	1.0		
046	met09_sn_	SAMPLE	267095-003	Air	223738	06/05/15 12:05	1.0		
047	met09_sn_	CCV				06/05/15 12:09	1.0	10	
048	met09_sn_	CCB				06/05/15 12:16	1.0		
049	met09_sn_	X	RINSE			06/05/15 12:22	1.0		
050	met09_sn_	SAMPLE	267026-006	Water	223586	06/05/15 12:27	1.0		
051	met09_sn_	X	RINSE			06/05/15 12:35	1.0		
052	met09_sn_	SAMPLE	267242-002	Filtrate	223835	06/05/15 12:40	10.0		1:NA=110000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95224975

Instrument : MET09 Begun : 06/05/15 05:35
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	SAMPLE	267242-003	Filtrate	223835	06/05/15 12:44	10.0		1:NA=110000
054	met09_sn_	SAMPLE	267242-004	Filtrate	223835	06/05/15 12:48	10.0		1:NA=130000
055	met09_sn_	SAMPLE	267242-008	Filtrate	223835	06/05/15 12:53	10.0		
056	met09_sn_	SAMPLE	267242-011	Filtrate	223835	06/05/15 12:57	10.0		1:NA=160000
057	met09_sn_	SAMPLE	267175-001	Filtrate	223835	06/05/15 13:01	1.0		4:NA=330000
058	met09_sn_	SAMPLE	267175-002	Filtrate	223835	06/05/15 13:07	1.0		4:NA=330000
059	met09_sn_	CCV				06/05/15 13:13	1.0	10	
060	met09_sn_	CCB				06/05/15 13:20	1.0		
061	met09_sn_	SAMPLE	267175-003	Filtrate	223835	06/05/15 13:25	1.0		2:CA=190000
062	met09_sn_	SAMPLE	267175-004	Filtrate	223835	06/05/15 13:30	1.0		2:CA=190000
063	met09_sn_	SAMPLE	267175-005	Filtrate	223835	06/05/15 13:36	1.0		2:CA=190000
064	met09_sn_	SAMPLE	267175-006	Filtrate	223835	06/05/15 13:41	1.0		3:NA=310000
065	met09_sn_	SAMPLE	267175-009	Filtrate	223835	06/05/15 13:47	1.0		4:NA=260000
066	met09_sn_	SAMPLE	267175-010	Filtrate	223835	06/05/15 13:52	1.0		4:NA=360000
067	met09_sn_	SAMPLE	267175-011	Filtrate	223835	06/05/15 13:58	1.0		4:NA=360000
068	met09_sn_	SAMPLE	267175-012	Filtrate	223835	06/05/15 14:03	1.0		2:CA=180000
069	met09_sn_	SAMPLE	267175-015	Filtrate	223835	06/05/15 14:09	1.0		4:CA=280000
070	met09_sn_	SAMPLE	267175-016	Filtrate	223835	06/05/15 14:14	1.0		2:CA=190000
071	met09_sn_	CCV				06/05/15 14:20	1.0	10	
072	met09_sn_	CCB				06/05/15 14:27	1.0		
073	met09_sn_	SAMPLE	267148-001	Air	223738	06/05/15 14:32	1.0		
074	met09_sn_	SAMPLE	267148-002	Air	223738	06/05/15 14:36	1.0		
075	met09_sn_	SAMPLE	267148-003	Air	223738	06/05/15 14:41	1.0		
076	met09_sn_	SAMPLE	267148-004	Air	223738	06/05/15 14:45	1.0		
077	met09_sn_	SAMPLE	267148-005	Air	223738	06/05/15 14:49	1.0		
078	met09_sn_	SAMPLE	267148-006	Air	223738	06/05/15 14:53	1.0		
079	met09_sn_	CCV				06/05/15 14:58	1.0	10	

CRT 06/05/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 36.

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S27133 11=S26229 12=S26230 13=S26912

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95224975

Date : 06/05/15 Reference : met09_sn_
Sequence : MET09 06/05/15 Analyzed : 06/05/15 05:40

#	Type	Sample ID	Y A
		ICAL STD	4429952
		LOWER LIMIT	1328986
		UPPER LIMIT	8859905
011	ICB		4520343
012	ICSA		3826701
013	ICSAB		3871506
015	CCV		4415082
016	CCB		4616366
017	SAMPLE	267255-001	4493859
019	BLANK	QC790594	4756807
020	BS	QC790595	4592659
021	BSD	QC790596	4580643
022	MSS	267242-001	4460494
023	MS	QC790597	4541446
024	MSD	QC790598	4557262
025	SER	QC790599	4592842
026	PDS	QC790600	4563225
027	CCV		4555917
028	CCB		4646989
029	SAMPLE	267265-001	3584175
031	SAMPLE	267265-002	3874216
033	SAMPLE	267265-002	4794031
035	CCV		4699683
036	CCB		4890719
037	BLANK	QC790197	5002754
038	BS	QC790198	4582648
039	BSD	QC790199	4587261
040	MSS	267095-001	4893952
041	MS	QC790200	4484812
042	MSD	QC790201	4669482
043	SER	QC790202	4853202
044	PDS	QC790203	4839405
045	SAMPLE	267095-002	4848565
046	SAMPLE	267095-003	4701722
047	CCV		4737651
048	CCB		4917619
050	SAMPLE	267026-006	4210741
052	SAMPLE	267242-002	4718014
053	SAMPLE	267242-003	4769437
054	SAMPLE	267242-004	4670100
055	SAMPLE	267242-008	4801508
056	SAMPLE	267242-011	4659711
057	SAMPLE	267175-001	4377346
058	SAMPLE	267175-002	4411376
059	CCV		4774258
060	CCB		5001361
061	SAMPLE	267175-003	4952695
062	SAMPLE	267175-004	4665298
063	SAMPLE	267175-005	4635852
064	SAMPLE	267175-006	4488098
065	SAMPLE	267175-009	4381207

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95224975

Date : 06/05/15 Reference : met09_sn_
Sequence : MET09 06/05/15 Analyzed : 06/05/15 05:40

#	Type	Sample ID	Y A
066	SAMPLE	267175-010	4349504
067	SAMPLE	267175-011	4313334
068	SAMPLE	267175-012	4533528
069	SAMPLE	267175-015	4507751
070	SAMPLE	267175-016	4631892
071	CCV		4720591
072	CCB		4933817
073	SAMPLE	267148-001	4950671
074	SAMPLE	267148-002	4735500
075	SAMPLE	267148-003	4861362
076	SAMPLE	267148-004	4830988
077	SAMPLE	267148-005	4897061
078	SAMPLE	267148-006	4952658
079	CCV		4748002

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 METALS Water: EPA 6010B

Inst : MET09
Calnum : 95224975001
Units : ug/L

Reviewer : ---
Date : 05-JUN-2015 05:35
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95224975002	L1	05-JUN-2015 05:40	S27129
L2	met09_sn_	95224975003	L2	05-JUN-2015 05:45	S27130
L3	met09_sn_	95224975004	L3	05-JUN-2015 05:50	S27131
L4	met09_sn_	95224975005	L4	05-JUN-2015 05:54	S27132
L5	met09_sn_	95224975006	L5	05-JUN-2015 06:01	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	10.290	10.124	10.128	10.082		LOR0	0.00000	0.09919		10.156	1.000	0.995	
Arsenic	A	5.5200	4.9260	4.9341	4.9107		LOR0	0.00000	0.20363		5.0727	1.000	0.995	
Barium	A	90.660	88.683	88.532	86.127		LOR0	0.00000	0.01161		88.500	1.000	0.995	
Beryllium	A	6332.2	6146.1	6132.6			LOR0	0.00000	1.63E-4		6203.6	1.000	0.995	
Cadmium	A	112.46	110.63	111.79	106.57		LOR0	0.00000	0.00938		110.36	1.000	0.995	
Chromium	A	210.32	195.41	194.63	191.12		LOR0	0.00000	0.00523		197.87	1.000	0.995	
Cobalt	A	61.060	58.835	61.221	60.301		LOR0	0.00000	0.01658		60.354	1.000	0.995	
Copper	A	443.38	415.68	426.40	437.59		LOR0	0.00000	0.00229		430.76	1.000	0.995	
Lead	A	34.900	33.865	34.509	34.196		LOR0	0.00000	0.02924		34.367	1.000	0.995	
Molybdenum	A	42.560	40.429	40.166	39.549		LOR0	0.00000	0.02528		40.676	1.000	0.995	
Nickel	A	89.720	89.438	92.606	90.865		LOR0	0.00000	0.01100		90.657	1.000	0.995	
Selenium	A	7.2600	10.989	10.995	11.111		LOR0	0.00000	0.09001		10.089	1.000	0.995	
Silver	A	202.12	219.42	223.19	225.07		LOR0	0.00000	0.00444		217.45	1.000	0.995	
Thallium	A	5.9900	5.5390	5.5620	5.4913		LOR0	0.00000	0.18208		5.6456	1.000	0.995	
Vanadium	A	277.94	272.60	273.51	272.30		LOR0	0.00000	0.00367		274.09	1.000	0.995	
Zinc	A	48.950	48.459	49.042	47.994		LOR0	0.00000	0.02083		48.611	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	2	100.00	0	1000.0	0	10000	0		
Arsenic	A	5.0000	12	100.00	0	1000.0	0	10000	0		
Barium	A	5.0000	5	100.00	3	1000.0	3	10000	0		
Beryllium	A	2.0000	3	100.00	0	1000.0	0				
Cadmium	A	5.0000	5	100.00	4	1000.0	5	10000	0		
Chromium	A	5.0000	10	100.00	2	1000.0	2	10000	0		
Cobalt	A	5.0000	1	100.00	-2	1000.0	2	10000	0		
Copper	A	5.0000	1	100.00	-5	1000.0	-3	10000	0		
Lead	A	5.0000	2	100.00	-1	1000.0	1	10000	0		
Molybdenum	A	5.0000	8	100.00	2	1000.0	2	10000	0		
Nickel	A	5.0000	-1	100.00	-2	1000.0	2	10000	0		
Selenium	A	10.000	**-35**	100.00	-1	1000.0	-1	10000	0		
Silver	A	5.0000	-10	20.000	-3	200.00	-1	2000.0	0		
Thallium	A	10.000	9	100.00	1	1000.0	1	10000	0		
Vanadium	A	5.0000	2	100.00	0	1000.0	0	10000	0		
Zinc	A	20.000	2	100.00	1	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

95224975001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 METALS Water
EPA 6010B

Inst : MET09
Calnum : 95224975001 Cal Date : 05-JUN-2015

ICV 95224975008 (05-JUN-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4941	ug/L	-1	10	
Arsenic	A	5000	5083	ug/L	2	10	
Barium	A	5000	5016	ug/L	0	10	
Beryllium	A	500.0	500.7	ug/L	0	10	
Cadmium	A	5000	5113	ug/L	2	10	
Chromium	A	5000	4990	ug/L	0	10	
Cobalt	A	5000	4941	ug/L	-1	10	
Copper	A	5000	5052	ug/L	1	10	
Lead	A	5000	4903	ug/L	-2	10	
Molybdenum	A	5000	5023	ug/L	0	10	
Nickel	A	5000	4955	ug/L	-1	10	
Selenium	A	5000	4970	ug/L	-1	10	
Silver	A	1000	997.2	ug/L	0	10	
Thallium	A	5000	4908	ug/L	-2	10	
Vanadium	A	5000	5013	ug/L	0	10	
Zinc	A	5000	5031	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975011 File : met09_sn_ Time : 05-JUN-2015 07:03
Cal : 95224975001 Caldate : 05-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	4520343	2.04

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975012 File : met09_sn_ Time : 05-JUN-2015 07:08
Cal : 95224975001 Caldate : 05-JUN-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[3.182]	10.00	ug/L	
Arsenic	A	[1.223]	5.000	ug/L	
Barium	A	[0.1821]	5.000	ug/L	
Beryllium	A	[1.307]	2.000	ug/L	
Cadmium	A	[-1.208]	5.000	ug/L	
Cobalt	A	[-0.5449]	5.000	ug/L	
Lead	A	[-2.212]	5.000	ug/L	
Molybdenum	A	[-2.037]	5.000	ug/L	
Selenium	A	[-0.07433]	10.00	ug/L	
Silver	A	[1.358]	5.000	ug/L	
Thallium	A	[-9.409]	10.00	ug/L	
Zinc	A	[8.875]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	18460	ug/L	92
Copper	A	20000	21250	ug/L	106
Manganese	A	20000	18000	ug/L	90
Nickel	A	20000	16860	ug/L	84
Vanadium	A	20000	19300	ug/L	97
Aluminum	R	500000	500100	ug/L	100
Calcium	R	500000	466100	ug/L	93
Iron	R	200000	182100	ug/L	91
Magnesium	R	500000	487500	ug/L	97
Titanium	R	20000	21420	ug/L	107

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	3826701	-13.62

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975013 File : met09_sn_ Time : 05-JUN-2015 07:24
Cal : 95224975001 Caldate : 05-JUN-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	586.9	ug/L	17	20	
Arsenic	A	500.0	498.1	ug/L	0	20	
Barium	A	500.0	498.0	ug/L	0	20	
Beryllium	A	500.0	491.1	ug/L	-2	20	
Cadmium	A	1000	929.8	ug/L	-7	20	
Chromium	A	500.0	475.3	ug/L	-5	20	
Cobalt	A	500.0	446.2	ug/L	-11	20	
Copper	A	500.0	531.8	ug/L	6	20	
Lead	A	1000	903.3	ug/L	-10	20	
Molybdenum	A	500.0	481.5	ug/L	-4	20	
Nickel	A	1000	865.2	ug/L	-13	20	
Selenium	A	500.0	517.6	ug/L	4	20	
Silver	A	1000	1098	ug/L	10	20	
Thallium	A	500.0	426.7	ug/L	-15	20	
Vanadium	A	500.0	503.1	ug/L	1	20	
Zinc	A	1000	899.9	ug/L	-10	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	3871506	-12.61

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975047 File : met09_sn_ Time : 05-JUN-2015 12:09
Cal : 95224975001 Caldate : 05-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	10.156	9.6359	5000	4779	ug/L	-4	10	
Arsenic	A	5.0727	4.8808	5000	4969	ug/L	-1	10	
Barium	A	88.500	82.834	5000	4808	ug/L	-4	10	
Beryllium	A	6203.6	5886.9	500.0	480.0	ug/L	-4	10	
Cadmium	A	110.36	104.94	5000	4921	ug/L	-2	10	
Chromium	A	197.87	183.54	5000	4801	ug/L	-4	10	
Cobalt	A	60.354	57.561	5000	4763	ug/L	-5	10	
Copper	A	430.76	423.21	5000	4837	ug/L	-3	10	
Lead	A	34.367	32.203	5000	4708	ug/L	-6	10	
Molybdenum	A	40.676	37.837	5000	4783	ug/L	-4	10	
Nickel	A	90.657	86.740	5000	4772	ug/L	-5	10	
Selenium	A	10.089	10.731	5000	4829	ug/L	-3	10	
Silver	A	217.45	215.24	1000	956.4	ug/L	-4	10	
Thallium	A	5.6456	5.1157	5000	4657	ug/L	-7	10	
Vanadium	A	274.09	262.27	5000	4816	ug/L	-4	10	
Zinc	A	48.611	46.408	5000	4834	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	4737651	6.95

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975048 File : met09_sn_ Time : 05-JUN-2015 12:16
Cal : 95224975001 Caldate : 05-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	4917619	11.01

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975059 File : met09_sn_ Time : 05-JUN-2015 13:13
Cal : 95224975001 Caldate : 05-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	10.156	9.6121	5000	4767	ug/L	-5	10	
Arsenic	A	5.0727	4.8524	5000	4940	ug/L	-1	10	
Barium	A	88.500	82.891	5000	4811	ug/L	-4	10	
Beryllium	A	6203.6	5878.7	500.0	479.3	ug/L	-4	10	
Cadmium	A	110.36	105.01	5000	4925	ug/L	-2	10	
Chromium	A	197.87	183.12	5000	4790	ug/L	-4	10	
Cobalt	A	60.354	57.573	5000	4764	ug/L	-5	10	
Copper	A	430.76	423.31	5000	4838	ug/L	-3	10	
Lead	A	34.367	32.188	5000	4706	ug/L	-6	10	
Molybdenum	A	40.676	37.832	5000	4782	ug/L	-4	10	
Nickel	A	90.657	86.671	5000	4768	ug/L	-5	10	
Selenium	A	10.089	10.723	5000	4826	ug/L	-3	10	
Silver	A	217.45	214.55	1000	953.3	ug/L	-5	10	
Thallium	A	5.6456	5.0937	5000	4637	ug/L	-7	10	
Vanadium	A	274.09	261.99	5000	4811	ug/L	-4	10	
Zinc	A	48.611	46.424	5000	4835	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	4774258	7.77

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95224975060 File : met09_sn_ Time : 05-JUN-2015 13:20
Cal : 95224975001 Caldate : 05-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	2.500	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	0.5000	ug/L	
Cadmium	A	ND	5.000	1.250	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	1.250	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	2.500	ug/L	
Molybdenum	A	ND	5.000	1.250	ug/L	
Nickel	A	ND	5.000	1.250	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	1.250	ug/L	
Thallium	A	ND	10.00	5.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	5.000	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	4429952	5001361	12.90

SAMPLE PREPARATION SUMMARY

Batch # : 223586
Started By : RFC
Method : 3010A
Spike #1 ID : S27307
Prep Date : 28-MAY-2015 06:40
Spike #2 ID : S27308
Analysis : ICP
Finished By : RFC
Units : mL
Spike #3 ID : S26912

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267021-001		Water	50	50	1	1.0						6010	
267021-002		Water	50	50	1	1.0						6010	
267021-003		Water	50	50	1	1.0						6010	
267021-004		Water	50	50	1	1.0						6010	
267021-006		Water	50	50	1	1.0						6010	
267021-007		Water	50	50	1	1.0						6010	
267021-009		Water	50	50	1	1.0						6010	
267021-010		Water	50	50	1	1.0						6010	
267026-006		Water	50	50	1	1.0						6010	
267063-001		Water	50	50	1	1.0						6010, HARDNESS	
267066-001		Water	50	50	1	1.0						6010	
QC789606	BLANK	Water	50	50	1	1.0							
QC789607	BS	Water	50	50	1	1.0		.5	.5	.5			
QC789608	BSD	Water	50	50	1	1.0		.5	.5	.5			
QC789609	MS	Water	50	50	1	1.0		.5	.5	.5			
QC789610	MSD	Water	50	50	1	1.0		.5	.5	.5			
QC789611	SER	Water	50	50	1	1.0							
QC789612	PDS	Water	50	50	1	1.0							

Analyst: CRT Date: 05/29/15 Reviewer: PRW Date: 05/29/15

Water Digestion for ICP

Curtis & Tompkins, Ltd.

LIMS Batch #: 223586
Digested by: RFC
Date Digested: 5/28/15

Digestion Method
☑ EPA 3010a for ICP
☐ EPA 200.7
☐ _____

BK3689
Page 37

Lvl.	Sample #	Container ID	Volume Sample(mL)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
	BLANK		☐ 50 ☐___	☐ 50 ☐___	Y	✓	QC789608
	BS		☐ 50 ☐___	☐ 50 ☐___		✓	-607
	BSD		☐ 50 ☐___	☐ 50 ☐___		✓	-608
	MS	G	☐ 50 ☐___	☐ 50 ☐___		✓	-609
5	MSD	↓	☐ 50 ☐___	☐ 50 ☐___	↓	✓	-610
II	267021-001	D	☐ 50 ☐___	☐ 50 ☐___	N	✓	VERIFIED pH<2
	-002		☐ 50 ☐___	☐ 50 ☐___		✓	
	-003		☐ 50 ☐___	☐ 50 ☐___		✓	
	-004		☐ 50 ☐___	☐ 50 ☐___		✓	
10	-006		☐ 50 ☐___	☐ 50 ☐___		✓	
	-007		☐ 50 ☐___	☐ 50 ☐___		✓	
	-009		☐ 50 ☐___	☐ 50 ☐___		✓	
	-010	↓	☐ 50 ☐___	☐ 50 ☐___		✓	
II	267026-006	K	☐ 50 ☐___	☐ 50 ☐___		✓	VERIFIED pH<2
II 15	267063-001	A	☐ 50 ☐___	☐ 50 ☐___		✓	
	267066-001	G	☐ 50 ☐___	☐ 50 ☐___	Y RC 5/28/15	✓	MSS
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
20			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			
			☐ 50 ☐___	☐ 50 ☐___			

	Reagent ID or LIMS #	Initials / Date
Digestion tubes, lot #	SCP202848	RFC 5/28/15
0.50 mL of spike solution (Std1) was added to all spikes	S27307	
0.50 mL of spike solution (Std2) was added to all spikes	S27308	
0.50 mL of spike solution (Std3) was added to all spikes	S26912	
Digestion Temperature (°C), Block and Probe Location	94° A37	
Digestion begun at (time)	06:40	
☑ Conc. HNO3 or ☐ 1:1 HNO3	JTB88969	
☑ Conc. HCl or ☐ 1:1 HCl	JTB102133	
digestion ended at (time)	13:25	
☑ filtered thru' Whatman # 541	WHAT962095 1	
Relinquished to ICP group	ICP	

5/28/15
Prep Chemist / Date

Continued from page Ø.
Continued on page _____.

Reviewed Online / See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075213999

Instrument : MET54
Method : EPA 7470A

Begun : 05/28/15 14:39
SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	met54	ICALBLK				05/28/15 14:39	1.0	
002	met54	ICAL	ICAL1			05/28/15 14:40	1.0	1
003	met54	ICAL	ICAL2			05/28/15 14:41	1.0	1
004	met54	ICAL	ICAL3			05/28/15 14:42	1.0	1
005	met54	ICAL	ICAL4			05/28/15 14:43	1.0	1
006	met54	ICAL	ICAL5			05/28/15 14:44	1.0	1
007	met54	ICV				05/28/15 14:45	1.0	2
008	met54	ICB				05/28/15 14:46	1.0	
009	met54	BLANK	QC789677	Water	223604	05/28/15 14:48	1.0	
010	met54	BLANK	QC789678	TCLP Leachate	223604	05/28/15 14:49	1.0	
011	met54	BS	QC789679	Water	223604	05/28/15 14:50	1.0	
012	met54	BSD	QC789680	Water	223604	05/28/15 14:51	1.0	
013	met54	MSS	267066-001	Water	223604	05/28/15 14:52	1.0	
014	met54	MS	QC789681	Water	223604	05/28/15 14:53	1.0	
015	met54	MSD	QC789682	Water	223604	05/28/15 14:54	1.0	
016	met54	SER	QC789683	Water	223604	05/28/15 14:55	5.0	
017	met54	SAMPLE	267009-002	Filtrate	223604	05/28/15 14:56	1.0	
018	met54	SAMPLE	267009-008	Filtrate	223604	05/28/15 14:58	1.0	
019	met54	CCV				05/28/15 14:59	1.0	3
020	met54	CCB				05/28/15 15:00	1.0	
021	met54	SAMPLE	267009-009	Filtrate	223604	05/28/15 15:01	1.0	
022	met54	SAMPLE	267009-012	Filtrate	223604	05/28/15 15:02	1.0	
023	met54	SAMPLE	267009-015	Filtrate	223604	05/28/15 15:03	1.0	
024	met54	SAMPLE	267011-001	TCLP Leachate	223604	05/28/15 15:05	1.0	
025	met54	SAMPLE	267011-002	TCLP Leachate	223604	05/28/15 15:06	1.0	
026	met54	SAMPLE	267021-001	Filtrate	223604	05/28/15 15:07	1.0	
027	met54	SAMPLE	267021-002	Filtrate	223604	05/28/15 15:08	1.0	
028	met54	SAMPLE	267021-003	Filtrate	223604	05/28/15 15:09	1.0	
029	met54	SAMPLE	267021-004	Filtrate	223604	05/28/15 15:10	1.0	
030	met54	SAMPLE	267021-006	Filtrate	223604	05/28/15 15:11	1.0	
031	met54	CCV				05/28/15 15:12	1.0	3
032	met54	CCB				05/28/15 15:13	1.0	
033	met54	SAMPLE	267021-007	Filtrate	223604	05/28/15 15:15	1.0	
034	met54	SAMPLE	267021-009	Filtrate	223604	05/28/15 15:16	1.0	
035	met54	SAMPLE	267021-010	Filtrate	223604	05/28/15 15:17	1.0	
036	met54	SAMPLE	267026-006	Water	223604	05/28/15 15:18	1.0	
037	met54	CCV				05/28/15 15:19	1.0	3
038	met54	CCB				05/28/15 15:20	1.0	
039	met54	BLANK	QC789722	Water	223614	05/28/15 17:05	1.0	
040	met54	BS	QC789723	Water	223614	05/28/15 17:06	1.0	
041	met54	BSD	QC789724	Water	223614	05/28/15 17:07	1.0	
042	met54	MSS	267078-001	Water	223614	05/28/15 17:08	1.0	
043	met54	MS	QC789725	Water	223614	05/28/15 17:09	1.0	
044	met54	MSD	QC789726	Water	223614	05/28/15 17:10	1.0	
045	met54	SAMPLE	267006-001	Water	223614	05/28/15 17:11	1.0	
046	met54	SAMPLE	267006-002	Water	223614	05/28/15 17:12	1.0	
047	met54	SAMPLE	267006-003	Water	223614	05/28/15 17:14	1.0	
048	met54	CCV				05/28/15 17:15	1.0	3
049	met54	CCB				05/28/15 17:16	1.0	
050	met54	SAMPLE	267006-004	Water	223614	05/28/15 17:17	1.0	
051	met54	SAMPLE	267006-005	Water	223614	05/28/15 17:18	1.0	
052	met54	SAMPLE	267006-006	Water	223614	05/28/15 17:19	1.0	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1075213999

Instrument : MET54
Method : EPA 7470A
Begun : 05/28/15 14:39
SOP Version : hg_water_rv16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met54	SAMPLE	267006-007	Water	223614	05/28/15 17:20	1.0		
054	met54	SAMPLE	267006-008	Water	223614	05/28/15 17:22	1.0		
055	met54	SAMPLE	267021-001	Water	223614	05/28/15 17:23	1.0		
056	met54	SAMPLE	267021-002	Water	223614	05/28/15 17:24	1.0		
057	met54	SAMPLE	267021-003	Water	223614	05/28/15 17:25	1.0		
058	met54	SAMPLE	267021-004	Water	223614	05/28/15 17:26	1.0		
059	met54	SAMPLE	267021-006	Water	223614	05/28/15 17:27	1.0		
060	met54	CCV				05/28/15 17:28	1.0	3	
061	met54	CCB				05/28/15 17:29	1.0		
062	met54	SAMPLE	267021-007	Water	223614	05/28/15 17:31	1.0		
063	met54	SAMPLE	267021-009	Water	223614	05/28/15 17:32	1.0		
064	met54	SAMPLE	267021-010	Water	223614	05/28/15 17:33	1.0		
065	met54	SAMPLE	267078-002	Water	223614	05/28/15 17:34	1.0		
066	met54	SAMPLE	267078-003	Water	223614	05/28/15 17:35	1.0		
067	met54	CCV				05/28/15 17:36	1.0	3	
068	met54	CCB				05/28/15 17:37	1.0		

ARD 05/28/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 68.

Standards used: 1=S27350 2=S27352 3=S27353

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267026 METALS Water: EPA 7470A

Inst : MET54
Calnum : 1075213999001
Units : ug/L

Date : 28-MAY-2015 14:39
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met54	1075213999002	ICAL1	28-MAY-2015 14:40	S27350 (500X)
L2	met54	1075213999003	ICAL2	28-MAY-2015 14:41	S27350 (200X)
L3	met54	1075213999004	ICAL3	28-MAY-2015 14:42	S27350 (50X)
L4	met54	1075213999005	ICAL4	28-MAY-2015 14:43	S27350 (20X)
L5	met54	1075213999006	ICAL5	28-MAY-2015 14:44	S27350 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0105	0.0108	0.0109	0.0107	0.0117	LIN0	0.08671	85.8559		0.0109	0.998	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	**34**	0.5000	10	2.0000	-3	5.0000	-6	10.000	2

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267026 METALS Water EPA 7470A

Inst : MET54
Calnum : 1075213999001 Cal Date : 28-MAY-2015

ICV 1075213999007 (28-MAY-2015) stds: S27352

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	4.989	ug/L	0	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999008 File : met54 Time : 28-MAY-2015 14:46
Cal : 1075213999001 Caldate : 28-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999019 File : met54 Time : 28-MAY-2015 14:59
Cal : 1075213999001 Caldate : 28-MAY-2015
Standards: S27353

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0109	0.0110	5.000	4.800	ug/L	-4	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999020 File : met54 Time : 28-MAY-2015 15:00
Cal : 1075213999001 Caldate : 28-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999031 File : met54 Time : 28-MAY-2015 15:12
Cal : 1075213999001 Caldate : 28-MAY-2015
Standards: S27353

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0109	0.0111	5.000	4.860	ug/L	-3	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999032 File : met54 Time : 28-MAY-2015 15:13
Cal : 1075213999001 Caldate : 28-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999037 File : met54 Time : 28-MAY-2015 15:19
Cal : 1075213999001 Caldate : 28-MAY-2015
Standards: S27353

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0109	0.0111	5.000	4.860	ug/L	-3	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267026 METALS Water
EPA 7470A

Inst : MET54 IDF : 1.0
Seqnum : 1075213999038 File : met54 Time : 28-MAY-2015 15:20
Cal : 1075213999001 Caldate : 28-MAY-2015

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 223604
Started By : ARD
Method : METHOD
Spike #1 ID : S27350

Prep Date : 28-MAY-2015 11:05

Analysis : HG
Finished By : ARD
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267009-002		Filtrate	50	50	1	1.0						7470-HG	
267009-008		Filtrate	50	50	1	1.0						7470-HG	
267009-009		Filtrate	50	50	1	1.0						7470-HG	
267009-012		Filtrate	50	50	1	1.0						7470-HG	
267009-015		Filtrate	50	50	1	1.0						7470-HG	
267011-001		TCLP Leachate	10	50	1	5.0						TCLP/HG	
267011-002		TCLP Leachate	10	50	1	5.0						TCLP/HG	
267021-001		Filtrate	50	50	1	1.0						T22/HG	
267021-002		Filtrate	50	50	1	1.0						T22/HG	
267021-003		Filtrate	50	50	1	1.0						T22/HG	
267021-004		Filtrate	50	50	1	1.0						T22/HG	
267021-006		Filtrate	50	50	1	1.0						T22/HG	
267021-007		Filtrate	50	50	1	1.0						T22/HG	
267021-009		Filtrate	50	50	1	1.0						T22/HG	
267021-010		Filtrate	50	50	1	1.0						T22/HG	
267026-006		Water	50	50	1	1.0						T22/HG	
267066-001		Water	50	50	1	1.0						T22/HG	
267088-001		Water	50	50	1	1.0						T22/HG	
QC789677	BLANK	Water	50	50	1	1.0							
QC789678	BLANK	TCLP Leachate	10	50	1	5.0							
QC789679	BS	Water	50	50	1	1.0		1.25					
QC789680	BSD	Water	50	50	1	1.0		1.25					
QC789681	MS	Water	50	50	1	1.0		1.25					
QC789682	MSD	Water	50	50	1	1.0		1.25					
QC789683	SER	Water	50	50	1	1.0							

Analyst: ARD Date: 05/28/15 Reviewer: PRW Date: 05/29/15

Water Digestion for Mercury — Curtis & Tompkins, Ltd.

LIMS Batch #: 223604
Date Digested: 05.28.15

Digestion Method: ☒ EPA 7470A/ EPA 245.1 ☐ _____
BK3691
Page 11

	Sample #	container ID	Volume Sample (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
	Blank		☒50 ☐___	☒50 ☐___	N	BC789677
	Blank TCLP (05.27.15)		☐50 ☒10	☒50 ☐___		678
	BS ★		☒50 ☐___	☒50 ☐___		679
	BSD ★		☒50 ☐___	☒50 ☐___		
5	MSS : 267066-001	G	☒50 ☐___	☒50 ☐___		
	MS ★	↓	☒50 ☐___	☒50 ☐___		
	MSD ★	↓	☒50 ☐___	☒50 ☐___		
	267009-002	A	☒50 ☐___	☒50 ☐___		
	-008	↓	☒50 ☐___	☒50 ☐___		
10	-009		☒50 ☐___	☒50 ☐___		
	-012		☒50 ☐___	☒50 ☐___		
	-015	↓	☒50 ☐___	☒50 ☐___		
	267011-001	A	☐50 ☒10	☒50 ☐___		
	-002	↓	☐50 ☒10	☒50 ☐___		
15	267021-001	E	☒50 ☐___	☒50 ☐___		pH<2
	-002	↓	☒50 ☐___	☒50 ☐___		
	-003		☒50 ☐___	☒50 ☐___		
	-004		☒50 ☐___	☒50 ☐___		
	-006		☒50 ☐___	☒50 ☐___		
20	-007		☒50 ☐___	☒50 ☐___		
	-009		☒50 ☐___	☒50 ☐___		
	-010	↓	☒50 ☐___	☒50 ☐___		
	267026-006	K	☒50 ☐___	☒50 ☐___	↓	pH<2
	267088-001		☒50 ☐___	☒50 ☐___	N	Added 5.29.15 @ 10:30 End @ 12:30
			☐50 ☐___	☐50 ☐___		

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tube Lot #	EK-140812	ARD 5/28/15
1.25 mL of spike solution was added to all spikes	S27350 ★	↓
☒ CAL digested with this batch — ICAL Source LIMS S#	S27351	
ICV / CCV LIMS S#	S27352 / S27353	
Digestion Temperature (°C), Block and Probe Location	96° A22	
Digestion Started at (time)	11:05	
concentrated H_2SO_4	BDH-20141202I8	
concentrated HNO_3	JTB-104117	
5% $KMnO_4$	FS-052715 (Adj 5/25/15)	
5% $K_2S_2O_8$	FS-042615	
NaCl.hydroxylamine hydrochloride	FS-050615	
Stannous Chloride	FS-052715	
Digestion Completed at (time)	13:05	
☐ filtered thru' 0.45 um syringe filter (lot #)	—	↓

ARD 5/28/15
Prep Chemist / Date

Continued from page Ø

Continued on page _____

Reviewed Online / See LIMS


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 267609
ANALYTICAL REPORT

AMEC Environment & Infrastructure	Project : OD14170810.03
1670 Corporate Circle	Location : APL Terminal Port of Oakland
Petaluma, CA 94954	Level : III

Sample ID	Lab ID
APLB-DRUM	267609-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/22/2015

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**267609**
Client:	**AMEC Environment & Infrastructure**
Project:	**OD14170810.03**
Location:	**APL Terminal Port of Oakland**
Request Date:	**06/19/15**
Samples Received:	**06/19/15**

This data package contains sample and QC results for one four-point soil composite, requested for the above referenced project on 06/19/15. See attached cooler receipt form for any sample receipt problems or discrepancies.

Metals (EPA 6010B) TCLP Leachate:
No analytical problems were encountered.

Metals (EPA 6010B) WET Leachate:
No analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

Seq. No. 3186

Lab: CBJ

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

CHAIN OF CUSTODY FORM

amec

Samplers: Bill Fehler

Job Number: 0P1477080.03

2676609

Name/Location: APL Terminal Part of Oakland

Project Manager: Mary Jo Hersh

Recorder: (Signature Required)

MATRIX			# CONTAINERS					SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED			
Water	Soil	Air	Unpres	H2SO4	HNO3	HCL			YR	MO	DAY	TIME		DEPTH	8260	8270	TITLE 22 METALS	Analyze wet for Lead
X			4					APLB-DTYM	15	06	19	1745					X	

ADDITIONAL INFORMATION

REPORT TO: Mary Jo Hersh

PO#:

TAT: RUSH

Comments: Field Filtered Y/N

Composite sample for 1 result

CHAIN OF CUSTODY RECORD

Relinquished By (Signature)	Bill Fehler	AMEC APL	6/19/15 0800
Received By (Signature):	J. Gayle	C.T.	6-19-15 0800
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment: Coolwalke

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy

F1008-E

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 267609 Date Received 4/14/15 Number of coolers 1
Client Amec Project 60141708.10.03

Date Opened 4/14 By (print) FBJ (sign)
Date Logged in 4/14 By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
   Shipping info
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are there any missing / extra samples? YES (NO)
11. Are samples in the appropriate containers for indicated tests? (YES) NO
12. Are sample labels present, in good condition and complete? (YES) NO
13. Do the sample labels agree with custody papers? (YES) NO
14. Was sufficient amount of sample sent for tests requested? (YES) NO
15. Are the samples appropriately preserved? YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? YES NO (N/A)
17. Did you document your preservative check? YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)
21. Was the client contacted concerning this sample delivery? YES (NO)
   If YES, Who was called? By Date:

COMMENTS

Rev 10, 9/12

Curtis & Tompkins, Ltd.

Detections Summary for 267609

Results for any subcontracted analyses are not included in this summary.

Client : AMEC Environment & Infrastructure
Project : OD14170810.03
Location : APL Terminal Port of Oakland

Client Sample ID : APLB-DRUM Laboratory Sample ID : 267609-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	0.37		0.050	mg/L	TCLP	10.00	EPA 6010B	EPA 3010A
Lead	12		0.25	mg/L	STLC	10.00	EPA 6010B	WET
Moisture, Percent	11		1	%	As Recd	1.000	ASTM D2216/CLP	METHOD

Laboratory Job Number 267609

ANALYTICAL REPORT

Metals

Matrix: TCLP Leachate

Curtis & Tompkins, Ltd.

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	224333
Field ID:	APLB-DRUM	Sampled:	06/19/15
Matrix:	TCLP Leachate	Received:	06/19/15
Units:	mg/L	Prepared:	06/21/15
Diln Fac:	10.00	Analyzed:	06/22/15

Type	Lab ID	Result	RL
SAMPLE	267609-001	0.37	0.050
BLANK	QC792615	ND	0.050
BLANK	QC792616	ND	0.050

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	224333
Field ID:	APLB-DRUM	Sampled:	06/19/15
MSS Lab ID:	267609-001	Received:	06/19/15
Matrix:	TCLP Leachate	Prepared:	06/21/15
Units:	mg/L	Analyzed:	06/22/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln Fac
BS	QC792617		0.1000	0.09875	99	80-120			1.000
BSD	QC792618		0.1000	0.1009	101	80-120	2	20	1.000
MS	QC792619	0.3717	0.1000	0.4864	115	67-120			10.00
MSD	QC792620		0.1000	0.4594	88	67-120	6	23	10.00

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Units:	mg/L
Field ID:	APLB-DRUM	Diln Fac:	50.00
Type:	Serial Dilution	Batch#:	224333
MSS Lab ID:	267609-001	Sampled:	06/19/15
Lab ID:	QC792621	Received:	06/19/15
Matrix:	TCLP Leachate	Analyzed:	06/22/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
0.3717	0.05000	0.3486	0.2500	6	10

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	EPA 3010A
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Units:	mg/L
Field ID:	APLB-DRUM	Diln Fac:	10.00
Type:	Post Digest Spike	Batch#:	224333
MSS Lab ID:	267609-001	Sampled:	06/19/15
Lab ID:	QC792622	Received:	06/19/15
Matrix:	TCLP Leachate	Analyzed:	06/22/15

MSS Result	Spiked	Result	%REC	Limits
0.3717	1.000	1.335	96	75-125

REPORTING SUMMARY FOR 267609 METALS TCLP Leachate
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	PB	
267609-001	MET09	06/22/15 11:18	10.0	+	
QC792615	MET09	06/22/15 10:59	10.0	+	
QC792616	MET09	06/22/15 11:04	10.0	+	
QC792617	MET09	06/22/15 11:09	1.0	+	
QC792618	MET09	06/22/15 11:13	1.0	+	
QC792619	MET09	06/22/15 11:22	10.0	+	
QC792620	MET09	06/22/15 11:26	10.0	+	
QC792621	MET09	06/22/15 11:43	50.0	+	
QC792622	MET09	06/22/15 11:48	10.0	+	

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95249553

Instrument : MET09 Begun : 06/22/15 07:13
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				06/22/15 07:13	1.0		
002	met09_sn_	ICAL	L1			06/22/15 07:18	1.0	1	
003	met09_sn_	ICAL	L2			06/22/15 07:24	1.0	2	
004	met09_sn_	ICAL	L3			06/22/15 07:28	1.0	3	
005	met09_sn_	ICAL	L4			06/22/15 07:32	1.0	4	
006	met09_sn_	ICAL	L5			06/22/15 07:39	1.0	5	
007	met09_sn_	ICV				06/22/15 07:46	1.0	6	
008	met09_sn_	XCRI				06/22/15 07:53	1.0	7	
009	met09_sn_	CRI				06/22/15 08:03	1.0	7	
010	met09_sn_	ICB				06/22/15 08:09	1.0		
011	met09_sn_	ICSA				06/22/15 08:14	1.0	8	10:AL=500000
012	met09_sn_	ICSAB				06/22/15 09:12	1.0	9	4:AL=500000
013	met09_sn_	BLANK	QC792602	WET Leachate	224332	06/22/15 09:48	10.0		1:NA=150000
014	met09_sn_	BS	QC792603	WET Leachate	224332	06/22/15 09:54	1.0		
015	met09_sn_	BSD	QC792604	WET Leachate	224332	06/22/15 09:58	1.0		
016	met09_sn_	MSS	267609-001	WET Leachate	224332	06/22/15 10:02	10.0		1:NA=160000
017	met09_sn_	MS	QC792605	WET Leachate	224332	06/22/15 10:06	10.0		
018	met09_sn_	MSD	QC792606	WET Leachate	224332	06/22/15 10:11	10.0		
019	met09_sn_	SER	QC792607	WET Leachate	224332	06/22/15 10:15	50.0		
020	met09_sn_	PDS	QC792608	WET Leachate	224332	06/22/15 10:20	10.0	10 11 12	
021	met09_sn_	SAMPLE	267617-017	WET Leachate	224332	06/22/15 10:24	10.0		1:NA=170000
022	met09_sn_	SAMPLE	267617-018	WET Leachate	224332	06/22/15 10:29	10.0		1:NA=160000
023	met09_sn_	CCV				06/22/15 10:33	1.0	13	
024	met09_sn_	CCB				06/22/15 10:40	1.0		
025	met09_sn_	SAMPLE	267617-019	WET Leachate	224332	06/22/15 10:45	10.0		1:NA=170000
026	met09_sn_	SAMPLE	267617-020	WET Leachate	224332	06/22/15 10:49	10.0		1:NA=160000
027	met09_sn_	X	RINSE			06/22/15 10:54	1.0		
028	met09_sn_	BLANK	QC792615	TCLP Leachate	224333	06/22/15 10:59	10.0		1:NA=150000
029	met09_sn_	BLANK	QC792616	TCLP Leachate	224333	06/22/15 11:04	10.0		
030	met09_sn_	BS	QC792617	TCLP Leachate	224333	06/22/15 11:09	1.0		
031	met09_sn_	BSD	QC792618	TCLP Leachate	224333	06/22/15 11:13	1.0		
032	met09_sn_	MSS	267609-001	TCLP Leachate	224333	06/22/15 11:18	10.0		1:NA=150000
033	met09_sn_	MS	QC792619	TCLP Leachate	224333	06/22/15 11:22	10.0		
034	met09_sn_	MSD	QC792620	TCLP Leachate	224333	06/22/15 11:26	10.0		
035	met09_sn_	CCV				06/22/15 11:30	1.0	13	
036	met09_sn_	CCB				06/22/15 11:37	1.0		
037	met09_sn_	SER	QC792621	TCLP Leachate	224333	06/22/15 11:43	50.0		
038	met09_sn_	PDS	QC792622	TCLP Leachate	224333	06/22/15 11:48	10.0	10 11 12	
039	met09_sn_	SAMPLE	267617-017	TCLP Leachate	224333	06/22/15 11:52	10.0		1:NA=150000
040	met09_sn_	SAMPLE	267617-018	TCLP Leachate	224333	06/22/15 11:57	10.0		1:NA=140000
041	met09_sn_	SAMPLE	267617-019	TCLP Leachate	224333	06/22/15 12:03	10.0		1:NA=140000
042	met09_sn_	SAMPLE	267617-020	TCLP Leachate	224333	06/22/15 12:08	10.0		1:NA=160000
043	met09_sn_	X	RINSE			06/22/15 12:13	1.0		
044	met09_sn_	CCV				06/22/15 12:18	1.0	13	
045	met09_sn_	CCB				06/22/15 12:25	1.0		
046	met09_sn_	?SAMPLE	267606-001		224332	06/22/15 12:32	10.0		
047	met09_sn_	?SAMPLE	267613-001		224332	06/22/15 12:37	10.0		
048	met09_sn_	?SAMPLE	267613-002		224332	06/22/15 12:41	10.0		
049	met09_sn_	SAMPLE	267530-001	TCLP Leachate	224333	06/22/15 12:45	10.0		
050	met09_sn_	CCV				06/22/15 12:50	1.0	13	
051	met09_sn_	CCB				06/22/15 12:57	1.0		
052	met09_sn_	?SAMPLE	267606-001		224332	06/22/15 13:03	10.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95249553

Instrument : MET09 Begun : 06/22/15 07:13
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	?SAMPLE	267613-001		224332	06/22/15 13:07	10.0		
054	met09_sn_	?SAMPLE	267613-002		224332	06/22/15 13:11	10.0		
055	met09_sn_	SAMPLE	267530-001	TCLP Leachate	224333	06/22/15 13:16	10.0		
056	met09_sn_	SAMPLE	267541-028	WET Leachate	224332	06/22/15 13:21	10.0		1:NA=170000
057	met09_sn_	SAMPLE	267541-029	WET Leachate	224332	06/22/15 13:25	10.0		1:NA=160000
058	met09_sn_	SAMPLE	267541-030	WET Leachate	224332	06/22/15 13:29	10.0		1:NA=200000
059	met09_sn_	SAMPLE	267541-031	WET Leachate	224332	06/22/15 13:34	10.0		1:NA=160000
060	met09_sn_	SAMPLE	267541-032	WET Leachate	224332	06/22/15 13:38	10.0		1:NA=170000
061	met09_sn_	SAMPLE	267541-033	WET Leachate	224332	06/22/15 13:42	10.0		1:NA=150000
062	met09_sn_	CCV				06/22/15 13:46	1.0	13	
063	met09_sn_	CCB				06/22/15 13:53	1.0		
064	met09_sn_	SAMPLE	267541-034	WET Leachate	224332	06/22/15 13:59	10.0		1:NA=150000
065	met09_sn_	SAMPLE	267541-035	WET Leachate	224332	06/22/15 14:03	10.0		1:NA=160000
066	met09_sn_	SAMPLE	267541-036	WET Leachate	224332	06/22/15 14:07	10.0		1:NA=160000
067	met09_sn_	SAMPLE	267541-037	WET Leachate	224332	06/22/15 14:11	10.0		1:NA=160000
068	met09_sn_	SAMPLE	267541-038	WET Leachate	224332	06/22/15 14:16	10.0		1:NA=160000
069	met09_sn_	SAMPLE	267541-039	WET Leachate	224332	06/22/15 14:20	10.0		1:NA=160000
070	met09_sn_	X	RINSE			06/22/15 14:24	1.0		
071	met09_sn_	SAMPLE	267558-008	Soil	224314	06/22/15 14:29	1.0		4:FE=450000
072	met09_sn_	SAMPLE	267505-062	Soil	224288	06/22/15 14:37	1.0		7:FE=510000
073	met09_sn_	X				06/22/15 14:44	1.0	13	
074	met09_sn_	CCV				06/22/15 14:52	1.0	13	
075	met09_sn_	CCB				06/22/15 14:59	1.0		
076	met09_sn_	BS	QC792531	Soil	224314	06/22/15 15:04	5.0		
077	met09_sn_	BSD	QC792532	Soil	224314	06/22/15 15:08	5.0		
078	met09_sn_	CCV				06/22/15 15:12	1.0	13	
079	met09_sn_	CCB				06/22/15 15:19	1.0		
080	met09_sn_	BLANK	QC792577	WET Leachate	224328	06/22/15 15:35	10.0		1:NA=160000
081	met09_sn_	BS	QC792578	WET Leachate	224328	06/22/15 15:41	1.0		
082	met09_sn_	BSD	QC792579	WET Leachate	224328	06/22/15 15:45	1.0		
083	met09_sn_	MSS	267541-012	WET Leachate	224328	06/22/15 15:49	10.0		1:NA=160000
084	met09_sn_	MS	QC792580	WET Leachate	224328	06/22/15 15:53	10.0		
085	met09_sn_	MSD	QC792581	WET Leachate	224328	06/22/15 15:58	10.0		
086	met09_sn_	SAMPLE	267541-013	WET Leachate	224328	06/22/15 16:02	10.0		1:NA=160000
087	met09_sn_	SAMPLE	267541-014	WET Leachate	224328	06/22/15 16:06	10.0		1:NA=170000
088	met09_sn_	SAMPLE	267541-015	WET Leachate	224328	06/22/15 16:10	10.0		1:NA=170000
089	met09_sn_	SAMPLE	267541-016	WET Leachate	224328	06/22/15 16:15	10.0		1:NA=160000
090	met09_sn_	CCV				06/22/15 16:19	1.0	13	
091	met09_sn_	CCB				06/22/15 16:26	1.0		
092	met09_sn_	SAMPLE	267541-017	WET Leachate	224328	06/22/15 16:31	10.0		1:NA=170000

NCD 06/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 63.

NCD 06/22/15 : 73 ccv was empty repour and reran ccv

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S26229 11=S26230 12=S26912 13=S27133

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95249553

Date : 06/22/15 Reference : met09_sn_
Sequence : MET09 06/22/15 Analyzed : 06/22/15 07:18

#	Type	Sample ID	Y	A
		ICAL STD	3793063	
		LOWER LIMIT	1137919	
		UPPER LIMIT	7586126	
010	ICB		3711119	
011	ICSA		3150953	
012	ICSAB		3133577	
013	BLANK	QC792602	3617113	
014	BS	QC792603	3746402	
015	BSD	QC792604	3768944	
016	MSS	267609-001	3578216	
017	MS	QC792605	3591095	
018	MSD	QC792606	3617038	
019	SER	QC792607	3687326	
020	PDS	QC792608	3643504	
021	SAMPLE	267617-017	3524020	
022	SAMPLE	267617-018	3568584	
023	CCV		3574860	
024	CCB		3869624	
025	SAMPLE	267617-019	3566549	
026	SAMPLE	267617-020	3490013	
028	BLANK	QC792615	3713192	
029	BLANK	QC792616	3811532	
030	BS	QC792617	3751264	
031	BSD	QC792618	3712534	
032	MSS	267609-001	3567415	
033	MS	QC792619	3545683	
034	MSD	QC792620	3672428	
035	CCV		3514295	
036	CCB		3747187	
037	SER	QC792621	3735829	
038	PDS	QC792622	3569207	
039	SAMPLE	267617-017	3636401	
040	SAMPLE	267617-018	3621524	
041	SAMPLE	267617-019	3581270	
042	SAMPLE	267617-020	3538797	
044	CCV		3639870	
045	CCB		3745969	
049	SAMPLE	267530-001	3760065	
050	CCV		3663465	
051	CCB		3812532	
055	SAMPLE	267530-001	11567047	*
056	SAMPLE	267541-028	3660811	
057	SAMPLE	267541-029	3577671	
058	SAMPLE	267541-030	3623377	
059	SAMPLE	267541-031	3588355	
060	SAMPLE	267541-032	3617736	
061	SAMPLE	267541-033	3634698	
062	CCV		3724878	
063	CCB		3857328	
064	SAMPLE	267541-034	3665112	
065	SAMPLE	267541-035	3622066	

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95249553

Date : 06/22/15 Reference : met09_sn_
Sequence : MET09 06/22/15 Analyzed : 06/22/15 07:18

#	Type	Sample ID	Y A
066	SAMPLE	267541-036	3683866
067	SAMPLE	267541-037	3531145
068	SAMPLE	267541-038	3684323
069	SAMPLE	267541-039	3630062
071	SAMPLE	267558-008	3747197
072	SAMPLE	267505-062	3607685
074	CCV		3624665
075	CCB		3810611
076	BS	QC792531	3653617
077	BSD	QC792532	3739032
078	CCV		3750121
079	CCB		3839617
080	BLANK	QC792577	3526950
081	BS	QC792578	3884397
082	BSD	QC792579	3761173
083	MSS	267541-012	3694049
084	MS	QC792580	3537129
085	MSD	QC792581	3673164
086	SAMPLE	267541-013	3606681
087	SAMPLE	267541-014	3696267
088	SAMPLE	267541-015	3675629
089	SAMPLE	267541-016	3620108
090	CCV		3635298
091	CCB		3840699
092	SAMPLE	267541-017	3605358

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267609 METALS TCLP Leachate: EPA 6010B

Inst : MET09
Calnum : 95249553001
Units : ug/L

Date : 22-JUN-2015 07:13
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95249553002	L1	22-JUN-2015 07:18	S27129
L2	met09_sn_	95249553003	L2	22-JUN-2015 07:24	S27130
L3	met09_sn_	95249553004	L3	22-JUN-2015 07:28	S27131
L4	met09_sn_	95249553005	L4	22-JUN-2015 07:32	S27132
L5	met09_sn_	95249553006	L5	22-JUN-2015 07:39	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	28.420	28.962	30.575	29.944		LOR0	0.00000	0.03339		29.475	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	-5	100.00	-3	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09
Calnum : 95249553001 Cal Date : 22-JUN-2015

ICV 95249553007 (22-JUN-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	5004	ug/L	0	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553010 File : met09_sn_ Time : 22-JUN-2015 08:09
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3711119	-2.16

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553011 File : met09_sn_ Time : 22-JUN-2015 08:14
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-3.594]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19140	ug/L	96
Copper	A	20000	22400	ug/L	112
Manganese	A	20000	18940	ug/L	95
Nickel	A	20000	17600	ug/L	88
Vanadium	A	20000	20040	ug/L	100
Aluminum	R	500000	504100	ug/L	101
Calcium	R	500000	470600	ug/L	94
Iron	R	200000	184800	ug/L	92
Magnesium	R	500000	494400	ug/L	99
Titanium	R	20000	22210	ug/L	111

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3150953	-16.93

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553012 File : met09_sn_ Time : 22-JUN-2015 09:12
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	971.4	ug/L	-3	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3133577	-17.39

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553023 File : met09_sn_ Time : 22-JUN-2015 10:33
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	29.475	30.619	5000	5112	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3574860	-5.75

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553024 File : met09_sn_ Time : 22-JUN-2015 10:40
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3869624	2.02

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553035 File : met09_sn_ Time : 22-JUN-2015 11:30
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	29.475	31.781	5000	5306	ug/L	6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3514295	-7.35

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553036 File : met09_sn_ Time : 22-JUN-2015 11:37
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3747187	-1.21

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553044 File : met09_sn_ Time : 22-JUN-2015 12:18
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	29.475	30.126	5000	5029	ug/L	1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3639870	-4.04

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS TCLP Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553045 File : met09_sn_ Time : 22-JUN-2015 12:25
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3745969	-1.24

SAMPLE PREPARATION SUMMARY

Batch # : 224333 Analysis : ICP
Started By : VV Prep Date : 21-JUN-2015 21:25 Finished By : VV
Method : 3010A Units : mL
Spike #1 ID : S26912 Spike #2 ID : S27307 Spike #3 ID : S27308

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267530-001		TCLP Leachate	50	50	1	1.0						6010	
267609-001		TCLP Leachate	50	50	1	1.0						6010	
267617-017		TCLP Leachate	50	50	1	1.0						6010	
267617-018		TCLP Leachate	50	50	1	1.0						6010	
267617-019		TCLP Leachate	50	50	1	1.0						6010	
267617-020		TCLP Leachate	50	50	1	1.0						6010	
QC792615	BLANK	TCLP Leachate	50	50	1	1.0							
QC792616	BLANK	TCLP Leachate	50	50	1	1.0							
QC792617	BS	TCLP Leachate	50	50	1	1.0		.5	.5				
QC792618	BSD	TCLP Leachate	50	50	1	1.0		.5	.5				
QC792619	MS	TCLP Leachate	50	50	1	1.0		.5	.5				
QC792620	MSD	TCLP Leachate	50	50	1	1.0		.5	.5				
QC792621	SER	TCLP Leachate	50	50	1	1.0							
QC792622	PDS	TCLP Leachate	50	50	1	1.0							

Analyst: NCD Date: 06/22/15 Reviewer: PRW Date: 06/22/15

TCLP/SPLP Extract Digestion for ICP

Curtis & Tompkins, Ltd.

BK 3644

LIMS Batch #: 224333 **Matrix:** **Digestion Method** Page 75

Date Digested: 6-21-15 ☒ TCLP Extract ☒ EPA 3010a for ICP Continued from p: ☒

Digested by: ✓ ✓ ☐ SPLP Extract ☐ _____ Continued on p: ☒

Sample #	Leachate Volume (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
BlK QC# 792615	☒50 ☐___	☒50 ☐___	NO	
BlK 792616	☒50 ☐___	☒50 ☐___		
* BS 792617	☒50 ☐___	☒50 ☐___		
* BSD 792618	☒50 ☐___	☒50 ☐___		
* 267609-001 MS	☒50 ☐___	☒50 ☐___		
* 001 MSD	☒50 ☐___	☒50 ☐___		
267530-001	☒50 ☐___	☒50 ☐___		
267609-001	☒50 ☐___	☒50 ☐___		
267617-017	☒50 ☐___	☒50 ☐___		
- 018	☒50 ☐___	☒50 ☐___		
- 019	☒50 ☐___	☒50 ☐___		
- 020	☒50 ☐___	☒50 ☐___	✓	
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		
	☐ 50 ☐___	☐ 50 ☐___		

6/22/15

	Reagent ID or LIMS #	Initials / Date
Digestion Tube Lot #	SCP - 212232	VV 6-21-15
0.5 mL of spike solution (Std1) was added to all spikes	526912 *	
0.5 mL of spike solution (Std2) was added to all spikes	527307 *	
0.5 mL of spike solution (Std3) was added to all spikes	527308 *	
Digestion Temperature (°C), Block and Probe Location	95°C A-13	
Digestion started at (time)	21:25	
☐ 1:1 HNO3, ☒ concentrated HNO3, added to all samples	104117-JTB	
1:1 HCl added to all samples	97264-062215	VV 6-22-15 VV 6-22-15
Digestion ended at (time)	08:40	
☐ filtered thru' Whatman # 541	—	
Relinquished to ICP group	ICAP	*

6/22/15

Digestion Chemist / Date

Reviewed Online / See LIMS

SPLP/TCLP EXTRACTION LOG — **Curtis & Tompkins, Ltd.**

LIMS Batch #: 224317 — Date/ Time ON: 6-21-15 00:15 — Page: **59**

Rotator #'s: #2 — Tempt (C) ON: 22°C — Benchbook#: **BK3664**

Date/ Time OFF: 6-21-15 18:00 — **Scale Used**

Extraction Method: ☒ EPA 1311: TCLP — Tempt (C) OFF: 21°C - 23°C — ☒ Leachates

☐ EPA 1312: SPLP — ☐ Extractions

☐ _____

Sample #	SL	Sample Mass (g)	Free Liq Sieved? (y/n)*	(y/n)*	Sample pH	pH after +1N HCl	Fluid #	Extract Vol (mL)	Final pH	*Comments
BIK# 792539	QC	☐ 100 ☒ Ø	Ø	Ø	Ø	Ø	1	☒ 2000 ☐	4.99	
BIK 792540	↓	☐ 100 ☒ Ø	Ø	Ø	Ø	Ø	2	☒ 2000 ☐	2.95	
267530-001		☒ 100 ☐	no	no	6.49	6.20	↓	☒ 2000 ☐	3.28	
267609-001		☒ 100 ☐	no	no	8.49	1.93	1	☒ 2000 ☐	5.07	comp A-D 26.25 g of each-
267617-017		☒ 100 ☐	no	no	9.14	2.21	|	☒ 2000 ☐	5.53	comp 001-004 50.0 g of each
- 018		☒ 100 ☐	|	|	9.05	2.22	|	☒ 2000 ☐	5.58	005-008
- 019		☒ 100 ☐	|	|	9.08	2.24	|	☒ 2000 ☐	5.59	009-012
↓ - 020		☒ 100 ☐	↓	↓	9.10	2.13	↓	☒ 2000 ☐	5.49	↓ 013-016
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		
		☐ 100 ☐						☐ 2000 ☐		

6-21-15

Temperature Limits: 21 - 25 C

		Mfg & Lot # / LIMS #	Date/ Initials
3.5 mL of 1 N HCl was added to all samples		94649-030315-JTB	VV 6-21-15
TCLP Fluid #1 pH: 4.88 - 4.98 su	Sodium Hydroxide (NaOH)	411014 - BDH	
TCLP Fluid #2 pH: 2.83 - 3.03 su	Acetic acid (HOAc)	19864 - JTB	
SPLP Fluid #1 pH: 4.15 - 4.25 su	Fluid #1 pH, Prep Date	4.95	6-19-15
SPLP Fluid #2 pH: 4.95 - 5.05 su	Fluid #2 pH, Prep Date	2.86	6-20-15
Hot Plate Thermometer (Temperature, Serial #)		50°C	M14603
Extract filtered through 0.7um x 142mm TCLP filter paper		ENV. EXP. 400095-5042	
Metals extracts acidified to pH <2 with 1 mL HNO3		104117 - JTB	

VV 6/22/15

Extraction Chemist **Date**

Reviewed Online / See LIMS

Laboratory Job Number 267609

ANALYTICAL REPORT

Metals

Matrix: WET Leachate

Curtis & Tompkins, Ltd.

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	WET
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	224332
Field ID:	APLB-DRUM	Sampled:	06/19/15
Matrix:	WET Leachate	Received:	06/19/15
Units:	mg/L	Prepared:	06/21/15
Diln Fac:	10.00	Analyzed:	06/22/15

Type	Lab ID	Result	RL
SAMPLE	267609-001	12	0.25
BLANK	QC792602	ND	0.25

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	WET
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	224332
Field ID:	APLB-DRUM	Sampled:	06/19/15
MSS Lab ID:	267609-001	Received:	06/19/15
Matrix:	WET Leachate	Prepared:	06/21/15
Units:	mg/L	Analyzed:	06/22/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln Fac
BS	QC792603		0.1000	0.09821	98	80-120			1.000
BSD	QC792604		0.1000	0.09785	98	80-120	0	20	1.000
MS	QC792605	12.44	0.5000	12.69	50 NM	67-120			10.00
MSD	QC792606		0.5000	11.73	-142 NM	67-120	8	23	10.00

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	WET
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Units:	mg/L
Field ID:	APLB-DRUM	Diln Fac:	50.00
Type:	Serial Dilution	Batch#:	224332
MSS Lab ID:	267609-001	Sampled:	06/19/15
Lab ID:	QC792607	Received:	06/19/15
Matrix:	WET Leachate	Analyzed:	06/22/15

MSS Result	MSS RL	Result	RL	% Diff	Lim
12.44	0.2500	13.10	1.250	5	10

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	WET
Project#:	OD14170810.03	Analysis:	EPA 6010B
Analyte:	Lead	Units:	mg/L
Field ID:	APLB-DRUM	Diln Fac:	10.00
Type:	Post Digest Spike	Batch#:	224332
MSS Lab ID:	267609-001	Sampled:	06/19/15
Lab ID:	QC792608	Received:	06/19/15
Matrix:	WET Leachate	Analyzed:	06/22/15

MSS Result	Spiked	Result	%REC	Limits
12.44	5.000	17.29	97	75-125

REPORTING SUMMARY FOR 267609 METALS WET Leachate
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	PB	
267609-001	MET09	06/22/15 10:02	10.0	+	
QC792602	MET09	06/22/15 09:48	10.0	+	
QC792603	MET09	06/22/15 09:54	1.0	+	
QC792604	MET09	06/22/15 09:58	1.0	+	
QC792605	MET09	06/22/15 10:06	10.0	+	
QC792606	MET09	06/22/15 10:11	10.0	+	
QC792607	MET09	06/22/15 10:15	50.0	+	
QC792608	MET09	06/22/15 10:20	10.0	+	

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95249553

Instrument : MET09 Begun : 06/22/15 07:13
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_	ICALBLK				06/22/15 07:13	1.0		
002	met09_sn_	ICAL	L1			06/22/15 07:18	1.0	1	
003	met09_sn_	ICAL	L2			06/22/15 07:24	1.0	2	
004	met09_sn_	ICAL	L3			06/22/15 07:28	1.0	3	
005	met09_sn_	ICAL	L4			06/22/15 07:32	1.0	4	
006	met09_sn_	ICAL	L5			06/22/15 07:39	1.0	5	
007	met09_sn_	ICV				06/22/15 07:46	1.0	6	
008	met09_sn_	XCRI				06/22/15 07:53	1.0	7	
009	met09_sn_	CRI				06/22/15 08:03	1.0	7	
010	met09_sn_	ICB				06/22/15 08:09	1.0		
011	met09_sn_	ICSA				06/22/15 08:14	1.0	8	10:AL=500000
012	met09_sn_	ICSAB				06/22/15 09:12	1.0	9	4:AL=500000
013	met09_sn_	BLANK	QC792602	WET Leachate	224332	06/22/15 09:48	10.0		1:NA=150000
014	met09_sn_	BS	QC792603	WET Leachate	224332	06/22/15 09:54	1.0		
015	met09_sn_	BSD	QC792604	WET Leachate	224332	06/22/15 09:58	1.0		
016	met09_sn_	MSS	267609-001	WET Leachate	224332	06/22/15 10:02	10.0		1:NA=160000
017	met09_sn_	MS	QC792605	WET Leachate	224332	06/22/15 10:06	10.0		
018	met09_sn_	MSD	QC792606	WET Leachate	224332	06/22/15 10:11	10.0		
019	met09_sn_	SER	QC792607	WET Leachate	224332	06/22/15 10:15	50.0		
020	met09_sn_	PDS	QC792608	WET Leachate	224332	06/22/15 10:20	10.0	10 11 12	
021	met09_sn_	SAMPLE	267617-017	WET Leachate	224332	06/22/15 10:24	10.0		1:NA=170000
022	met09_sn_	SAMPLE	267617-018	WET Leachate	224332	06/22/15 10:29	10.0		1:NA=160000
023	met09_sn_	CCV				06/22/15 10:33	1.0	13	
024	met09_sn_	CCB				06/22/15 10:40	1.0		
025	met09_sn_	SAMPLE	267617-019	WET Leachate	224332	06/22/15 10:45	10.0		1:NA=170000
026	met09_sn_	SAMPLE	267617-020	WET Leachate	224332	06/22/15 10:49	10.0		1:NA=160000
027	met09_sn_	X	RINSE			06/22/15 10:54	1.0		
028	met09_sn_	BLANK	QC792615	TCLP Leachate	224333	06/22/15 10:59	10.0		1:NA=150000
029	met09_sn_	BLANK	QC792616	TCLP Leachate	224333	06/22/15 11:04	10.0		
030	met09_sn_	BS	QC792617	TCLP Leachate	224333	06/22/15 11:09	1.0		
031	met09_sn_	BSD	QC792618	TCLP Leachate	224333	06/22/15 11:13	1.0		
032	met09_sn_	MSS	267609-001	TCLP Leachate	224333	06/22/15 11:18	10.0		1:NA=150000
033	met09_sn_	MS	QC792619	TCLP Leachate	224333	06/22/15 11:22	10.0		
034	met09_sn_	MSD	QC792620	TCLP Leachate	224333	06/22/15 11:26	10.0		
035	met09_sn_	CCV				06/22/15 11:30	1.0	13	
036	met09_sn_	CCB				06/22/15 11:37	1.0		
037	met09_sn_	SER	QC792621	TCLP Leachate	224333	06/22/15 11:43	50.0		
038	met09_sn_	PDS	QC792622	TCLP Leachate	224333	06/22/15 11:48	10.0	10 11 12	
039	met09_sn_	SAMPLE	267617-017	TCLP Leachate	224333	06/22/15 11:52	10.0		1:NA=150000
040	met09_sn_	SAMPLE	267617-018	TCLP Leachate	224333	06/22/15 11:57	10.0		1:NA=140000
041	met09_sn_	SAMPLE	267617-019	TCLP Leachate	224333	06/22/15 12:03	10.0		1:NA=140000
042	met09_sn_	SAMPLE	267617-020	TCLP Leachate	224333	06/22/15 12:08	10.0		1:NA=160000
043	met09_sn_	X	RINSE			06/22/15 12:13	1.0		
044	met09_sn_	CCV				06/22/15 12:18	1.0	13	
045	met09_sn_	CCB				06/22/15 12:25	1.0		
046	met09_sn_	?SAMPLE	267606-001		224332	06/22/15 12:32	10.0		
047	met09_sn_	?SAMPLE	267613-001		224332	06/22/15 12:37	10.0		
048	met09_sn_	?SAMPLE	267613-002		224332	06/22/15 12:41	10.0		
049	met09_sn_	SAMPLE	267530-001	TCLP Leachate	224333	06/22/15 12:45	10.0		
050	met09_sn_	CCV				06/22/15 12:50	1.0	13	
051	met09_sn_	CCB				06/22/15 12:57	1.0		
052	met09_sn_	?SAMPLE	267606-001		224332	06/22/15 13:03	10.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95249553

Instrument : MET09 Begun : 06/22/15 07:13
Method : EPA 6010B SOP Version : icp metals_rv17

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_	?SAMPLE	267613-001		224332	06/22/15 13:07	10.0		
054	met09_sn_	?SAMPLE	267613-002		224332	06/22/15 13:11	10.0		
055	met09_sn_	SAMPLE	267530-001	TCLP Leachate	224333	06/22/15 13:16	10.0		
056	met09_sn_	SAMPLE	267541-028	WET Leachate	224332	06/22/15 13:21	10.0		1:NA=170000
057	met09_sn_	SAMPLE	267541-029	WET Leachate	224332	06/22/15 13:25	10.0		1:NA=160000
058	met09_sn_	SAMPLE	267541-030	WET Leachate	224332	06/22/15 13:29	10.0		1:NA=200000
059	met09_sn_	SAMPLE	267541-031	WET Leachate	224332	06/22/15 13:34	10.0		1:NA=160000
060	met09_sn_	SAMPLE	267541-032	WET Leachate	224332	06/22/15 13:38	10.0		1:NA=170000
061	met09_sn_	SAMPLE	267541-033	WET Leachate	224332	06/22/15 13:42	10.0		1:NA=150000
062	met09_sn_	CCV				06/22/15 13:46	1.0	13	
063	met09_sn_	CCB				06/22/15 13:53	1.0		
064	met09_sn_	SAMPLE	267541-034	WET Leachate	224332	06/22/15 13:59	10.0		1:NA=150000
065	met09_sn_	SAMPLE	267541-035	WET Leachate	224332	06/22/15 14:03	10.0		1:NA=160000
066	met09_sn_	SAMPLE	267541-036	WET Leachate	224332	06/22/15 14:07	10.0		1:NA=160000
067	met09_sn_	SAMPLE	267541-037	WET Leachate	224332	06/22/15 14:11	10.0		1:NA=160000
068	met09_sn_	SAMPLE	267541-038	WET Leachate	224332	06/22/15 14:16	10.0		1:NA=160000
069	met09_sn_	SAMPLE	267541-039	WET Leachate	224332	06/22/15 14:20	10.0		1:NA=160000
070	met09_sn_	X	RINSE			06/22/15 14:24	1.0		
071	met09_sn_	SAMPLE	267558-008	Soil	224314	06/22/15 14:29	1.0		4:FE=450000
072	met09_sn_	SAMPLE	267505-062	Soil	224288	06/22/15 14:37	1.0		7:FE=510000
073	met09_sn_	X				06/22/15 14:44	1.0	13	
074	met09_sn_	CCV				06/22/15 14:52	1.0	13	
075	met09_sn_	CCB				06/22/15 14:59	1.0		
076	met09_sn_	BS	QC792531	Soil	224314	06/22/15 15:04	5.0		
077	met09_sn_	BSD	QC792532	Soil	224314	06/22/15 15:08	5.0		
078	met09_sn_	CCV				06/22/15 15:12	1.0	13	
079	met09_sn_	CCB				06/22/15 15:19	1.0		
080	met09_sn_	BLANK	QC792577	WET Leachate	224328	06/22/15 15:35	10.0		1:NA=160000
081	met09_sn_	BS	QC792578	WET Leachate	224328	06/22/15 15:41	1.0		
082	met09_sn_	BSD	QC792579	WET Leachate	224328	06/22/15 15:45	1.0		
083	met09_sn_	MSS	267541-012	WET Leachate	224328	06/22/15 15:49	10.0		1:NA=160000
084	met09_sn_	MS	QC792580	WET Leachate	224328	06/22/15 15:53	10.0		
085	met09_sn_	MSD	QC792581	WET Leachate	224328	06/22/15 15:58	10.0		
086	met09_sn_	SAMPLE	267541-013	WET Leachate	224328	06/22/15 16:02	10.0		1:NA=160000
087	met09_sn_	SAMPLE	267541-014	WET Leachate	224328	06/22/15 16:06	10.0		1:NA=170000
088	met09_sn_	SAMPLE	267541-015	WET Leachate	224328	06/22/15 16:10	10.0		1:NA=170000
089	met09_sn_	SAMPLE	267541-016	WET Leachate	224328	06/22/15 16:15	10.0		1:NA=160000
090	met09_sn_	CCV				06/22/15 16:19	1.0	13	
091	met09_sn_	CCB				06/22/15 16:26	1.0		
092	met09_sn_	SAMPLE	267541-017	WET Leachate	224328	06/22/15 16:31	10.0		1:NA=170000
093	met09_sn_	SAMPLE	267541-018	WET Leachate	224328	06/22/15 16:36	10.0		1:NA=170000
094	met09_sn_	SAMPLE	267541-019	WET Leachate	224328	06/22/15 16:40	10.0		1:NA=160000
095	met09_sn_	SAMPLE	267541-020	WET Leachate	224328	06/22/15 16:44	10.0		1:NA=150000
096	met09_sn_	SAMPLE	267541-021	WET Leachate	224328	06/22/15 16:48	10.0		1:NA=160000
097	met09_sn_	SAMPLE	267541-022	WET Leachate	224328	06/22/15 16:53	10.0		1:NA=170000
098	met09_sn_	SAMPLE	267541-023	WET Leachate	224328	06/22/15 16:57	10.0		1:NA=170000

NCD 06/22/15 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 63.

NCD 06/22/15 : 73 ccv was empty repour and reran ccv

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 95249553

Instrument : MET09 Begun : 06/22/15 07:13
Method : EPA 6010B SOP Version : icp metals_rv17

Standards used: 1=S27129 2=S27130 3=S27131 4=S27132 5=S27135 6=S27134 7=S27136 8=S27174 9=S27175 10=S26229 11=S26230 12=S26912 13=S27133

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95249553

Date : 06/22/15 Reference : met09_sn_
Sequence : MET09 06/22/15 Analyzed : 06/22/15 07:18

#	Type	Sample ID	Y	A
		ICAL STD	3793063	
		LOWER LIMIT	1137919	
		UPPER LIMIT	7586126	
010	ICB		3711119	
011	ICSA		3150953	
012	ICSAB		3133577	
013	BLANK	QC792602	3617113	
014	BS	QC792603	3746402	
015	BSD	QC792604	3768944	
016	MSS	267609-001	3578216	
017	MS	QC792605	3591095	
018	MSD	QC792606	3617038	
019	SER	QC792607	3687326	
020	PDS	QC792608	3643504	
021	SAMPLE	267617-017	3524020	
022	SAMPLE	267617-018	3568584	
023	CCV		3574860	
024	CCB		3869624	
025	SAMPLE	267617-019	3566549	
026	SAMPLE	267617-020	3490013	
028	BLANK	QC792615	3713192	
029	BLANK	QC792616	3811532	
030	BS	QC792617	3751264	
031	BSD	QC792618	3712534	
032	MSS	267609-001	3567415	
033	MS	QC792619	3545683	
034	MSD	QC792620	3672428	
035	CCV		3514295	
036	CCB		3747187	
037	SER	QC792621	3735829	
038	PDS	QC792622	3569207	
039	SAMPLE	267617-017	3636401	
040	SAMPLE	267617-018	3621524	
041	SAMPLE	267617-019	3581270	
042	SAMPLE	267617-020	3538797	
044	CCV		3639870	
045	CCB		3745969	
049	SAMPLE	267530-001	3760065	
050	CCV		3663465	
051	CCB		3812532	
055	SAMPLE	267530-001	11567047	*
056	SAMPLE	267541-028	3660811	
057	SAMPLE	267541-029	3577671	
058	SAMPLE	267541-030	3623377	
059	SAMPLE	267541-031	3588355	
060	SAMPLE	267541-032	3617736	
061	SAMPLE	267541-033	3634698	
062	CCV		3724878	
063	CCB		3857328	
064	SAMPLE	267541-034	3665112	
065	SAMPLE	267541-035	3622066	

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 95249553

Date : 06/22/15 Reference : met09_sn_
Sequence : MET09 06/22/15 Analyzed : 06/22/15 07:18

#	Type	Sample ID	Y A
066	SAMPLE	267541-036	3683866
067	SAMPLE	267541-037	3531145
068	SAMPLE	267541-038	3684323
069	SAMPLE	267541-039	3630062
071	SAMPLE	267558-008	3747197
072	SAMPLE	267505-062	3607685
074	CCV		3624665
075	CCB		3810611
076	BS	QC792531	3653617
077	BSD	QC792532	3739032
078	CCV		3750121
079	CCB		3839617
080	BLANK	QC792577	3526950
081	BS	QC792578	3884397
082	BSD	QC792579	3761173
083	MSS	267541-012	3694049
084	MS	QC792580	3537129
085	MSD	QC792581	3673164
086	SAMPLE	267541-013	3606681
087	SAMPLE	267541-014	3696267
088	SAMPLE	267541-015	3675629
089	SAMPLE	267541-016	3620108
090	CCV		3635298
091	CCB		3840699
092	SAMPLE	267541-017	3605358
093	SAMPLE	267541-018	3660635
094	SAMPLE	267541-019	3717887
095	SAMPLE	267541-020	3582967
096	SAMPLE	267541-021	3650126
097	SAMPLE	267541-022	3672516
098	SAMPLE	267541-023	3619729

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 267609 METALS WET Leachate: EPA 6010B

Inst : MET09
Calnum : 95249553001
Units : ug/L

Date : 22-JUN-2015 07:13
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_	95249553002	L1	22-JUN-2015 07:18	S27129
L2	met09_sn_	95249553003	L2	22-JUN-2015 07:24	S27130
L3	met09_sn_	95249553004	L3	22-JUN-2015 07:28	S27131
L4	met09_sn_	95249553005	L4	22-JUN-2015 07:32	S27132
L5	met09_sn_	95249553006	L5	22-JUN-2015 07:39	S27135

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	28.420	28.962	30.575	29.944		LOR0	0.00000	0.03339		29.475	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	5.0000	-5	100.00	-3	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09
Calnum : 95249553001 Cal Date : 22-JUN-2015

ICV 95249553007 (22-JUN-2015) stds: S27134

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Lead	A	5000	5004	ug/L	0	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553010 File : met09_sn_ Time : 22-JUN-2015 08:09
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3711119	-2.16

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553011 File : met09_sn_ Time : 22-JUN-2015 08:14
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27174

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-3.594]	5.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	19140	ug/L	96
Copper	A	20000	22400	ug/L	112
Manganese	A	20000	18940	ug/L	95
Nickel	A	20000	17600	ug/L	88
Vanadium	A	20000	20040	ug/L	100
Aluminum	R	500000	504100	ug/L	101
Calcium	R	500000	470600	ug/L	94
Iron	R	200000	184800	ug/L	92
Magnesium	R	500000	494400	ug/L	99
Titanium	R	20000	22210	ug/L	111

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3150953	-16.93

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553012 File : met09_sn_ Time : 22-JUN-2015 09:12
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27175

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	971.4	ug/L	-3	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3133577	-17.39

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553023 File : met09_sn_ Time : 22-JUN-2015 10:33
Cal : 95249553001 Caldate : 22-JUN-2015
Standards: S27133

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	29.475	30.619	5000	5112	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3574860	-5.75

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 267609 METALS WET Leachate
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 95249553024 File : met09_sn_ Time : 22-JUN-2015 10:40
Cal : 95249553001 Caldate : 22-JUN-2015

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Lead	A	ND	5.000	2.500	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3793063	3869624	2.02

SAMPLE PREPARATION SUMMARY

Batch # : 224332 | Analysis : ICP
Started By : VV | Prep Date : 21-JUN-2015 21:10 | Finished By : VV
Method : WET | SOP Version : WET_rv4 | Units : mL
Spike #1 ID : S26912 | Spike #2 ID : S27307 | Spike #3 ID : S27308

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
267541-028		WET Leachate	10	50	1	5.0						6010	
267541-029		WET Leachate	10	50	1	5.0						6010	
267541-030		WET Leachate	10	50	1	5.0						6010	
267541-031		WET Leachate	10	50	1	5.0						6010	
267541-032		WET Leachate	10	50	1	5.0						6010	
267541-033		WET Leachate	10	50	1	5.0						6010	
267541-034		WET Leachate	10	50	1	5.0						6010	
267541-035		WET Leachate	10	50	1	5.0						6010	
267541-036		WET Leachate	10	50	1	5.0						6010	
267541-037		WET Leachate	10	50	1	5.0						6010	
267541-038		WET Leachate	10	50	1	5.0						6010	
267541-039		WET Leachate	10	50	1	5.0						6010	
267609-001		WET Leachate	10	50	1	5.0						6010	
267617-017		WET Leachate	10	50	1	5.0						6010	
267617-018		WET Leachate	10	50	1	5.0						6010	
267617-019		WET Leachate	10	50	1	5.0						6010	
267617-020		WET Leachate	10	50	1	5.0						6010	
QC792602	BLANK	WET Leachate	10	50	1	5.0							
QC792603	BS	WET Leachate	50	50	1	1.0		.5	.5	.5			
QC792604	BSD	WET Leachate	50	50	1	1.0		.5	.5	.5			
QC792605	MS	WET Leachate	10	50	1	5.0		.5	.5	.5			
QC792606	MSD	WET Leachate	10	50	1	5.0		.5	.5	.5			
QC792607	SER	WET Leachate	10	50	1	5.0							
QC792608	PDS	WET Leachate	10	50	1	5.0							

PRW 06/22/15 : BS/BSD volume is incorrect

Analyst: NCD Date: 06/22/15 Reviewer: PRW Date: 06/22/15

W.E.T (STLC) Prep for ICP

Curtis & Tompkins, Ltd.

BK 3657

Page 82

LIMS Batch #: 224332
Date Digested: 6-21-15
Digested by: VV

	Sample #	Leachate Volume (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
	BLK QC# 792602	☒10 ☐___	☒50 ☐___	NO	
*	BS 792603	☐10 ☒50	☒50 ☐___		
*	BSD * 792604	☐10 ☒50	☒50 ☐___		
*	267609-001MS	☒10 ☐___	☒50 ☐___		
5 *	* 001MSD	☒10 ☐___	☒50 ☐___		
	267541-028	☒10 ☐___	☒50 ☐___		
	-029	☒10 ☐___	☒50 ☐___		
	-030	☒10 ☐___	☒50 ☐___		
	-031	☒10 ☐___	☒50 ☐___		
10	-032	☒10 ☐___	☒50 ☐___		
	-033	☒10 ☐___	☒50 ☐___		
	-034	☒10 ☐___	☒50 ☐___		
	-035	☒10 ☐___	☒50 ☐___		
	-036	☒10 ☐___	☒50 ☐___		
15	-037	☒10 ☐___	☒50 ☐___		
	-038	☒10 ☐___	☒50 ☐___		
	-039	☒10 ☐___	☒50 ☐___		
	267606-001	☒10 ☐___	☒50 ☐___		
	267609-001	☒10 ☐___	☒50 ☐___		
20	267613-001	☒10 ☐___	☒50 ☐___		
	002	☒10 ☐___	☒50 ☐___		
	267617-017	☒10 ☐___	☒50 ☐___		
	-018	☒10 ☐___	☒50 ☐___		
	-019	☒10 ☐___	☒50 ☐___		
	-020	☒10 ☐___	☒50 ☐___		

	Reagent ID or LIMS #	Initials / Date
0.5 mL of spike solution (Std1) was added to all spikes	S26912	VV 6-21-15
0.5 mL of spike solution (Std2) was added to all spikes	S27307	
0.5 mL of spike solution (Std3) was added to all spikes	S27308	
concentrated HNO3 added to all samples	104117-JTB	
1:1 HCl added to all samples	97262-062115	

6-21-15

Digestion Chemist / Date

Reviewed Online / See LIMS

W.E.T (STLC) EXTRACTION LOG — **Curtis & Tompkins, Ltd.**

LIMS Batch #: 224304 — Date/ Time ON: 6-19-15 2000 — Page: **86**
Extraction Method: WET — Temp (C) ON: 22 — Benchbook#: **BK 3658**
Rotator #'s: 1, 2 — Date/ Time OFF: 6-21-15 2000
Temp (C) OFF: 21°C-23°C

Scale Used
☑ Leachates
☐ Extractions
☐ _____

	Sample # / Letter	Sample Mass (g)	Sieved? (y/n)*	Extract Vol (mL)	N2 purge	*Comments
	BLK 792499	☐ 50 ~~☑~~	Ø	☑ 500 ☐	YES	
	267541-028 F	☑ 50 ☐	N	☑ 500 ☐		266999-027
	-029	☑ 50 ☐		☑ 500 ☐		267004-004
	-030	☑ 50 ☐		☑ 500 ☐		266935-030
5	-031	☑ 50 ☐		☑ 500 ☐		266999-031
	-032	☑ 50 ☐		☑ 500 ☐		266935-005
	-033	☑ 50 ☐		☑ 500 ☐		↓ -029
	-034	☑ 50 ☐		☑ 500 ☐		266999-009
	-035	☑ 50 ☐		☑ 500 ☐		-026
10	-036	☑ 50 ☐		☑ 500 ☐		↓ -029
	-037	☑ 50 ☐		☑ 500 ☐		267004-013
	-038	☑ 50 ☐		☑ 500 ☐		↓ -025
	↓ -039 ↓	☑ 50 ☐		☑ 500 ☐		266935-027
	267606-001 B	☑ 50 ☐		☑ 500 ☐		
15	267609-001 A>D	☑ 50 ☐		☑ 500 ☐		COMP A>D 12.5gBD.
	267613-001 B	☑ 50 ☐		☑ 500 ☐		
	↓ -002	☑ 50 ☐		☑ 500 ☐		
	267617-017	☑ 50 ☐		☑ 500 ☐		COMP 1>4 50g BD
	-018	☑ 50 ☐		☑ 500 ☐		5>8
20	-019	☑ 50 ☐		☑ 500 ☐		9>12
	↓ -020 ↓	☑ 50 ☐		☑ 500 ☐	↓	↓ 13>16 ↓
		☐ 50 ☐		☐ 500 ☐		
		☐ 50 ☐	6-21-15	☑ 500 ☐		
		☐ 50 ☐		☐ 500 ☐		

Temperature Limits: 20 - 40 C
Extraction Fluid pH Limits: 4.9 - 5.1 su

	Mfg & Lot #	Date/ Initials
Used Citric Acid	K93509242 EMD	6-19-15 MV
Used Sodium Hydroxide (NaOH)	411014 BDH	↓
Extraction Fluid pH, Prep Date	4.92 / 4.91 | 6-17-15 / 6-19-15	↓
Extract filtered through 0.45um cellulose fiber filter paper	Millipore RHNA25845	VV 6-21-15
Metals extracts acidified with 5% HNO_3	104117-JTB	↓

6-19-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

Laboratory Job Number 267609

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Diln Fac:	1.000
Field ID:	APLB-DRUM	Batch#:	224318
Lab ID:	267609-001	Sampled:	06/19/15
Matrix:	Soil	Received:	06/19/15
Units:	%	Analyzed:	06/21/15

Result	RL
11	1

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Moisture

Lab #:	267609	Location:	APL Terminal Port of Oakland
Client:	AMEC Environment & Infrastructure	Prep:	METHOD
Project#:	OD14170810.03	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	APLB-DRUM	Diln Fac:	1.000
Type:	SDUP	Batch#:	224318
MSS Lab ID:	267609-001	Sampled:	06/19/15
Lab ID:	QC792541	Received:	06/19/15
Matrix:	Soil	Analyzed:	06/21/15

MSS Result	Result	RL	RPD	Lim
10.71	9.704	1.000	10	26

RL= Reporting Limit
RPD= Relative Percent Difference

Percent Moisture Summary Report

Batch: 224318
Date: 06/21/15
Method: CLP SOW 390
Analyst: VV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
267609-001	10.8823	17.7576	17.0212	89	11
QC792541	11.3200	18.0286	17.3776	90	10
of 267609-001			RPD:	1.1%	9.9%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 224318
Date: 6-20-15

Page: **20**
Benchbook#: **BK 3694**
Scale Used
☒ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BlK	81	11.3555	Ø	11.3557	
267609-001	42	10.8823	17.7576	17.0212	
SDUP ↓ 001	57	11.3200	18.0286	17.3776	

VV 6-21-15

Date/ Time IN: 6-20-15 23:50
Temp (C) IN: 105°C
Date/ Time OUT: 6-21-15 14:00
Temp (C) OUT: 105°C

6-20-15
Extraction Chemist **Date**

Reviewed Online / See LIMS

66
PROJECT AE 163 METTLER

Notebook No. BK-2394

Continued From Page

DATE	ANALYST	0.2000	100.0000	SET #
5-30-15	VV	0.2000	99.9999	10827
6-1-15	MN	0.2000	99.9999	10827
6-2-15	MN	0.2000	100.0000	10827
6-5-15	MN	0.2000	99.9999	10827
6-9-15	MN	0.2001	100.0000	10827
6-10-15	MN	0.2000	100.0001	10827
6-11-15	MN	0.2000	100.0000	10827
6.12.15	JSB	0.2000	100.0004	10827
6-16-15	MN	0.2000	100.0002	10827
6-17-15	MN	0.2001	100.0001	10827
6-18-15	MN	0.2001	100.0002	10827
6-19-15	MN	0.2000	100.0001	10827
6-20-15	VV	0.2000	99.9994	10827
6-21-15	VV	0.1999	99.9995	10827

Continued on Page

Read and Understood By

Signed Date Signed Date

APPENDIX F

Data Validation Report

June 24, 2015

Memo

To: Mary Jo Heassler, Associate Geologist, Amec Foster Wheeler Environment & Infrastructure, Inc.

From: Zachary Carroll, Database Analyst

Ref: OD14170810.03

Re: Data Review Summary Report for Former APL Terminal
April - June 2015 Soil and Groundwater Sampling
Curtis & Tompkins, Ltd Lab Reports: 266374, 266392, 266511, 266525, 266803, 266820, 267026, 267609

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) performed the equivalent of United States Environmental Protection Agency (USEPA) Level II data review on analytical results for the soil and groundwater samples collected between April 27th and June 19th, 2015 at the Former APL Terminal, Port of Oakland, California. Level II data review was performed on 100% of the samples collected. The Level II data review includes a review of the following elements (where applicable); holding times and sample preservation, surrogate recoveries, method blanks, laboratory control samples (LCS) and laboratory control sample duplicates (LCSD), matrix spike and matrix spike duplicate (MS/MSD) samples, field quality control (QC) samples, laboratory reporting limits (RL), report completeness, and sample representativeness.

Data completeness for the sampling effort was calculated as follows: Data Completeness = S/R x 100, where S is the number of successful analyses and R is the number of requested analyses. Based upon the Level II data review, the percent completeness for this effort was 100%.

INTRODUCTION

Samples were collected by Amec Foster Wheeler and submitted under chain of custody (COC) to Curtis & Tompkins, Ltd (C&T), a National Environmental Laboratory Accreditation Program (NELAP)-certified analytical laboratory located in Berkeley, California. The attached Table 1 presents a list of the samples collected and analyses performed.

Level II data review was performed in accordance with the following guidelines:

Amec Foster Wheeler Environment & Infrastructure, Inc.
1670 Corporate Circle, Suite 101
Petaluma, California 94954
USA
Tel (707) 793-3800
Fax (707) 793-3900
amecfw.com

Continued…

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, June 2008.
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review,* January 2010.
- Individual analytical methods.

GENERAL COMMENTS:

Sample custody was appropriately maintained and documented on the chain-of-custody (COC) forms.

The following sections highlight the essential findings of the data review:

A. **Holding Times and Preservation**
The holding time criterion were met for project samples. Samples were received by the laboratory properly preserved.

B. **Surrogate Recoveries**

Surrogate recoveries met laboratory QC criteria, with the following exceptions:

- For the 8260B analysis of sample APLB-10(GW) the bromofluorobenzene recovery was above the QC criteria of 80-120%, at 121%. Qualification was not necessary, as the sample was non-detect for target analytes.
- For the 8015B analysis of APLB-19(2) the o-terphynyl recovery was above the QC criteria of 59-140%, at 143%. Qualification was not necessary, as the sample was non-detect for associated target analytes.
- For the 8260B analysis of sample APLB-11(2) the 1,2-dichloroethane-d4 recovery was above the QC criteria of 80-138%, at 141%. Sample APLB11(2) had a detected results for acetone that was qualified as estimated (J) due to the high surrogate recovery.

C. **Method Blanks**
Target analytes were not observed in the laboratory method blanks associated with the project samples.

D. **Laboratory Control Samples**
LCS recoveries and relative percent differences (RPD) for LCS/LCSD met the laboratory QC criteria.

E. **Matrix Spike / Matrix Spike Duplicates**
Recoveries and RPDs for MS/MSDs performed on project-source samples were within laboratory QC limits, with the following exceptions:

Continued…

- For the 6010B MS/MSD analysis of APLB-21(GW), the MS recovery for selenium at 139% was greater than the QC limits of 73-132%. Qualification was not necessary because APLB-21(GW) was non-detect for selenium.
- For the 6010B MS/MSD of APLB-14(GW), the MS/MSD recoveries for selenium at 138/141% were greater than the QC limits of 73-132%. Qualification was not necessary because as APLB-14(GW) was non-detect for selenium.
- For the 8270C MS/MSD analysis of APLB-17(2), the MS/MSD recoveries for 1,4-dichlorobenzene at 21/9% were below the 49-120% limits and 1,2,4-trichlorobenzene at 46/33% were below the 54-120% QC limits. The RPD for 1,4-dichlororobenzene at 80% was also greater than the QC limit of 45%. The 1,4-dichloroebzene and 1,2,4-trichlorobenzene results of sample APLB-17(2) were qualified as estimated (UJ).
- For the 8270C MS/MSD analysis of APLB-2(5), the MSD recovery of pyrene was greater than the QC limit of 46-124%, at 193%. The RPD was also greater than the QC limit of 50%, at 59%. Qualification was not necessary, as APLB-2(5) was non-detect for pyrene.

F. **Field QC Samples**

Groundwater field duplicate samples were collected for APLB-11(GW) and APLMW-2(GW). Table 2 presents a summary of the detected results for the field duplicate samples and associated RPDs. The groundwater field duplicate results were evaluated against a relative percent difference (RPD) of less than 30% or an absolute value difference of the RL for samples reported at or near the RL. The field duplicate results indicated acceptable precision.

Target analytes were not observed in the trip blanks and equipment blanks associated with the project samples.

G. **Reporting Limits**

Reporting limits were raised for multiple samples run at dilution.

H. **Completeness**

The laboratory reported results as requested and the data reports are considered complete.

I. **Representativeness**

Based on the review of the chain-of-custody information it appears that the samples were representative of site conditions.

SUMMARY

Qualifiers were applied for the reasons noted above in Sections B and E. Qualified results are presented in Table 3.

Continued…

USABILITY

Based upon the Level II data review the results are considered valid and usable for project purposes as reported by the laboratory, with the additional qualifiers.

Sincerely yours,
Amec Foster Wheeler Environment & Infrastructure



Zachary Carroll
Database Analyst

ZC:sac
\\pet-fs1\projects\secretarial\bay area - pet ca\po port of oakland\post construction field investigation report\draft\appendix f\formerapl_2015_validation.doc

Attachments:
Table 1	Sample Summary
Table 2	Summary of Detected Results for Field Duplicates
Table 3	Summary of Qualified Results

Table 1
Sample Summary
Former APL Terminal

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	Cam 17 Metals (6000-7000 Series)
002	APLB-1	soil	APLB-1(2)	2	Primary	5/1/2015	266525-010	X		X				
		soil	APLB-1(4.5)	4.5	Primary	5/1/2015	266525-011	X		X				
		soil	APLB-1(8.4)	8.4	Primary	5/1/2015	266525-012	X		X				
		water	APLB-1(GW)	NA	Primary	5/1/2015	266525-027	X		X				
	APLB-2	soil	APLB-2(2)	2	Primary	5/1/2015	266525-019	X		X				
		soil	APLB-2(5)	5	Primary	5/1/2015	266525-020	X		X				
		soil	APLB-2(8)	8	Primary	5/1/2015	266525-021	X		X				
		water	APLB-2(GW)	NA	Primary	5/1/2015	266525-030	X		X				
	APLB-3	soil	APLB-3(2)	2	Primary	5/1/2015	266525-016	X		X				
		soil	APLB-3(5)	5	Primary	5/1/2015	266525-017	X		X				
		soil	APLB-3(8)	8	Primary	5/1/2015	266525-018	X		X				
		water	APLB-3(GW)	NA	Primary	5/1/2015	266525-029	X		X				
	APLB-4	soil	APLB-4(2)	2	Primary	5/1/2015	266525-013	X		X				
		soil	APLB-4(5)	5	Primary	5/1/2015	266525-014	X		X				
		soil	APLB-4(7)	7	Primary	5/1/2015	266525-015	X		X				
		water	APLB-4(GW)	NA	Primary	5/1/2015	266525-028	X		X				
004	APLB-5	soil	APLB-5(2.5)	2.5	Primary	4/27/2015	266374-013	X		X		X		
		soil	APLB-5(4.5)	4.5	Primary	4/27/2015	266374-014	X		X		X		
		soil	APLB-5(6)	6	Primary	4/27/2015	266374-015	X		X		X		
		water	APLB-5(GW)	NA	Primary	4/27/2015	266374-001	X		X		X		
	APLB-6	soil	APLB-6(2.5)	2.5	Primary	4/27/2015	266374-016	X		X		X		
		soil	APLB-6(4.5)	4.5	Primary	4/27/2015	266374-017	X		X		X		
		soil	APLB-6(5.5)	5.5	Primary	4/27/2015	266374-018	X		X		X		
		water	APLB-6(GW)	NA	Primary	4/27/2015	266374-002	X		X		X		
	APLB-7	soil	APLB-7(2)	2	Primary	4/27/2015	266374-019	X		X		X		
		soil	APLB-7(4.5)	4.5	Primary	4/27/2015	266374-020	X		X		X		
		soil	APLB-7(6.5)	6.5	Primary	4/27/2015	266374-021	X		X		X		
		water	APLB-7(GW)	NA	Primary	4/28/2015	266392-001	X						

Table 1
Sample Summary
Former APL Terminal

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	Cam 17 Metals (6000-7000 Series)
005	APLB-8	soil	APLB-8(2)	2	Primary	4/27/2015	266374-009	X		X		X	X	
		soil	APLB-8(4.5)	4.5	Primary	4/27/2015	266374-010	X		X		X	X	
		soil	APLB-8(5.5)	5.5	Primary	4/27/2015	266374-011	X		X		X	X	
		water	APLB-8(GW)	NA	Primary	4/27/2015	266374-012	X		X		X	X	
	APLB-9	soil	APLB-9(2)	2	Primary	4/27/2015	266374-022	X		X		X	X	
		soil	APLB-9(4.5)	4.5	Primary	4/27/2015	266374-003	X		X		X	X	
		soil	APLB-9(8)	8	Primary	4/27/2015	266374-004	X		X		X	X	
		water	APLB-9(GW)	NA	Primary	4/28/2015	266392-002	X				X	X	
005	APLB-10	soil	APLB-10(2)	2	Primary	4/27/2015	266374-005	X		X		X	X	
		soil	APLB-10(4.5)	4.5	Primary	4/27/2015	266374-006	X		X		X	X	
		soil	APLB-10(8.5)	8.5	Primary	4/27/2015	266374-007	X		X		X	X	
		water	TB42815	NA	QC	4/28/2015	266392-007	X					X	
		water	APLB-10(GW)	NA	Primary	4/27/2015	266374-008	X		X		X	X	
	APLB-11	soil	APLB-11(2)	2	Primary	4/30/2015	266511-011	X		X		X	X	
		soil	APLB-11(4.3)	4.3	Primary	4/30/2015	266511-012	X		X		X	X	
		soil	APLB-11(5)	5	Primary	4/30/2015	266511-013	X		X		X	X	
		water	RB43015	NA	QC	4/30/2015	266511-001	X		X		X	X	
		water	TB4/30/15	NA	QC	4/30/2015	266511-004	X					X	
		water	APLB-11(GW)	NA	Primary	4/30/2015	266511-002	X		X		X	X	
		water	DUP4/30/15	NA	Duplicate	4/30/2015	266511-003	X		X		X	X	

Table 1
Sample Summary
Former APL Terminal

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	Cam 17 Metals (6000-7000 Series)
009	APLB-12	soil	APLB-12(1.5)	1.5	Primary	4/30/2015	266511-029					X		X
		soil	APLB-12(4.5)	4.5	Primary	4/30/2015	266511-030					X		X
		soil	APLB-12(7.8)	7.8	Primary	4/30/2015	266511-031					X		X
		water	APLB-12(GW)	NA	Primary	4/30/2015	266511-010					X		X
	APLB-13	soil	APLB-13(2)	2	Primary	5/1/2015	266525-004					X		X
		soil	APLB-13(4.5)	4.5	Primary	5/1/2015	266525-005					X		X
		soil	APLB-13(8)	8	Primary	5/1/2015	266525-006					X		X
		water	APLB-13(GW)	NA	Primary	5/1/2015	266525-023					X		X
	APLB-14	soil	APLB-14(2)	2	Primary	5/1/2015	266525-001					X		X
		soil	APLB-14(4.5)	4.5	Primary	5/1/2015	266525-002					X		X
		soil	APLB-14(8.4)	8.4	Primary	5/1/2015	266525-003					X		X
		water	APLB-14(GW)	NA	Primary	5/1/2015	266525-022					X		X
	APLB-20	soil	APLB-20(1.5)	1.5	Primary	5/1/2015	266525-007					X		X
		soil	APLB-20(4.5)	4.5	Primary	5/1/2015	266525-008					X		X
		soil	APLB-20(8.5)	8.5	Primary	5/1/2015	266525-009					X		X
		water	APLB-20(GW)	NA	Primary	5/1/2015	266525-024					X		X
		water	RB5-1-15	NA	QC	5/1/2015	266525-026	X		X		X	X	
		water	TB5-1-15	NA	QC	5/1/2015	266525-025	X					X	
	APLB-21	soil	APLB-21(2.5)	2.5	Primary	4/28/2015	266392-004					X		X
		soil	APLB-21(4.5)	4.5	Primary	4/28/2015	266392-005					X		X
		soil	APLB-21(8.5)	8.5	Primary	4/28/2015	266392-006					X		X
		water	APLB-21(GW)	NA	Primary	4/28/2015	266392-003					X		X

Table 1
Sample Summary
Former APL Terminal

Case Area	Boring/ Well	Matrix	Sample Numbers [a]	Approximate Sample Depth	Sample Type	Date	Lab ID	VOCs (8260B)	BTEX and MTBE (8021B)	SVOCs (8270C)	PAHs (8270 SIM)	TPHd, TPHmo (8015M)	TPHg (8015M)	Cam 17 Metals (6000-7000 Series)
010	APLB-15	soil	APLB-15(2.5)	2.5	Primary	4/30/2015	266511-014	X		X		X	X	
		soil	APLB-15(4.5)	4.5	Primary	4/30/2015	266511-015	X		X		X	X	
		soil	APLB-15(8)	8	Primary	4/30/2015	266511-016	X		X		X	X	
		water	APLB-15(GW)	NA	Primary	4/30/2015	266511-005	X		X		X	X	
	APLB-16	soil	APLB-16(2.5)	2.5	Primary	4/30/2015	266511-017	X		X		X	X	
		soil	APLB-16(4.5)	4.5	Primary	4/30/2015	266511-018	X		X		X	X	
		soil	APLB-16(7.6)	7.6	Primary	4/30/2015	266511-019	X		X		X	X	
		water	APLB-16(GW)	NA	Primary	4/30/2015	266511-006	X		X		X	X	
	APLB-17	soil	APLB-17(2)	2	Primary	4/30/2015	266511-020	X		X		X	X	
		soil	APLB-17(5)	5	Primary	4/30/2015	266511-021	X		X		X	X	
		soil	APLB-17(6.5)	6.5	Primary	4/30/2015	266511-022	X		X		X	X	
		water	APLB-17(GW)	NA	Primary	4/30/2015	266511-007	X		X		X	X	
	APLB-18	soil	APLB-18(2)	2	Primary	4/30/2015	266511-026	X		X		X	X	
		soil	APLB-18(4.5)	4.5	Primary	4/30/2015	266511-027	X		X		X	X	
		soil	APLB-18(7.5)	7.5	Primary	4/30/2015	266511-028	X		X		X	X	
		water	APLB-18(GW)	NA	Primary	4/30/2015	266511-009	X		X		X	X	
	APLB-19	soil	APLB-19(2)	2	Primary	4/30/2015	266511-023	X		X		X	X	
		soil	APLB-19(4.5)	4.5	Primary	4/30/2015	266511-024	X		X		X	X	
		soil	APLB-19(8.5)	8.5	Primary	4/30/2015	266511-025	X		X		X	X	
		water	APLB-19(GW)	NA	Primary	4/30/2015	266511-008	X		X		X	X	
Former Building E-221	APLMW-1	soil	APLMW-1(4)	4	Primary	5/14/2015	266803-001		X		X	X	X	
		soil	APLMW-1(7.5)	7.5	Primary	5/14/2015	266803-002		X		X	X	X	
		water	APLMW-1(GW)	NA	Primary	5/23/2015	267026-001		X		X	X	X	
	APLMW-2	soil	APLMW-2(4.5)	4.5	Primary	5/14/2015	266820-001		X		X	X	X	
		soil	APLMW-2(8.2)	8.2	Primary	5/14/2015	266820-002		X		X	X	X	
		water	APLMW-2(GW)	NA	Primary	5/23/2015	267026-002		X		X	X	X	
		water	DUP052315	NA	Duplicate	5/23/2015	267026-003		X		X	X	X	
		water	TB052315	NA	QC	5/23/2015	267026-004	X					X	
	APLMW-3	soil	APLMW-3(4)	4	Primary	5/14/2015	266803-003		X		X	X	X	
		soil	APLMW-3(7)	7	Primary	5/14/2015	266803-004		X		X	X	X	
		water	APLMW-3(GW)	NA	Primary	5/23/2015	267026-005		X		X	X	X	
IDW water		water	RW052315	NA	Primary	5/23/2015	267026-006	X			X	X	X	X

Abbreviations
GW = groundwater
PAHs = polynuclear aromatic hydrocarbons
SVOCs = semivolatile organic carbons
VOCs = volatile organic compounds

Table 2
Summary of Detected Results for Field Duplicates
Former APL Terminal

Original Sample ID	Laboratory Sample ID	Test Method	Anatlye	Primary Result	Units	Duplicate Sample ID	Laboratory Sample ID	Duplicate Result	Primary RL	RPD	Notes
APLB-11(GW)	266511-002	8015M	TPHd	520	µg/l	DUP4/30/15	266511-003	590	50	12.6	
APLB-11(GW)	266511-002	8260B	MTBE	2.6	µg/l	DUP4/30/15	266511-003	2.6	2.0	0.0	
APLMW-2(GW)	267026-002	8015M	TPHd	3,100	µg/l	DUP052315	267026-003	3,600	50	14.9	
APLMW-2(GW)	267026-002	8015M	TPHmo	1,400	µg/l	DUP052315	267026-003	1,800	300	25.0	
APLMW-2(GW)	267026-002	8015M	TPHg	100	µg/l	DUP052315	267026-003	86	50	15.1	
APLMW-2(GW)	267026-002	8270C-SIM	Acenaphthylene	0.20	µg/l	DUP052315	267026-003	0.20	0.20	0.0	

Notes
µg/l = Microgram per liter
MTBE = methyl tertiary-butyl ether
RL = Reporting limit
RPD = Relative Percent Difference
TPHd = Total Petroleum Hyrdocarbons Diesel Range
TPHg = Total Petroleum Hyrdocarbons Gasoline Range
TPHmo = Total Petroleum Hydrocarbons Motor Oil Range

Table 3
Summary of Qualified Results
Former APL Terminal

Sample	Sample Type	Date	Lab ID	Analysis Method	Analyte	Final Result	Units	Validation Qualifier	Reason
APLB-11(2)	Primary	4/30/2015	266511-011	8260B	Acetone	48	µg/kg	J	High surrogate recovery
APLB-17(2)	Primary	4/30/2015	266511-020	8270C	1,4-Dichlorobenzene	<370	µg/kg	UJ	Low MS/MSD recoveries
APLB-17(2)	Primary	4/30/2015	266511-020	8270C	1,2,4-Trichlorobenzene	<370	µg/kg	UJ	Low MS/MSD recoveries

Abbreviations
< = Less than
µg/kg = micrograms per kilogram
MS/MSD = Matrix Spike / Matirx Spike Duplicate

Qualifiers
J = Result is an estimated concentration.
U = The analyte was analyzed for, but was not detected at the reporting limit shown.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate.