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By Alameda County Environmental Health at 12:51 pm, Mar 04, 2015

March 3, 2015

Mr. Jerry Wickham PG, CHG.
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6540

Subject: Building 300 Construction Air Monitoring Plan for the Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case Number RO0000411)

Dear Mr. Wickham:

Enclosed is the Building 300 Construction Air Monitoring Plan (Plan) for the Former Pacific Electric Motors Site 1009 66th Avenue, Oakland, California; Alameda County Environmental Health (ACEH) Fuel Leak Case Number RO0000411 ("the Site"). A Cap Modification Plan Addendum, dated December 3, 2014, was submitted for ACEH review and described the perimeter air monitoring plan to be based on the analytical results from a pre-demolition soil sampling event. ACEH reviewed and conditionally approved the plan in a letter dated January 8, 2015, pending review of specific dust and air monitoring locations and action levels. As required, this Plan presents the specific dust and air monitoring locations and action levels.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments, please call Erica Kalve of ARCADIS at (415) 491-4530 extension 22, or me at (510) 434-5071.

Sincerely,

Tim Simon
Aspire Public Schools

Enclosure

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

College for Certain, LLC

Building 300 Construction Air Monitoring Plan

Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California
(Fuel Leak Case Number RO0000411)

March 3, 2015

ARCADIS

Erica Kalve, PG-CA (8425)
Senior Geologist

Angeline Tan
Project Engineer

Building 300 Construction Air Monitoring Plan

Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California

Prepared for:
College for Certain, LLC

Prepared by:
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Our Ref.:
EM009155.0017

Date:
March 3, 2015

ARCADIS

Table of Contents

1. Introduction

On behalf of College for Certain, LLC (CFC), ARCADIS U.S., Inc. (ARCADIS) has prepared this Building 300 Construction Air Monitoring Plan (Plan) for the Former Pacific Electric Motors (PEM) Facility located at 1009 66th Avenue in Oakland, California ("the Site"; Figure 1). A Cap Modification Plan Addendum (CMP Addendum; ARCADIS 2014b) was submitted on December 3, 2014 which described the perimeter air monitoring plan to be based on the analytical results from a pre-demolition soil sampling event. The pre-demolition soil sampling event was conducted on January 7 and 8, 2015. Alameda County Department of Environmental Health (ACEH) reviewed and conditionally approved the plan in a letter dated January 8, 2015, pending review of specific dust and air monitoring locations and action levels.

This Plan presents the pre-demolition soil sampling results and calculated action levels to be used while air monitoring during construction of the gymnasium building (Building 300; Figure 2) to protect persons from direct exposure to potential residual concentrations of petroleum hydrocarbons, benzene, arsenic, and lead in soil during construction activities. This plan also illustrates the location of perimeter air monitoring locations, as shown on Figure 3. An Air Monitoring Plan for polychlorinated biphenyls (PCBs) was submitted separately to the United States Environmental Protection Agency (USEPA) on February 27, 2015.

2. Background

2.1 Site Description

The Site is 2.51 acres and is located on the western side of 66th Avenue between East 14th Street (to the north) and San Leandro Street (to the south). The area around the Site is developed with a mixture of commercial, industrial, government, and multi-family residential buildings. The Site is bounded by a residential development to the north, Oakland Fire Department Station Number 2 to the east across 66th Avenue, Fruitvale Business Center to the south, and Northstar International Container Freight and Container Consolidation Services to the west.

The Site was redeveloped as the Aspire Golden State College Preparatory Academy, which serves grades 6 through 12 and has capacity for 570 students; the school opened in August 2011 (see Figure 2). The school occupies approximately 1.4 acres and consists of the following site features:

- Six two-story buildings (approximately 41,430 square feet total including 24 full-sized classrooms, 4 labs, 3 girls and 3 boys restrooms, and 4 staff restrooms)

- Asphalt-paved parking area with access via two driveways on 66th Avenue (one for ingress and one for egress)

- Asphalt-paved area for recreation

- Asphalt-paved and concrete pedestrian walkways

- Planter and landscaped areas

The structures formerly associated with Pacific Electric Motors (and infrastructure) on the Site have all been demolished.

As part of the redevelopment of the Site, the ground surface comprised of roadways, sidewalks, parking areas, buildings, and planter areas is serving as a cap to mitigate potential exposure to remaining constituents of concern potentially present in soil at the Site.

Site modifications include construction of a new gymnasium and recreation facility (Building 300) with associated utility connections, parking areas and pedestrian walkways. The air monitoring plan is developed to be implemented during the construction activities associated with these site modifications.

3. Pre-demolition Soil Sampling

The purpose of the pre-demolition soil sampling is to assess soil quality within the area of the cap (canopy footings, site utilities, and proposed building footprint) that will be modified down to the cement-treated native soil and native soil, and to pre-characterize the soil for disposal. A total of 26 soil borings were advanced using a direct push rig between January 7 and 8, 2015 in accordance with the Cap Modification Plan (CMP) and CMP Addendum (ARCADIS 2014a and 2014b). A total of 36 soil samples were collected and analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg) by USEPA test method 8015, modified

- benzene, using USEPA test method 8260B

- arsenic and lead by USEPA test method 6010B

- PCBs by USEPA test method 8082A, Soxhlet extraction, USEPA method 3540C

Results of the soil samples are presented in Table 1 and soil boring locations are shown in Figure 3. The laboratory analytical data and chain-of-custody are included as Appendix A. The data were further validated by ARCADIS' chemist and the validation results are included as Appendix B. Individual PCB aroclors were summed up to obtain total PCBs (Table 1).

4. Perimeter Air Monitoring Plan

Perimeter air monitoring activities will be implemented during the construction activities to monitor for potential airborne dust potentially containing Site COCs. The greatest potential for airborne transport of COCs during the construction activities of the proposed building is via released particulate matter ("fugitive dust"). During work activities, Site COCs adsorbed to particulate matter could be transported into ambient air by wind erosion and/or mechanical disturbances of subsurface soil.

Potential exposure to Site COCs will be assessed through real-time dust monitoring. Potential Action Levels and the procedures for developing the chemical-specific risk based Action Levels are presented below.

4.1 Development of Action Levels

As noted above, the objectives of the perimeter air monitoring during the proposed work is to demonstrate that the surrounding community is protected from potential exposure to Site COCs in the form of fugitive dust and to evaluate the adequacy of dust control methods being applied by the construction contractor.

The on-site populations were identified as the most sensitive populations potentially exposed to fugitive dust. The identified on-site receptors include workers (such as teachers and administrative support) and students (high school age). The high school student receptor is assumed to be the most sensitive on-site receptor. Chemical specific action levels developed to protect the student will also be protective of less sensitive receptors, such as the worker or visitors.

The equation and parameters that will be used in the calculations for the COCs are presented below. The exposure input parameters are presented below. The calculations and chemical-specific parameters are presented in Appendix C.

$$AL = \frac{CR \times AT \times LT}{EF \times ED \times ET \times IUR}$$

Table A: Exposure Input Parameters

Input Parameter	Value	Units	Source
Age of Receptor	12 to 18	years	Most sensitive receptor
Cancer Risk (CR)	1×10^{-6}		US EPA 1989
Hazard Index (HI; non-cancer)	1		US EPA 1989
Exposure Time (ET)	8/24	Hours exposed/hours in a day	Hours of construction activities
Averaging Time (AT)	25,550	days	US EPA 2011
Exposure Frequency (EF)	20	days/year	Days of soil excavation activities
Exposure Duration (ED)	0.25	year	Activity to be completed in less than 3 months
Inhalation Unit Risk (IUR)	Chemical specific	$(\mu g/m^3)^{-1}$	US EPA 2014
LT	Lifetime	years	70

4.2 Potential Dust Action Levels Calculated Based on Chemical-Specific Risk-Based Action Levels

An evaluation was also performed to identify whether the Dust Action Level would be protective of the off-site receptors. The maximum detected concentration of the selected COCS was used to calculate a hypothetical dust concentration. This hypothetical dust concentration was compared to total allowable dust concentration. The hypothetical dust action level was calculated using the following equation:

$$Dust\ Concentration\ (mg/m^3) = \frac{AL\ (mg/m^3)}{COPC_{max}\ (mg/kg)\ x\ 10^{-6}\ kg/mg}$$

Where:

AL = Action Level (Table C-1)
COC_{max} = maximum detected COC concentration (Table C-1)

The Dust Action Levels based on COC concentrations in the soil are presented in Table B.

Table B: Dust Action Levels

COPC	Maximum Detected Soil Concentration (mg/kg)	Action Level (mg/m^3)	Calculated Dust Action Level (mg/m^3)
TPHg	44	1.64E+6	3.73E+10
Benzene	< 0.005	1.97	3.93E+8
Arsenic	18	3.57E-3	1.98E+2
Lead	21	--	--

According to the Integrated Risk Information System (IRIS), no data exists on inhalation toxicity associated with lead and no reference concentration has been developed. A reference concentration is an input parameter in the dust calculation. Hence, action level protective of human health for inorganic lead present in fugitive dust was not calculated as no data for inhalation toxicity associated with lead is available (IRIS 2004).

The total dust action level for PCBs is 6.498 mg/m^3. The result of the Dust Action Level calculations shows that the maximum hypothetical dust concentration that could result in exceedances of the other COC-specific Action Level is 1.98E+2 mg/m^3. This means that the stop work dust criterion of 6.498 mg/m^3 for total dust should be protective of the on-site populations.

4.3 Volatile Organic Carbon Vapors

The TPHg concentrations in soil are relatively low and there is no detectable concentration of benzene in soil (Table 1). However to protect the on-site populations from exposure to potential volatile organic carbon (VOCs) vapors, a photoionization detector (PID) will be used to continuously monitor the breathing zone for VOCs. Work will be stopped if the action level is greater than 30 parts per million by volume (ppm).

4.4 Perimeter Air Monitoring Protocols

This section outlines protocols for perimeter air monitoring for dust and Site constituents of concern including TPH-g, benzene, arsenic, and lead. This plan was also presented in the Air Monitoring Plan for PCBs dated February 27, 2015 (ARCADIS 2015).

Perimeter monitoring will include monitoring for dust and constituents of concern during all activities associated with the removal of the existing cap and subsurface soil. Dust monitoring data will be recorded on 1-minute increments and assessed each hour during active construction. Dust monitoring will be conducted for the remaining grading activities; however, following the removal of the subsurface soil and concerns related to airborne constituents of concern will no longer be necessary.

Work will be temporarily halted and the ACEH will be consulted regarding a plan for further action, if a direct-reading instrument result is more than five times its Action Level. Temporarily halting work and consulting ACEH if a COC is detected greater than five times its Action Level is considered appropriate based on methodology used by Agency for Toxic Substances and Disease Registry (ATSDR) for extrapolation of MRLs across exposure durations. Therefore, halting work before reaching 5-times the Action Level for a COC is consistent with the ATSDR methodology for extrapolating potential adverse health effects resulting from exposure to COCs over a longer duration.

4.5 Meteorological Measurements

A meteorological station will be maintained at a location that is free from obstruction and generally representative of wind patterns present at the Site. The meteorological station will be placed at the upwind (eastern) air monitoring location.

Wind speed and wind direction measurements will be collected continuously at the Site during soil loading and grading activities. A wind sock will also be located at the Site. If the sustained wind speed exceeds 15 mph (sustained for 15 minutes), work will be stopped.

4.6 Air Monitoring Station Locations

The purpose of the air monitoring stations is to collect data from the most likely pathway for TPH-g, benzene, arsenic, and lead to migrate off site to locations where exposures to human receptors could occur. A total of three perimeter air monitoring stations will be located around the boundary of the proposed building in the vicinity of the active work areas. One station will be located upwind, one crosswind, and one station downwind (Figure 3). The prevailing wind in Oakland is to the west (Western Regional Climate Center 2015); therefore the figure depicts potential locations of the air monitoring stations. The locations of the air monitoring stations will be determined in the field based on current wind directions.

There may be relatively high levels of chemicals and particulates in air due to the high number of large-scale industrial companies in the vicinity of the Site. Therefore, background dust level will be monitored at each of the two air monitoring stations for two days prior to implementing activities associated with the construction activities.

As discussed above, wind direction will be monitored during the construction activities where dust emissions from construction could occur. If the wind data indicate that a significant shift in wind direction has occurred, work will be suspended until the perimeter air monitoring stations can be repositioned, as appropriate.

4.6.1 Air Monitoring Parameters

Real-time monitoring for total dust will be performed at the work areas and at the Site's perimeter.

It is anticipated that during highly inclement weather, the contractor will not be performing work at the Site. However, light precipitation may affect air monitoring results by biasing real-time total dust measurements high due to moisture in the air. In inclement weather the air monitoring plan may be modified in consultation with the ACEH to protect equipment and preserve the accuracy of monitoring results.

4.7 Total Airborne Dust (Real-Time Air Monitoring)

Thermo Scientific ADR-1200S perimeter dust monitors will be used throughout the duration of the project. The ADR 1200S is designed for outdoor use and is capable of detecting concentrations ranging from 0.001 milligram per cubic meter (mg/m^3) to 400 mg/m^3 for a particle size response range of of 0.1 to 10 micron. Additionally, the ADR-1200S units will be programed to record dust concentrations every minute and will be connected to a cellular internet telemetry system to provide immediate information for total airborne dust levels present at the site perimeter station locations. The data collected will provide real-time information that will be used to evaluate the effectiveness of dust control procedures being implemented by the contractor. In addition, the total dust measurements provide data that can be used to estimate specific constituents of potential concern at airborne concentrations.

The monitors will be checked approximately every hour during the work shift to verify operation and compliance with the target Action Level. The airborne dust concentration will be recorded in a data logger and the stored data will be downloaded at the end of each work shift. The monitors will be factory calibrated and operated in accordance with the manufacturer's instructions.

Perimeter monitoring will include monitoring for dust during all activities associated with the removal of the cap and subsurface soil. Dust monitoring will be conducted for the remaining construction activities; however, following the removal of the cap and subsurface soil, constituent of concern monitoring will no longer be necessary.

5. References

Agency for Toxic Substances and Disease Registry (ATSDR). 2004. Agency for Toxic Substances and Disease Registry, Division of Toxicology. Minimal Risk Levels (MRLs) for Hazardous Substances. December.

ARCADIS U.S., Inc. (ARCADIS). 2014a. Cap Modification Plan, Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California. October 17.

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California Environmental Protection Agency Office of Environmental Health Hazards Assessment (OEHHA). 2009. California Cancer Potency Factors. July.

Department of Toxic Substances Control (DTSC). 1996. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities Manual. July.

Integrated Risk Information System (IRIS). 2004. Reference Concentration for Chronic Inhalation Exposure (RfC) – Lead and Compounds (Inorganic Lead). Accessed on February 26, 2015 at: http://www.epa.gov/iris/subst/0277.htm#refinhal.

United States Environmental Protection Agency (USEPA). 1989. Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, Part A. Interim Final. December 29.

United States Environmental Protection Agency (USEPA). 2014. Exposure Factors Handbook: 2011 Edition. EPA/600/R-090/052F. U.S. Environmental Protection Agency, Office of Research and Development, Washington DC 20460. September.

Western Regional Climate Center. 2015. Prevailing Wind based on the Hourly Data from 1992-2002. Accessed at: http://www.wrcc.dri.edu/htmlfiles/westwinddir.html#CALIFORNIA

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Table

TABLE 1
Soil Analytical Results
Aspire College
1009 66th Ave, Oakland, California

Sample ID	Date Collected	Gasoline C7-C12 (mg/kg)	Benzene (µg/kg)	Arsenic (mg/kg)	Lead (mg/kg)	Aroclor-1016 (µg/kg)	Aroclor-1221 (µg/kg)	Aroclor-1232 (µg/kg)	Aroclor-1242 (µg/kg)	Aroclor-1248 (µg/kg)	Aroclor-1254 (µg/kg)	Aroclor-1260 (µg/kg)	Total PCBs (µg/kg)
ASB-01-0.5-1.0	1/7/2015	<1.0	<4.6	**5.0**	**9.2**	<9.7	<19	<9.7	<9.7	<9.7	**130 J**	**470 J**	**600**
ASB-01-3.5-4.0	1/7/2015	**8.2**	<4.3	**7.0**	**3.6**	<9.5	<19	<9.5	<9.5	<9.5	<9.5	**64**	**64**
ASB-02-0.5-1.0	1/7/2015	<1.1	<4.7 UJ	**3.5**	**11**	<9.7	<19	<9.7	<9.7	<9.7	<9.7	**84**	**84**
ASB-02-4.0-5.0	1/7/2015	**44 Y**	<4.9 UJ	**2.9**	**4.2**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	ND
ASB-03-0.5-1.0	1/7/2015	<0.99	<4.9 UJ	**3.7**	**10**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	ND
ASB-03-4.0-6.0	1/7/2015	**2.3 Y**	<4.8	**5.5**	**4.2**	<9.5	<19	<9.5	<9.5	<9.5	<9.5	<9.5	ND
ASB-04-0.5-1.0	1/8/2015	**1.1**	<4.6	**4.5 J**	**10 J**	<9.6 UJ	<19 UJ	<9.6 UJ	<9.6 UJ	<9.6 UJ	<9.6 UJ	<9.6 UJ	ND
ASB-04-3.0-5.0	1/8/2015	**26**	<4.8 UJ	**18 J**	**10 J**	<12	<24	<12	<12	<12	<12	<12	ND
ASB-05-0.5-1.0	1/8/2015	<1.1	<4.6 UJ	**2.1 J**	**6.2 J**	<17	<33	<17	<17	<17	<17	<17	ND
ASB-05-3.0-5.0	1/8/2015	<0.94	<4.6	**7.2 J**	**4.8 J**	<12	<24	<12	<12	<12	<12	<12	ND
ASB-06-0.5-1.0	1/8/2015	<1.0	<4.8 UJ	**2.7 J**	**6 J**	<12	<24	<12	<12	<12	<12	**23**	**23**
ASB-06-3.0-5.0	1/8/2015	<0.96	<4.8	**3.4 J**	**5.4 J**	<12	<24	<12	<12	<12	<12	<12	ND
ASB-07-0.5-1.0	1/8/2015	<1.1	<4.6	**4.3**	**10**	<9.5	<19	<9.5	<9.5	<9.5	**170**	**430**	**600**
ASB-07-3.5-6.0	1/8/2015	<0.92	<4.9	**6.8**	**4.1**	<9.5	<19	<9.5	<9.5	<9.5	<9.5	<9.5	ND
ASB-08-0.5-1.0	1/8/2015	<1.0	<4.9	**4.0**	**11**	<130 UJ	<260 UJ	<130 UJ	<130 UJ	<130 UJ	**1,300 J**	**4,000 J**	**5,300**
ASB-08-3.5-6.5	1/8/2015	<1.1	<4.6	**5.9**	**4.4**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	ND
ASB-09-0.5-1.0	1/8/2015	<1.0	<4.8	**4.2**	**9.1**	<140 UJ	<270 UJ	<140 UJ	**350 J**	<140 UJ	**3,100 J**	**8,100 J**	**11,550**
ASB-09-3.5-6.5	1/8/2015	<1.0	<4.7	**3.1**	**4.1**	<9.6	<19	<9.6	**9.7**	<9.6	**120**	**300**	**430**
ASB-10-0.5-1.0	1/8/2015	<1.0	<4.6	**5.0**	**4.1**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	**43**	**43**
ASB-10-3.5-6.5	1/8/2015	<1.0	<4.6	**9.6**	**21**	<140 UJ	<270 UJ	<140 UJ	<140 UJ	<140 UJ	**1,500 J**	**4,900 J**	**6,400**
ASB-11-0.5-1.0	1/8/2015	<0.93	<5.0	**2.3 J**	**11 J**	<84 UJ	<170 UJ	<84 UJ	<84 UJ	<84 UJ	<84 UJ	**3,700 J**	**3,700**
ASB-12-0.5-1.0	1/8/2015	<0.95	<4.5	**2.6 J**	**11 J**	<9.6	<19	<9.6	<9.6	<9.6	**78**	**230**	**308**
ASB-13-0.5-1.0	1/8/2015	<4.8	<4.8 UJ	**2.3 J**	**9.7 J**	<12 UJ	<24 UJ	<12 UJ	<12 UJ	<12 UJ	**45 J**	**130 J**	**175**
ASB-14-0.5-1.0	1/8/2015	<0.97	<4.9 UJ	**2.6 J**	**7.1 J**	<12	<24	<12	<12	<12	**18**	**37**	**55**
ASB-15-0.5-1.0	1/7/2015	<1.1	<4.8 UJ	**2.0**	**8.3**	<9.7	<19	<9.7	<9.7	<9.7	**110**	**400**	**510**
ASB-16-0.5-1.0	1/7/2015	<0.98	<4.8	**12**	**9.8**	<34	<67	<34	<34	<34	<34	**1,100**	**1,100**
ASB-17-0.5-1.0	1/8/2015	<0.98	<4.8 UJ	**3.0 J**	**9.0 J**	<12	<24	<12	<12	<12	**15**	**16**	**31**
ASB-18-0.5-1.0	1/8/2015	<1.1	<4.9 UJ	**2.9 J**	**10 J**	<12 UJ	<24 UJ	<12 UJ	<12 UJ	<12 UJ	<12 UJ	<12 UJ	ND
ASB-19-0.5-1.0	1/8/2015	<0.99	<4.9 UJ	**2.5 J**	**7.7 J**	<12	<24	<12	<12	<12	<12	<12	ND
ASB-20-0.5-1.5	1/8/2015	<0.97	<4.6 UJ	**2.2 J**	**7.6 J**	<13	<27	<13	<13	<13	<13	<13	ND
ASB-21-0.5-1.0	1/8/2015	<1.0	<4.8 UJ	**4.2 J**	**15 J**	<12	<24	<12	<12	<12	<12	**130**	**130**
ASB-22-0.5-1.0	1/8/2015	<1.0	<4.9 UJ	**4.3 J**	**8.8 J**	<12	<24	<12	<12	<12	<12	**27**	**27**
ASB-23-0.5-1.0	1/8/2015	<1.1	<4.7	**2.9 J**	**9.6 J**	<12	<24	<12	<12	<12	<12	**77**	**77**
ASB-24-0.5-1.0	1/8/2015	<1.0	<4.7 UJ	**3.2 J**	**9.6 J**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	ND
ASB-25-0.5-1.0	1/8/2015	<1.1	<4.6 UJ	**2.2 J**	**7.4 J**	<9.7 UJ	<19 UJ	<9.7 UJ	<9.7 UJ	<9.7 UJ	<9.7 UJ	<9.7 UJ	ND
ASB-26-0.5-1.0	1/8/2015	<1.0	<4.9	**3.0 J**	**17 J**	<12	<24	<12	<12	<12	<12	**12**	**12**

Abbreviations / Notes:

PCB value exceeds the cleanup criteria of 0.130 mg/kg (= 130µg/kg)
Bold indicates detected above laboratory reporting limi
UJ = The compound was not detect above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitatic
J = The compound was positively identified; however, the associated numerical value is an estimated concentration onl
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
Y = sample exhibits chromatographic pattern which does not resemble standarc
< = Not detected at or above specified laboratory method detection limi
-- = not analyzed/data not collectec

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Figures

MAP SOURCE: Copyright 1995, Thomas Bros. Map ALAMEDA COUNTY 2002 Edition

0 2,000 4,000 FEET

1009 66TH AVENUE, OAKLAND, CALIFORNIA

SITE VICINITY MAP

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FIGURE 1

DESIGN\003\09155\Figure 1 Site Vicinity - 003-09155.cdr

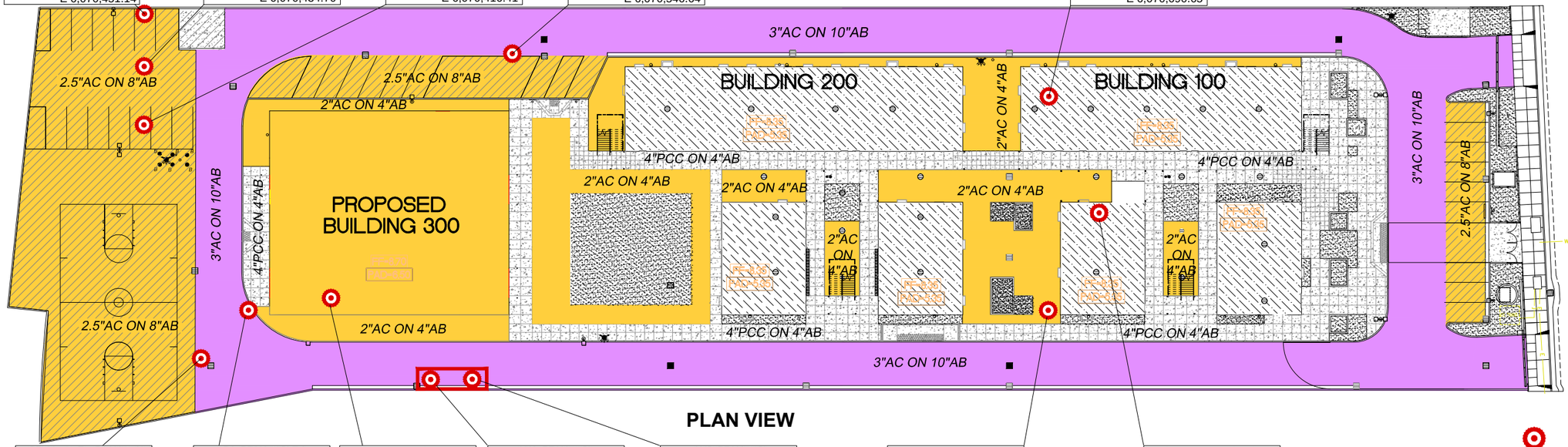
50' North 1 - SDWall 1'	
PCB	0.135
Elevation	5.50
Depth Below Cap	1.0
Location	N 2,103,790.80 E 6,070,451.14

50' North 2 - SDWall 1'	
PCB	0.160
Elevation	5.22
Depth Below Cap	1.3
Location	N 2,103,775.48 E 6,070,434.70

50' North 3 - SDWall 1'	
PCB	0.250
Elevation	5.12
Depth Below Cap	1.4
Location	N 2,103,758.43 E 6,070,416.41

PD - 6	
PCB	0.535
Elevation	4.15
Depth Below Cap	1.2
Location	N 2,103,664.45 E 6,070,546.64

PD - 1	
PCB	0.372
Elevation	4.35
Depth Below Cap	1.3
Location	N 2,103,484.64 E 6,070,690.65



0 25' 50'

APPROXIMATE SCALE IN FEET

PLAN VIEW

25' North 7 - SDWall 1'	
PCB	0.330
Elevation	5.20
Depth Below Cap	1.3
Location	N 2,103,672.57 E 6,070,359.68

S1-SDWall 2' R1	
PCB	0.230
Elevation	5.33
Depth Below Cap	1.2
Location	N 2,103,671.48 E 6,070,389.27

NE-Corner 3' R1	
PCB	0.270
Elevation	4.35
Depth Below Cap	2.2
Location	N 2,103,649.30 E 6,070,417.30

W1-SDWall 2'	
PCB	0.420
Elevation	3.09
Depth Below Cap	3.4
Location	N 2,103,594.35 E 6,070,421.11

W2-SDWall 2'	
PCB	2.5
Elevation	2.47
Depth Below Cap	4.03
Location	N 2,103,581.50 E 6,070,433.39

PD - 2	
PCB	0.940
Elevation	3.95
Depth Below Cap	1.4
Location	N 2,103,422.13 E 6,070,623.77

SW - Bottom 6' R2	
PCB	0.370
Elevation	1.41
Depth Below Cap	3.9
Location	N 2,103,434.81 E 6,070,669.06

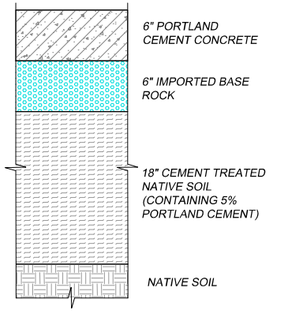
LEGEND

- SOIL SAMPLE FAILED POLYCHLORINATED BIPHENYLS (PCB) CRITERIA OF 0.130 mg/kg
- LOCATION OF PCB AFFECTED SOIL ENCAPSULATED FROM APPROXIMATELY 3 TO 8 FEET BELOW FINISHED GRADE
- EXISTING CONCRETE SLAB (6" REINFORCED PCC ON 6" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (90%)) PER GEOTECHNICAL REPORT
- EXISTING CONCRETE SLAB (4" REINFORCED PCC ON 4" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (90%)) PER GEOTECHNICAL REPORT
- 3"AC ON 10"AB — EXISTING AC PAVEMENT-TRAFFIC SECTION (3" AC ON 10" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (95%)) PER GEOTECHNICAL REPORT
- 2.5"AC ON 8"AB — EXISTING AC PAVEMENT-PARKING SECTION (2.5" AC ON 8" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (95%))
- 2"AC ON 4"AB — EXISTING AC PAVEMENT-PEDESTRIAN SECTION (2" AC ON 4" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (95%)) PER GEOTECHNICAL REPORT
- LANDSCAPING: 12" TOP SOIL OVER 10" CAP OF IMPORTED SOIL. COMPACT CAP TO 90%. ORANGE WARNING NETTING UNDERNEATH CAP.
- RAT SLAB UNDERNEATH ALL MODULAR BUILDINGS: 2"AC ON 4" CLASS 2 AB

mg/kg = MILLIGRAMS PER KILOGRAM

EXISTING PAVEMENT/CAP DETAILS

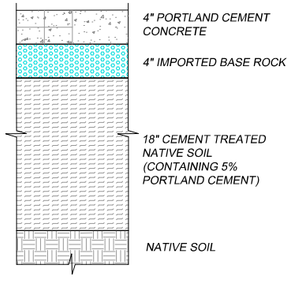
TRASH ENCLOSURE AREA — PLAN VIEW



PROFILE VIEW

TRASH ENCLOSURE AREA

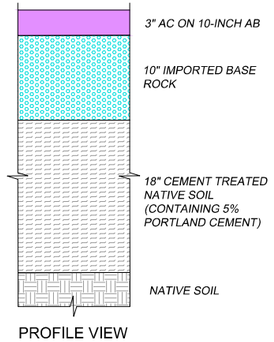
PEDESTRIAN WALKWAYS (CONCRETE) — PLAN VIEW



PROFILE VIEW

PEDESTRIAN WALKWAYS (CONCRETE)

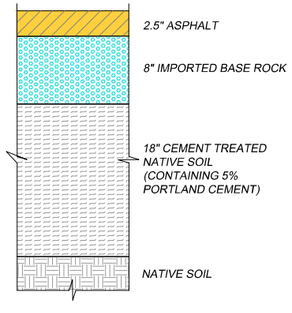
3"AC ON 10"AB — VEHICLE TRAFFIC AREAS — PLAN VIEW



PROFILE VIEW

VEHICLE TRAFFIC AREAS

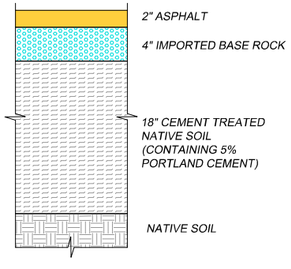
2.5"AC ON 8"AB — PARKING AREAS — PLAN VIEW



PROFILE VIEW

PARKING AREAS

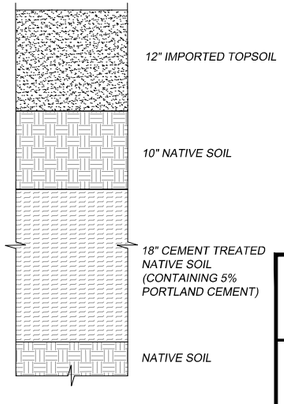
2"AC ON 4"AB — PEDESTRIAN WALKWAY AREAS (ASPHALT) — PLAN VIEW



PROFILE VIEW

PEDESTRIAN WALKWAY AREAS (ASPHALT)

LANDSCAPED AREAS — PLAN VIEW



PROFILE VIEW

LANDSCAPED AREAS

1'
VERTICAL SCALE IN FEET (PROFILES)
0'

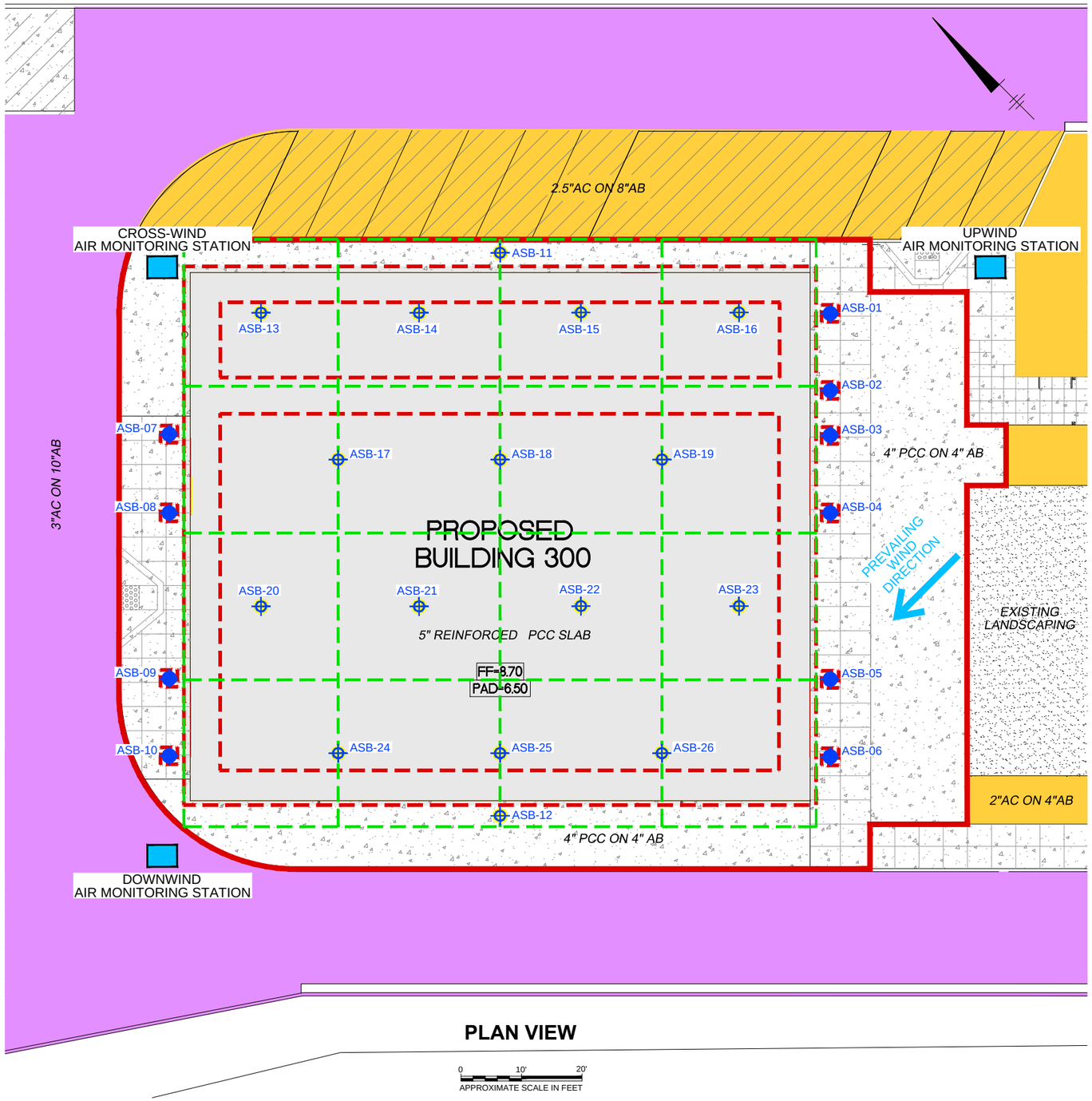
SOURCES: UNDERWOOD & ROSENBLUM, INC.
K2A ARCHITECTURE + INTERIORS
GRADING AND PAVING PLANS

PROPOSED CHARTER SCHOOL SITE
1009 66TH AVENUE, OAKLAND, CALIFORNIA

SITE PLAN
EXISTING PAVEMENT/CAP

ARCADIS

FIGURE
2



PLAN VIEW

0 10' 20'

APPROXIMATE SCALE IN FEET

SOURCES:
UNDERWOOD & ROSENBLUM, INC.
K2A ARCHITECTURE + INTERIORS GRADING AND PAVING PLANS

LEGEND

- LIMITS OF CAP MODIFICATION
- LIMITS OF PROPOSED BUILDING FOOTING FOUNDATIONS
- LIMITS OF PROPOSED CANOPY FOOTING
- CEMENT TREATED NATIVE SOIL SAMPLE
- COMBINATION UNTREATED NATIVE SOIL AND CEMENT TREATED NATIVE SOIL SAMPLE
- MULTIPLE INCREMENTAL SAMPLING GRID
- NEW CONCRETE BUILDING SLAB (5" REINFORCED PCC, SEE PROFILE THIS FIGURE)
- NEW CONCRETE PEDESTRIAN WALKWAY SLAB (4" REINFORCED PCC ON 4" CLASS 2 AB)
- EXISTING LANDSCAPING: 12" TOP SOIL OVER 10" CAP OF IMPORTED SOIL. COMPACT CAP TO 90%. PLACE ORANGE WARNING NETTING UNDERNEATH CAP.
- 3"AC ON 10"AB — EXISTING AC PAVEMENT-TRAFFIC SECTION (3" AC ON 10" CLASS 2 AB)
- 2.5"AC ON 8"AB — EXISTING AC PAVEMENT-PARKING SECTION (2.5" AC ON 8" CLASS 2 AB)
- 2"AC ON 4"AB — EXISTING AC PAVEMENT-PEDESTRIAN SECTION (2" AC ON 4" CLASS 2 AB)
- APPROXIMATE LOCATION OF AIR MONITORING STATION

NOTE:

1. SEE FIGURE 4 FOR LAYOUT DETAILS OF VAPOR COLLECTION SYSTEM.

PROPOSED CHARTER SCHOOL SITE
1009 66TH AVENUE, OAKLAND, CALIFORNIA

SOIL BORING LOCATIONS

ARCADIS

FIGURE 3

CITY: EMERYVILLE, CA DIV/GROUP: ENV/CAD DB: A. REYES, J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\RETURN-TO\EMERYVILLE, CA\EM009155\001700003\1CAP\DWG\EM009155 B10.dwg LAYOUT: 3 SAVED: 2/26/2015 8:29 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/26/2015 2:33 PM BY: HARRIS, JESSICA

ARCADIS

Appendix A

Laboratory Analytical Reports and Chain-of-Custody Documentation


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 263766
ANALYTICAL REPORT

Arcadis	Project : EM009155-0017
2000 Powell St.	Location : 1009 66th Ave, Oakland
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
ASB-16-0.5-1.0	263766-001
ASB-01-0.5-1.0	263766-002
ASB-01-3.5-4.0	263766-003
ASB-02-0.5-1.0	263766-004
ASB-02-4.0-5.0	263766-005
ASB-15-0.5-1.0	263766-006
ASB-03-0.5-1.0	263766-007
ASB-03-4.0-6.0	263766-008

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: 01/15/2015

Will S Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**263766**
Client:	**Arcadis**
Project:	**EM009155-0017**
Location:	**1009 66th Ave, Oakland**
Request Date:	**01/07/15**
Samples Received:	**01/07/15**

This data package contains sample and QC results for eight soil samples, requested for the above referenced project on 01/07/15. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Low recoveries were observed for gasoline C7-C12 in the MS/MSD for batch 219293; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High surrogate recoveries were observed for 1,2-dichloroethane-d4 in many samples. High surrogate recovery was observed for toluene-d8 in ASB-02-0.5-1.0 (lab # 263766-004); no target analytes were detected in the sample. Low surrogate recovery was observed for bromofluorobenzene in ASB-02-4.0-5.0 (lab # 263766-005). Low surrogate recoveries were observed for dibromofluoromethane in ASB-02-0.5-1.0 (lab # 263766-004), ASB-15-0.5-1.0 (lab # 263766-006), and ASB-03-0.5-1.0 (lab # 263766-007). No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High recoveries were observed for Aroclor-1260 in the MS/MSD of ASB-01-0.5-1.0 (lab # 263766-002); the LCS was within limits. High RPD was also observed for Aroclor-1260. Low surrogate recovery was observed for decachlorobiphenyl in ASB-03-0.5-1.0 (lab # 263766-007); the corresponding TCMX surrogate recovery was within limits. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

#26837606

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #

Send Results to:

Contact & Company Name: Angeline Tan, ARCADIS-US	Telephone: (925)236-6087
Address: 2999 Oak Rd, #300	Fax:
City: Walnut Creek State: CA Zip: 94597	E-mail Address: Angeline.Tan@arcadis-us.com
Project Name/Location (City, State): 1009 66th Ave. Oakland	Project #: EMC09155.0017
Sampler's Printed Name: Connor Williams	Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix
1 ASB-16-0.5-1.0	1/7/15	14:00		✓	Soil
2 ASB-01-0.5-1.0		13:50			
3 ASB 01-3.5-4.0		14:00			
4 ASB-02-0.5-1.0		14:15			
5 ASB-02-4.0 5.0		~~14:45~~	15:20		
6 ASB-15-0.5-1.0		14:45			
7 ASB 03 0.5-1.0		15:45			
8 ASB-03-4.0 6.0		15:45			

Preservative	N/A	N/A	N/A	N/A			
Filtered (✓)							
# of Containers							
Container Information							

PARAMETER ANALYSIS & METHOD

Sample ID	TPHg by MSEPA 8015 modified	Benzene MSEPA 8260	Arsenic and Lead MSEPA 6010B	PCBs MSEPA 8082				
1 ASB-16-0.5-1.0	X	X	X	X				
2 ASB-01-0.5-1.0								
3 ASB 01-3.5-4.0								
4 ASB-02-0.5-1.0								
5 ASB-02-4.0 5.0								
6 ASB-15-0.5-1.0								
7 ASB 03 0.5-1.0								
8 ASB-03-4.0 6.0								

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

REMARKS

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓)
☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Connor Williams	Printed Name: Ricky Graves	Printed Name: Ricky Graves	Printed Name: Mikelle Chong
Signature:	Signature:	Signature:	Signature:
Firm: AMS	Firm/Courier: CT	Firm/Courier: CT	Firm: CT
Date/Time: 1/7/15 16:20	Date/Time: 1/7/15 1620	Date/Time: 1/7/15 1700	Date/Time: 1/7/15 1700

intact on ice cold RL

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 263766 Date Received 1/7/15 Number of coolers 1
Client Arcadis Project EM009155 0017

Date Opened 1/7 By (print) SV (sign)
Date Logged in 1/8 By (print) ~~ACE~~ RJ (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) 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?_____
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 263766

Results for any subcontracted analyses are not included in this summary.

Client : Arcadis
Project : EM009155-0017
Location : 1009 66th Ave, Oakland

Client Sample ID : ASB-16-0.5-1.0 Laboratory Sample ID : 263766-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,100		34	ug/Kg	As Recd	5.000	EPA 8082	EPA 3550B
Arsenic	12		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.8		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-01-0.5-1.0 Laboratory Sample ID : 263766-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Aroclor-1254	130		9.7	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Aroclor-1260	470		9.7	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Arsenic	5.0		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.2		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-01-3.5-4.0 Laboratory Sample ID : 263766-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	8.2		0.93	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Aroclor-1260	64		9.5	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Arsenic	7.0		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	3.6		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-02-0.5-1.0 Laboratory Sample ID : 263766-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	84		9.7	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Arsenic	3.5		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-02-4.0-5.0 Laboratory Sample ID : 263766-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	44	Y	8.0	mg/Kg	As Recd	40.00	EPA 8015B	EPA 5030B
Arsenic	2.9		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	4.2		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : ASB-15-0.5-1.0 Laboratory Sample ID : 263766-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Aroclor-1254	110		9.7	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Aroclor-1260	400		9.7	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Arsenic	2.0		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.3		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-03-0.5-1.0 Laboratory Sample ID : 263766-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.7		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : ASB-03-4.0-6.0 Laboratory Sample ID : 263766-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	2.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Arsenic	5.5		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	4.2		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received		

Field ID:	ASB-16-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-001	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID:	ASB-01-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-002	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	67-137

Field ID:	ASB-01-3.5-4.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-003	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	8.2	0.93

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	67-137

Field ID:	ASB-02-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-004	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	67-137

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received		

Field ID:	ASB-02-4.0-5.0	Diln Fac:	40.00
Type:	SAMPLE	Batch#:	219293
Lab ID:	263766-005	Analyzed:	01/12/15

Analyte	Result	RL
Gasoline C7-C12	44 Y	8.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	67-137

Field ID:	ASB-15-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-006	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	67-137

Field ID:	ASB-03-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-007	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	67-137

Field ID:	ASB-03-4.0-6.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-008	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	2.3 Y	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	67-137

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received		

Type:	BLANK	Batch#:	219267
Lab ID:	QC772714	Analyzed:	01/09/15
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	67-137

Type:	BLANK	Batch#:	219293
Lab ID:	QC773017	Analyzed:	01/11/15
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	67-137

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772713	Batch#:	219267
Matrix:	Soil	Analyzed:	01/09/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.004	100	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	67-137

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	263772-001	Batch#:	219267
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/09/15

Type: MS Lab ID: QC772715

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1229	10.31	9.681	93	42-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	67-137

Type: MSD Lab ID: QC772716

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	8.922	90	42-120	3	44

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	67-137

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Batch#:	219293

Type: BS Analyzed: 01/11/15
Lab ID: QC772825

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.064	106	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	67-137

Type: BSD Analyzed: 01/12/15
Lab ID: QC772826

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2.000	2.105	105	80-120	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	263817-021	Batch#:	219293
Matrix:	Soil	Sampled:	01/09/15
Units:	mg/Kg	Received:	01/09/15
Basis:	as received	Analyzed:	01/13/15

Type: MS Lab ID: QC772829

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	25.48	10.00	12.87	-126 *	42-120

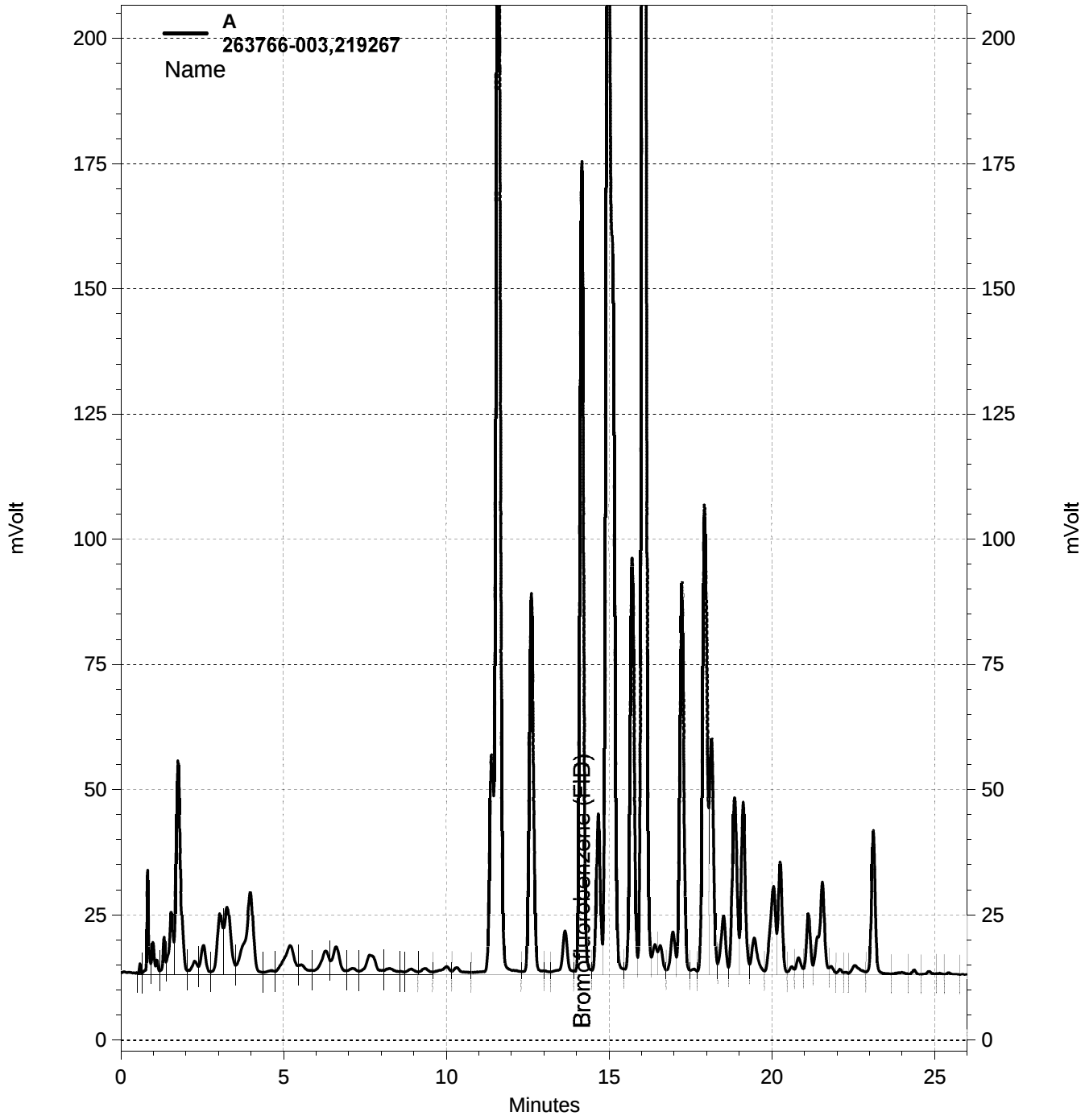
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	67-137

Type: MSD Lab ID: QC772830

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.75	17.47	-75 *	42-120	28	44

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	121	67-137

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference



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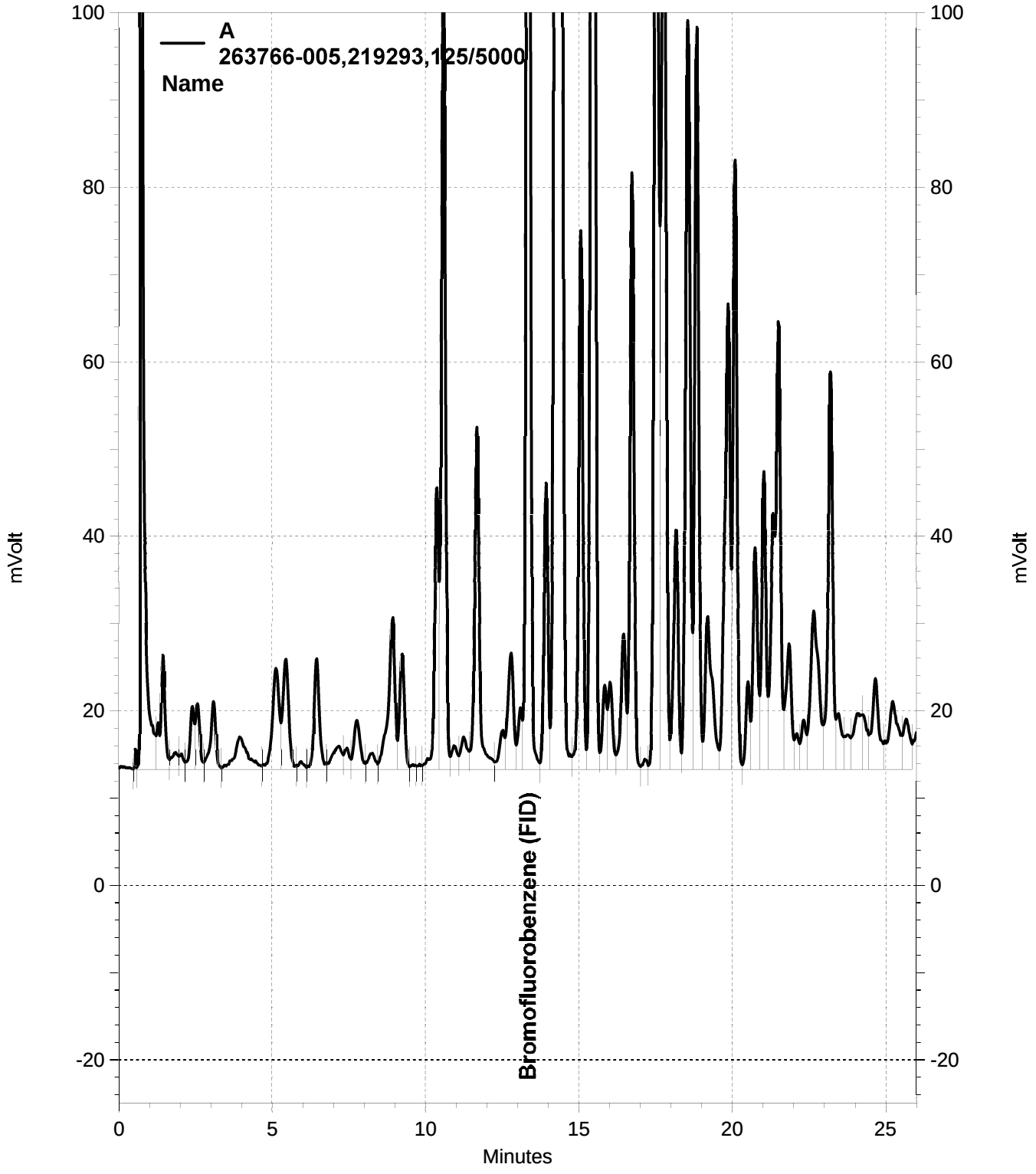
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Name
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80
60
40
20
0
-20
mVolt
Bromofluorobenzene (FID)
0
5
10
15
20
25
Minutes
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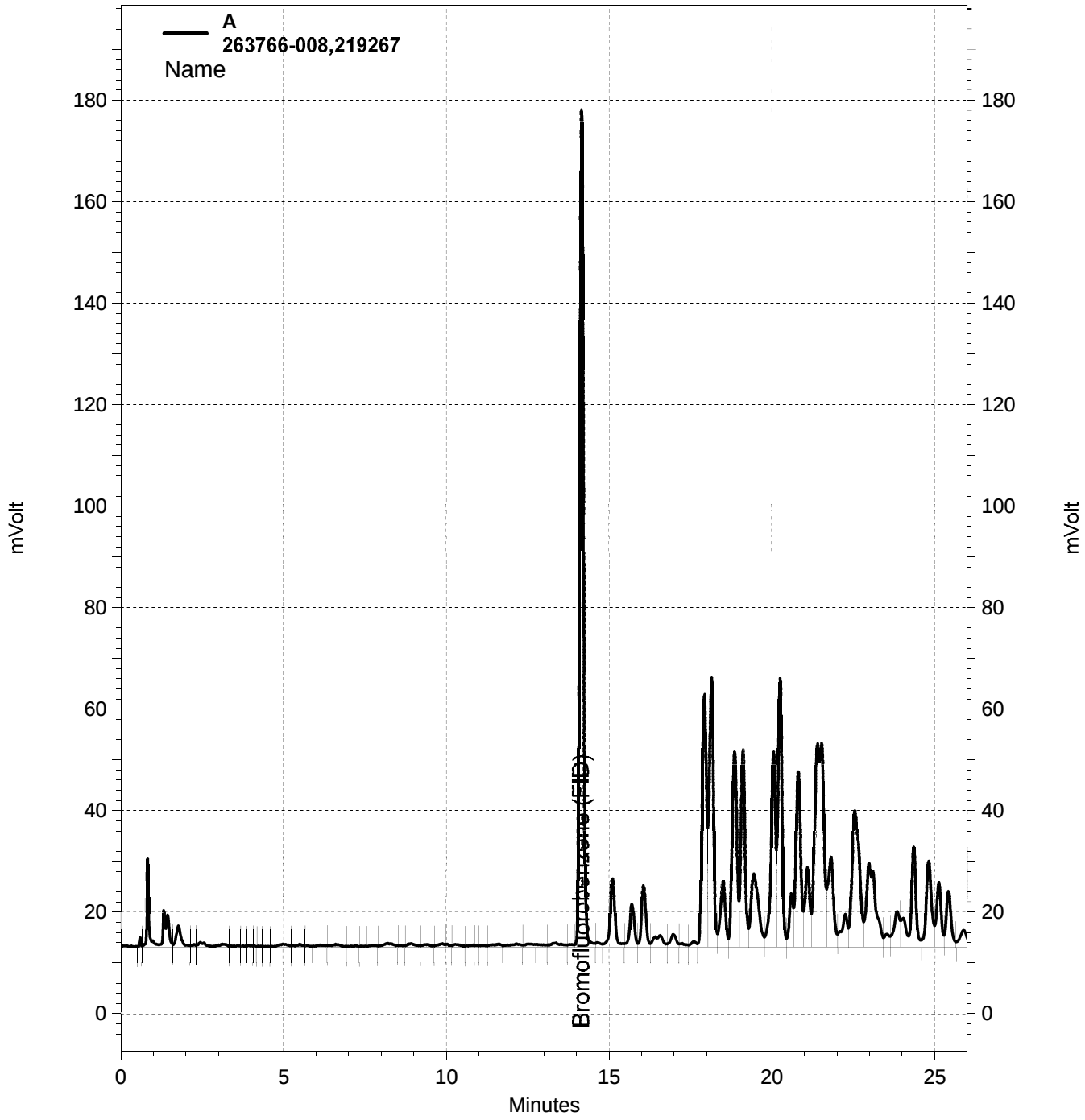

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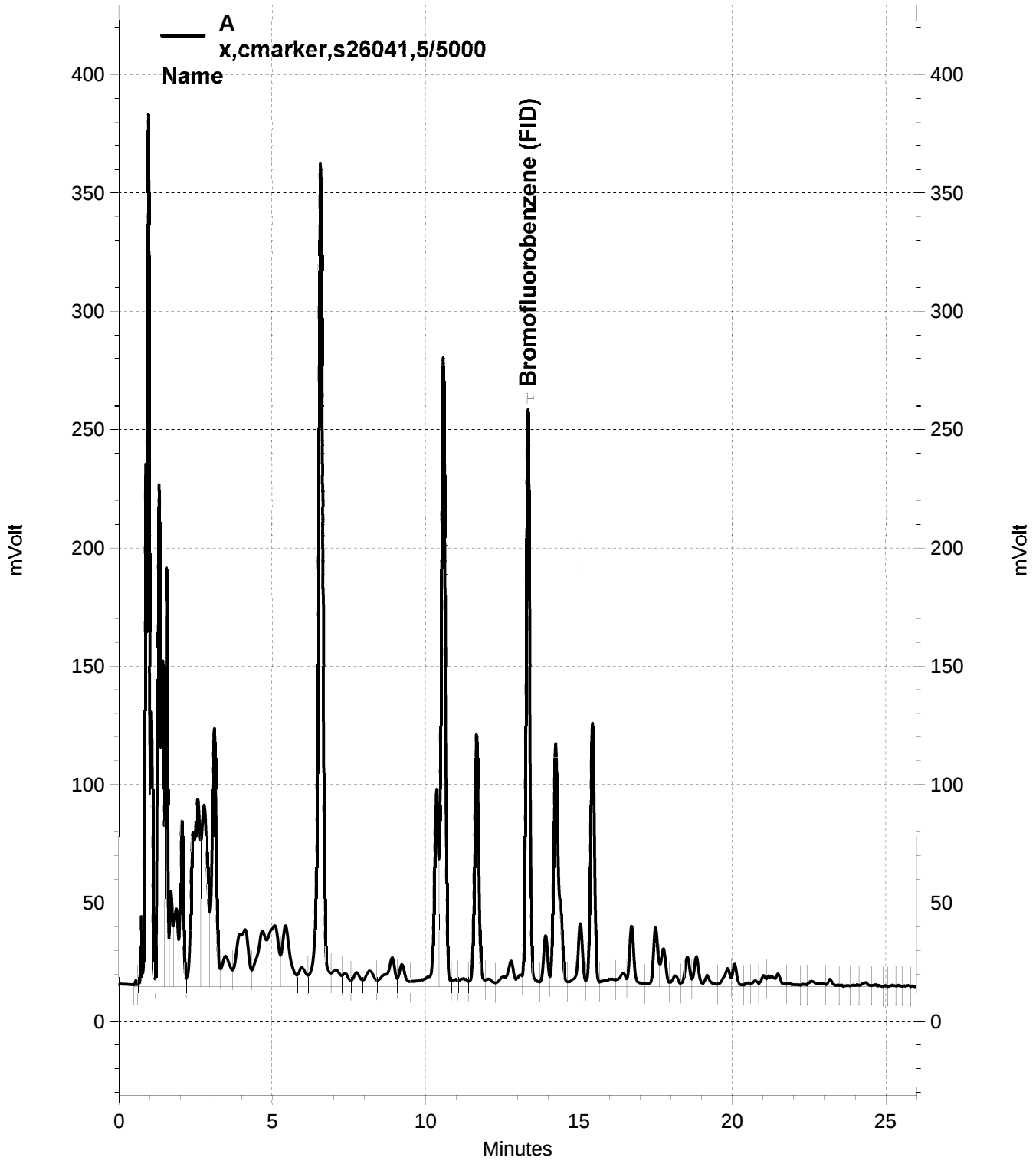
A
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Name
Bromofluorobenzene (FID)
mVolt
mVolt
400
350
300
250
200
150
100
50
0
0
5
10
15
20
25
Minutes
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Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-16-0.5-1.0	Diln Fac:	0.9524
Lab ID:	263766-001	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-128
1,2-Dichloroethane-d4	182 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	97	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-01-0.5-1.0	Diln Fac:	0.9242
Lab ID:	263766-002	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	97	76-128
1,2-Dichloroethane-d4	178 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-01-3.5-4.0	Diln Fac:	0.8651
Lab ID:	263766-003	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	179 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	85	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-02-0.5-1.0	Diln Fac:	0.9328
Lab ID:	263766-004	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	75 *	76-128
1,2-Dichloroethane-d4	171 *	80-137
Toluene-d8	121 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-02-4.0-5.0	Diln Fac:	0.9747
Lab ID:	263766-005	Batch#:	219399
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/14/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	97	76-128
1,2-Dichloroethane-d4	114	80-137
Toluene-d8	87	80-120
Bromofluorobenzene	73 *	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-15-0.5-1.0	Diln Fac:	0.9634
Lab ID:	263766-006	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	71 *	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	107	80-120
Bromofluorobenzene	93	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-03-0.5-1.0	Diln Fac:	0.9728
Lab ID:	263766-007	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	97	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-03-4.0-6.0	Diln Fac:	0.9506
Lab ID:	263766-008	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-128
1,2-Dichloroethane-d4	161 *	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	91	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC772920	Batch#:	219313
Matrix:	Soil	Analyzed:	01/12/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-128
1,2-Dichloroethane-d4	163 *	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	105	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772921	Batch#:	219313
Matrix:	Soil	Analyzed:	01/12/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	20.74	104	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-128
1,2-Dichloroethane-d4	164 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	92	79-128

*= Value outside of QC limits; see narrative

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-0.5-1.0	Batch#:	219313
MSS Lab ID:	263776-021	Sampled:	01/08/15
Matrix:	Soil	Received:	01/08/15
Units:	ug/Kg	Analyzed:	01/13/15
Basis:	as received		

Type: MS Diln Fac: 0.9785
Lab ID: QC772922

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.8386	48.92	39.51	81	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	187 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	93	79-128

Type: MSD Diln Fac: 0.9766
Lab ID: QC772923

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	48.83	28.90	59	51-125	31	46

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	197 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	93	79-128

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC773263	Batch#:	219399
Matrix:	Soil	Analyzed:	01/14/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	25.00	25.50	102	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-128
1,2-Dichloroethane-d4	128	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	90	79-128

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC773264	Batch#:	219399
Matrix:	Soil	Analyzed:	01/14/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	114	76-128
1,2-Dichloroethane-d4	128	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	89	79-128

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	219399
MSS Lab ID:	263804-001	Sampled:	01/09/15
Matrix:	Soil	Received:	01/09/15
Units:	ug/Kg	Analyzed:	01/14/15
Basis:	as received		

Type: MS
Lab ID: QC773331

Diln Fac: 0.9823

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.6920	49.12	43.03	88	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	140 *	80-137
Toluene-d8	93	80-120
Bromofluorobenzene	92	79-128

Type: MSD
Lab ID: QC773332

Diln Fac: 0.9980

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	49.90	42.16	84	51-125	4	46

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	137	80-137
Toluene-d8	93	80-120
Bromofluorobenzene	89	79-128

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID:	ASB-16-0.5-1.0	Diln Fac:	5.000
Type:	SAMPLE	Analyzed:	01/14/15
Lab ID:	263766-001		

Analyte	Result	RL
Aroclor-1016	ND	34
Aroclor-1221	ND	67
Aroclor-1232	ND	34
Aroclor-1242	ND	34
Aroclor-1248	ND	34
Aroclor-1254	ND	34
Aroclor-1260	1,100	34

Surrogate	%REC	Limits
TCMX	116	60-140
Decachlorobiphenyl	121	36-133

Field ID:	ASB-01-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	01/13/15
Lab ID:	263766-002		

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	130	9.7
Aroclor-1260	470	9.7

Surrogate	%REC	Limits
TCMX	87	60-140
Decachlorobiphenyl	62	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID: ASB-01-3.5-4.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/12/15
Lab ID: 263766-003

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	64	9.5

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	73	36-133

Field ID: ASB-02-0.5-1.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/12/15
Lab ID: 263766-004

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	ND	9.7
Aroclor-1260	84	9.7

Surrogate	%REC	Limits
TCMX	79	60-140
Decachlorobiphenyl	39	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID:	ASB-02-4.0-5.0	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	01/13/15
Lab ID:	263766-005		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	110	60-140
Decachlorobiphenyl	69	36-133

Field ID:	ASB-15-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	01/13/15
Lab ID:	263766-006		

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	110	9.7
Aroclor-1260	400	9.7

Surrogate	%REC	Limits
TCMX	103	60-140
Decachlorobiphenyl	36	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID: ASB-03-0.5-1.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-007

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	83	60-140
Decachlorobiphenyl	33 *	36-133

Field ID: ASB-03-4.0-6.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-008

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	116	60-140
Decachlorobiphenyl	54	36-133

Type: BLANK Diln Fac: 1.000
Lab ID: QC772724 Analyzed: 01/12/15

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	ND	9.7
Aroclor-1260	ND	9.7

Surrogate	%REC	Limits
TCMX	103	60-140
Decachlorobiphenyl	91	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772725	Batch#:	219269
Matrix:	Soil	Prepared:	01/09/15
Units:	ug/Kg	Analyzed:	01/13/15

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	166.6	187.7	113	58-144
Aroclor-1260	166.6	209.7	126	55-146

Surrogate	%REC	Limits
TCMX	91	60-140
Decachlorobiphenyl	92	36-133

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Field ID:	ASB-01-0.5-1.0	Batch#:	219269
MSS Lab ID:	263766-002	Sampled:	01/07/15
Matrix:	Soil	Received:	01/07/15
Units:	ug/Kg	Prepared:	01/09/15
Basis:	as received	Analyzed:	01/14/15
Diln Fac:	5.000		

Type: MS Lab ID: QC772726

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.385	168.2	231.5	138	51-155
Aroclor-1260	466.7	168.2	816.4	208 *	38-155

Surrogate	%REC	Limits
TCMX	98	60-140
Decachlorobiphenyl	85	36-133

Type: MSD Lab ID: QC772727

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.2	221.7	133	51-155	3	38
Aroclor-1260	166.2	2,687	1336 *	38-155	107 *	55

Surrogate	%REC	Limits
TCMX	85	60-140
Decachlorobiphenyl	78	36-133

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Arsenic

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	219318
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/12/15
Diln Fac:	1.000	Analyzed:	01/12/15

Field ID	Type	Lab ID	Result	RL
ASB-16-0.5-1.0	SAMPLE	263766-001	12	0.25
ASB-01-0.5-1.0	SAMPLE	263766-002	5.0	0.24
ASB-01-3.5-4.0	SAMPLE	263766-003	7.0	0.24
ASB-02-0.5-1.0	SAMPLE	263766-004	3.5	0.27
ASB-02-4.0-5.0	SAMPLE	263766-005	2.9	0.25
ASB-15-0.5-1.0	SAMPLE	263766-006	2.0	0.25
ASB-03-0.5-1.0	SAMPLE	263766-007	3.7	0.26
ASB-03-4.0-6.0	SAMPLE	263766-008	5.5	0.27
	BLANK	QC772940	ND	0.25

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	219318
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/12/15
Diln Fac:	1.000	Analyzed:	01/12/15

Field ID	Type	Lab ID	Result	RL
ASB-16-0.5-1.0	SAMPLE	263766-001	9.8	0.25
ASB-01-0.5-1.0	SAMPLE	263766-002	9.2	0.24
ASB-01-3.5-4.0	SAMPLE	263766-003	3.6	0.24
ASB-02-0.5-1.0	SAMPLE	263766-004	11	0.27
ASB-02-4.0-5.0	SAMPLE	263766-005	4.2	0.25
ASB-15-0.5-1.0	SAMPLE	263766-006	8.3	0.25
ASB-03-0.5-1.0	SAMPLE	263766-007	10	0.26
ASB-03-4.0-6.0	SAMPLE	263766-008	4.2	0.27
	BLANK	QC772940	ND	0.25

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Arsenic

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	5.000
Field ID:	ZZZZZZZZZZ	Batch#:	219318
MSS Lab ID:	263737-001	Sampled:	01/07/15
Matrix:	Soil	Received:	01/07/15
Units:	mg/Kg	Prepared:	01/12/15
Basis:	as received	Analyzed:	01/12/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC772941		50.00	50.05	100	80-120		
BSD	QC772942		50.00	47.99	96	80-120	4	20
MS	QC772943	6.055	53.19	53.32	89	72-120		
MSD	QC772944		54.35	57.81	95	72-120	6	30

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	5.000
Field ID:	ZZZZZZZZZZ	Batch#:	219318
MSS Lab ID:	263737-001	Sampled:	01/07/15
Matrix:	Soil	Received:	01/07/15
Units:	mg/Kg	Prepared:	01/12/15
Basis:	as received	Analyzed:	01/12/15

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC772941		50.00	48.49	97	80-120		
BSD	QC772942		50.00	46.53	93	80-120	4	20
MS	QC772943	286.4	53.19	474.6	354 NM	52-122		
MSD	QC772944		54.35	380.9	174 NM	52-122	22	49

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-04-0.5-1.0
Type: SAMPLE
Lab ID: 263776-001
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	1.1	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

Field ID: ASB-04-3.0-5.0
Type: SAMPLE
Lab ID: 263776-002
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	26	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	67-137

Field ID: ASB-05-0.5-1.0
Type: SAMPLE
Lab ID: 263776-003
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	67-137

Field ID: ASB-05-3.0-5.0
Type: SAMPLE
Lab ID: 263776-004
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-06-0.5-1.0
Type: SAMPLE
Lab ID: 263776-005
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-06-3.0-5.0
Type: SAMPLE
Lab ID: 263776-006
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

Field ID: ASB-23-0.5-1.0
Type: SAMPLE
Lab ID: 263776-007
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

Field ID: ASB-26-0.5-1.0
Type: SAMPLE
Lab ID: 263776-008
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-22-0.5-1.0
Type: SAMPLE
Lab ID: 263776-009
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	67-137

Field ID: ASB-19-0.5-1.0
Type: SAMPLE
Lab ID: 263776-010
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	67-137

Field ID: ASB-11-0.5-1.0
Type: SAMPLE
Lab ID: 263776-011
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

Field ID: ASB-18-0.5-1.0
Type: SAMPLE
Lab ID: 263776-012
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	83	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-14-0.5-1.0
Type: SAMPLE
Lab ID: 263776-013
Batch#: 219277
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-13-0.5-1.0
Type: SAMPLE
Lab ID: 263776-014
Batch#: 219277
Analyzed: 01/11/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	67-137

Field ID: ASB-21-0.5-1.0
Type: SAMPLE
Lab ID: 263776-015
Batch#: 219277
Analyzed: 01/11/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	67-137

Field ID: ASB-17-0.5-1.0
Type: SAMPLE
Lab ID: 263776-016
Batch#: 219277
Analyzed: 01/11/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-25-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-017

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	83	67-137

Field ID: ASB-12-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-018

Analyte	Result	RL
Gasoline C7-C12	ND	0.95

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-20-0.5-1.5 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-019

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	67-137

Field ID: ASB-24-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-020

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-07-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-021

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID: ASB-07-3.5-6.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-022

Analyte	Result	RL
Gasoline C7-C12	ND	0.92

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-08-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-023

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID: ASB-08-3.5-6.5 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-024

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-09-0.5-1.0
Type: SAMPLE
Lab ID: 263776-025
Batch#: 219278
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	67-137

Field ID: ASB-09-3.5-6.5
Type: SAMPLE
Lab ID: 263776-026
Batch#: 219278
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	67-137

Field ID: ASB-10-0.5-1.0
Type: SAMPLE
Lab ID: 263776-027
Batch#: 219278
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	67-137

Field ID: ASB-10-3.5-6.5
Type: SAMPLE
Lab ID: 263776-028
Batch#: 219278
Analyzed: 01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Type:	BLANK	Batch#:	219277
Lab ID:	QC772762	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	67-137

Type:	BLANK	Batch#:	219278
Lab ID:	QC772766	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772761	Batch#:	219277
Matrix:	Soil	Analyzed:	01/10/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.031	103	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	67-137

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Field ID:	ASB-04-0.5-1.0	Diln Fac:	1.000
MSS Lab ID:	263776-001	Batch#:	219277
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/10/15

Type: MS Lab ID: QC772763

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.080	10.20	8.378	72	42-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	67-137

Type: MSD Lab ID: QC772764

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.42	6.992	57	42-120	20	44

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	67-137

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772765	Batch#:	219278
Matrix:	Soil	Analyzed:	01/10/15
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9879	99	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	67-137

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Field ID:	ASB-07-0.5-1.0	Diln Fac:	1.000
MSS Lab ID:	263776-021	Batch#:	219278
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/10/15

Type: MS Lab ID: QC772767

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.08321	10.20	8.478	83	42-120

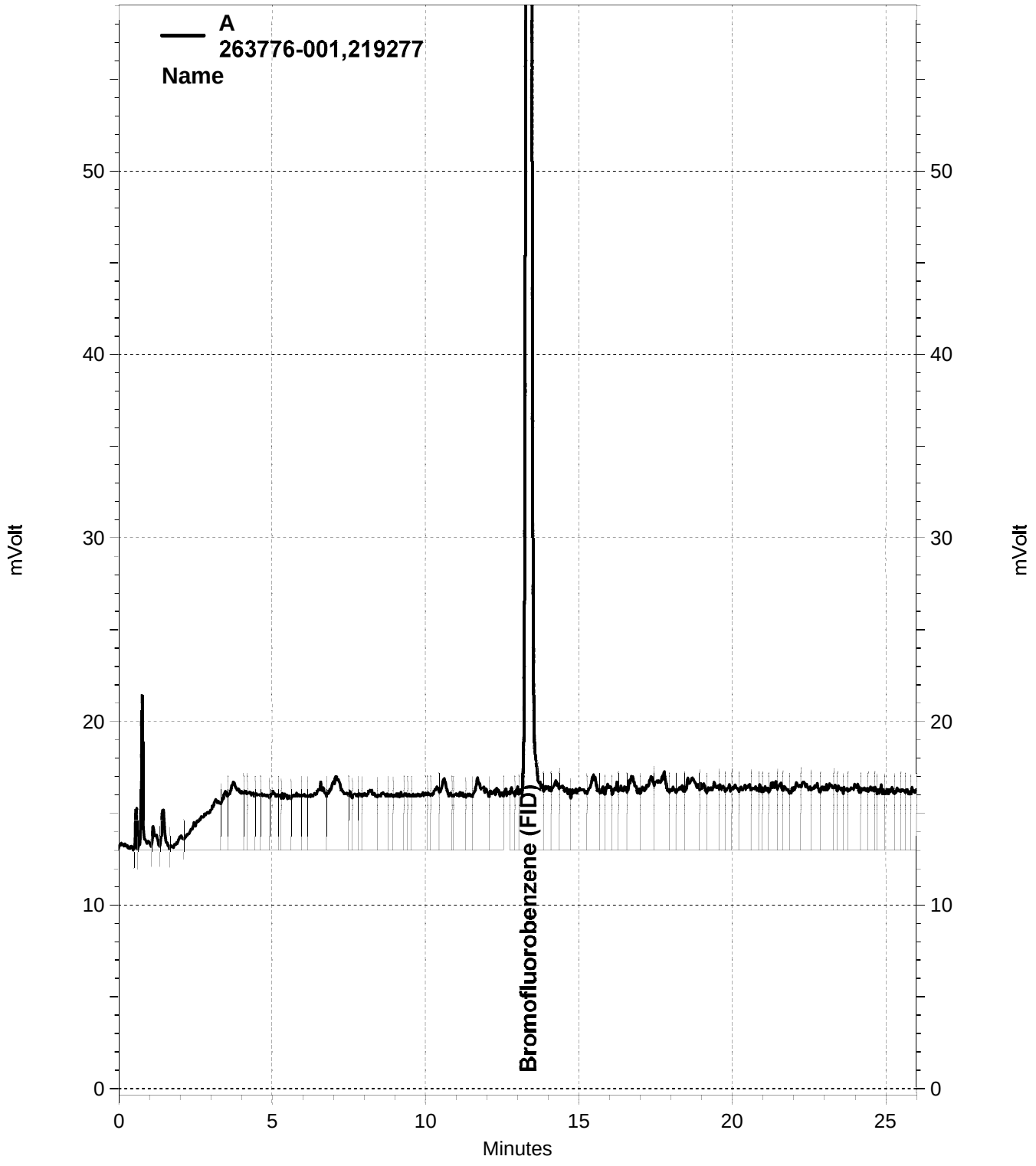
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

Type: MSD Lab ID: QC772768

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.31	8.344	81	42-120	3	44

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	67-137

RPD= Relative Percent Difference



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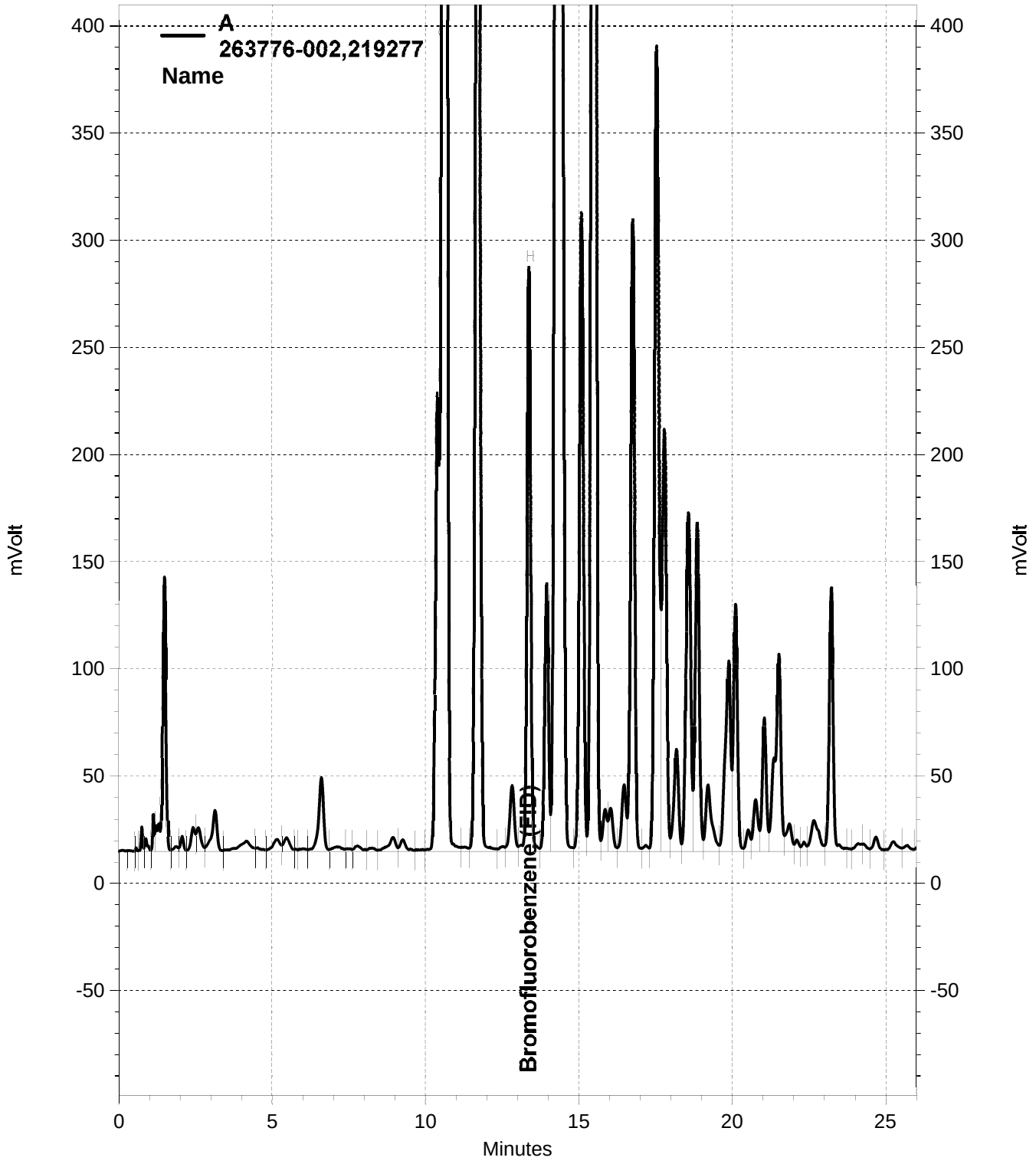

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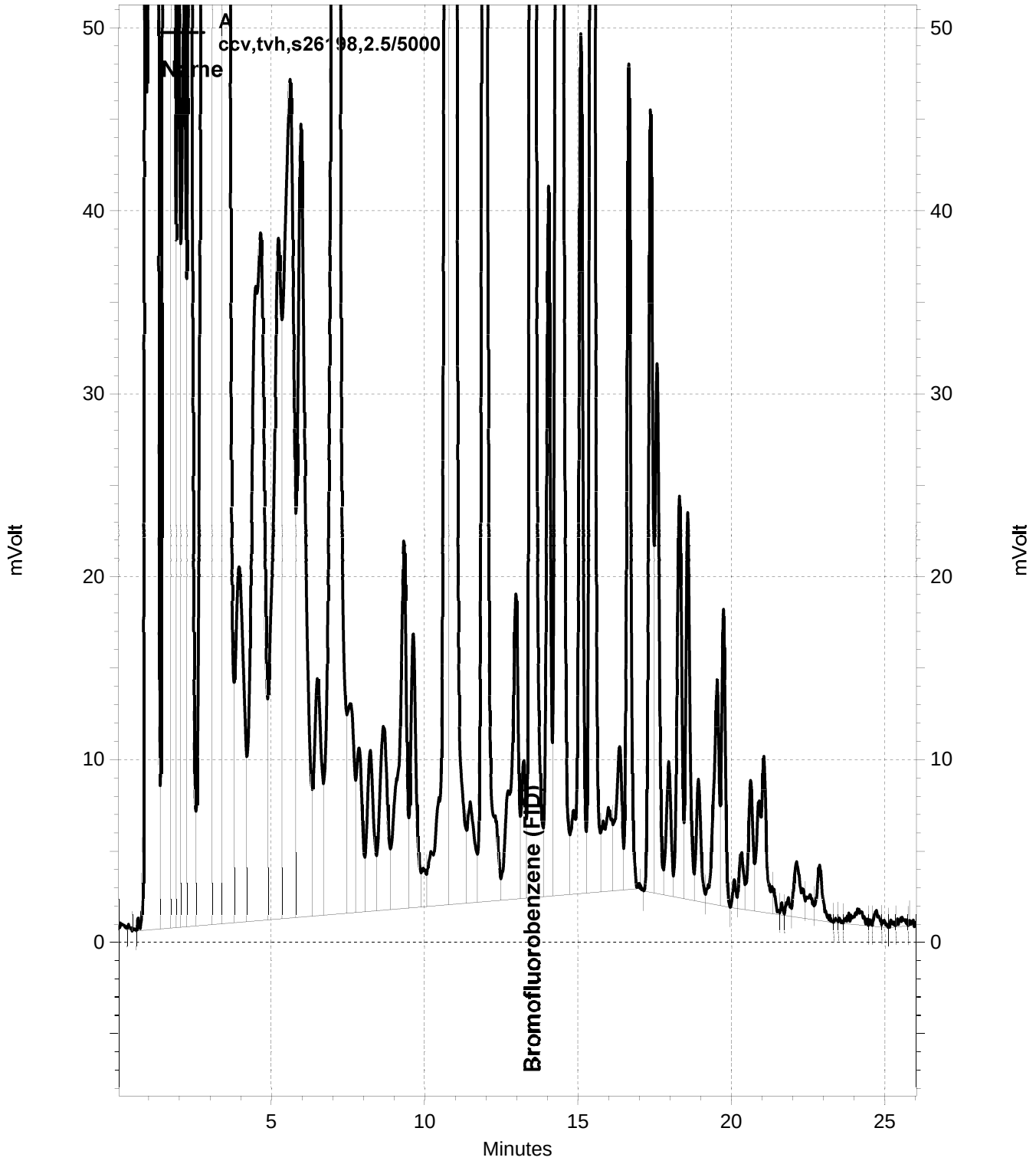

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Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-04-0.5-1.0	Diln Fac:	0.9225
Lab ID:	263776-001	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	78	76-128
1,2-Dichloroethane-d4	145 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-04-3.0-5.0	Diln Fac:	0.9506
Lab ID:	263776-002	Batch#:	219346
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	92	80-120
Bromofluorobenzene	71 *	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-05-0.5-1.0	Diln Fac:	0.9141
Lab ID:	263776-003	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	133	80-137
Toluene-d8	110	80-120
Bromofluorobenzene	94	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-05-3.0-5.0	Diln Fac:	0.9191
Lab ID:	263776-004	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	89	76-128
1,2-Dichloroethane-d4	145 *	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	95	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-06-0.5-1.0	Diln Fac:	0.9653
Lab ID:	263776-005	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	64 *	76-128
1,2-Dichloroethane-d4	153 *	80-137
Toluene-d8	114	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-06-3.0-5.0	Diln Fac:	0.9690
Lab ID:	263776-006	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-23-0.5-1.0	Diln Fac:	0.9488
Lab ID:	263776-007	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	76	76-128
1,2-Dichloroethane-d4	160 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-26-0.5-1.0	Diln Fac:	0.9843
Lab ID:	263776-008	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	79	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	116	80-120
Bromofluorobenzene	96	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-22-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-009	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	72 *	76-128
1,2-Dichloroethane-d4	161 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-19-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-010	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	164 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-11-0.5-1.0	Diln Fac:	0.9901
Lab ID:	263776-011	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	162 *	80-137
Toluene-d8	104	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-18-0.5-1.0	Diln Fac:	0.9862
Lab ID:	263776-012	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	166 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-14-0.5-1.0	Diln Fac:	0.9823
Lab ID:	263776-013	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	68 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-13-0.5-1.0	Diln Fac:	0.9524
Lab ID:	263776-014	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	70 *	76-128
1,2-Dichloroethane-d4	171 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	96	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-21-0.5-1.0	Diln Fac:	0.9671
Lab ID:	263776-015	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	69 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	116	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-17-0.5-1.0	Diln Fac:	0.9634
Lab ID:	263776-016	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	62 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	121 *	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-25-0.5-1.0	Diln Fac:	0.9124
Lab ID:	263776-017	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	63 *	76-128
1,2-Dichloroethane-d4	149 *	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-12-0.5-1.0	Diln Fac:	0.9009
Lab ID:	263776-018	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	76	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	103	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-20-0.5-1.5	Diln Fac:	0.9141
Lab ID:	263776-019	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	69 *	76-128
1,2-Dichloroethane-d4	168 *	80-137
Toluene-d8	118	80-120
Bromofluorobenzene	104	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-24-0.5-1.0	Diln Fac:	0.9398
Lab ID:	263776-020	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	175 *	80-137
Toluene-d8	118	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-0.5-1.0	Diln Fac:	0.9294
Lab ID:	263776-021	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	92	76-128
1,2-Dichloroethane-d4	179 *	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-3.5-6.0	Diln Fac:	0.9804
Lab ID:	263776-022	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-128
1,2-Dichloroethane-d4	193 *	80-137
Toluene-d8	126 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-08-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-023	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	113	76-128
1,2-Dichloroethane-d4	196 *	80-137
Toluene-d8	125 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-08-3.5-6.5	Diln Fac:	0.9259
Lab ID:	263776-024	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	76-128
1,2-Dichloroethane-d4	196 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-09-0.5-1.0	Diln Fac:	0.9560
Lab ID:	263776-025	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	83	76-128
1,2-Dichloroethane-d4	200 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	95	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-09-3.5-6.5	Diln Fac:	0.9452
Lab ID:	263776-026	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-128
1,2-Dichloroethane-d4	201 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-10-0.5-1.0	Diln Fac:	0.9208
Lab ID:	263776-027	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	76-128
1,2-Dichloroethane-d4	186 *	80-137
Toluene-d8	133 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-10-3.5-6.5	Diln Fac:	0.9259
Lab ID:	263776-028	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	200 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC772801	Batch#:	219287
Matrix:	Soil	Analyzed:	01/11/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	90	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	94	79-128

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772802	Batch#:	219287
Matrix:	Soil	Analyzed:	01/11/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	25.00	24.72	99	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	90	76-128
1,2-Dichloroethane-d4	133	80-137
Toluene-d8	103	80-120
Bromofluorobenzene	88	79-128

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-17-0.5-1.0	Diln Fac:	0.9709
MSS Lab ID:	263776-016	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Type: MS Lab ID: QC772803

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.8693	48.54	16.42	34 *	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	102	79-128

Type: MSD Lab ID: QC772804

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	48.54	21.21	44 *	51-125	25	46

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	165 *	80-137
Toluene-d8	121 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC772920	Batch#:	219313
Matrix:	Soil	Analyzed:	01/12/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-128
1,2-Dichloroethane-d4	163 *	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	105	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772921	Batch#:	219313
Matrix:	Soil	Analyzed:	01/12/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	20.74	104	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-128
1,2-Dichloroethane-d4	164 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	92	79-128

*= Value outside of QC limits; see narrative

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-0.5-1.0	Batch#:	219313
MSS Lab ID:	263776-021	Sampled:	01/08/15
Matrix:	Soil	Received:	01/08/15
Units:	ug/Kg	Analyzed:	01/13/15
Basis:	as received		

Type: MS Diln Fac: 0.9785
Lab ID: QC772922

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.8386	48.92	39.51	81	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	187 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	93	79-128

Type: MSD Diln Fac: 0.9766
Lab ID: QC772923

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	48.83	28.90	59	51-125	31	46

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	197 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	93	79-128

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC773051	Batch#:	219346
Matrix:	Soil	Analyzed:	01/13/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	25.00	24.07	96	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-128
1,2-Dichloroethane-d4	121	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	91	79-128

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC773052	Batch#:	219346
Matrix:	Soil	Analyzed:	01/13/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	76-128
1,2-Dichloroethane-d4	119	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	85	79-128

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	219346
MSS Lab ID:	263862-001	Sampled:	01/12/15
Matrix:	Soil	Received:	01/12/15
Units:	ug/Kg	Analyzed:	01/13/15
Basis:	as received		

Type: MS Diln Fac: 0.9709
Lab ID: QC773088

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.6906	48.54	43.37	89	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	129	80-137
Toluene-d8	93	80-120
Bromofluorobenzene	87	79-128

Type: MSD Diln Fac: 0.9653
Lab ID: QC773089

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	48.26	42.79	89	51-125	1	46

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-128
1,2-Dichloroethane-d4	126	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	88	79-128

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC773148	Batch#:	219370
Matrix:	Soil	Analyzed:	01/13/15
Units:	ug/Kg		

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	191 *	80-137
Toluene-d8	130 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC773149	Batch#:	219370
Matrix:	Soil	Analyzed:	01/13/15
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
Benzene	17.50	19.14	109	80-127

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-128
1,2-Dichloroethane-d4	185 *	80-137
Toluene-d8	115	80-120
Bromofluorobenzene	92	79-128

*= Value outside of QC limits; see narrative

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-10-0.5-1.0	Batch#:	219370
MSS Lab ID:	263776-027	Sampled:	01/08/15
Matrix:	Soil	Received:	01/08/15
Units:	ug/Kg	Analyzed:	01/13/15
Basis:	as received		

Type: MS Diln Fac: 0.9276
Lab ID: QC773150

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.8308	46.38	37.60	81	51-125

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	195 *	80-137
Toluene-d8	111	80-120
Bromofluorobenzene	92	79-128

Type: MSD Diln Fac: 0.9141
Lab ID: QC773151

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	45.70	36.49	80	51-125	2	46

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	187 *	80-137
Toluene-d8	115	80-120
Bromofluorobenzene	92	79-128

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-04-0.5-1.0	Batch#:	219555
Type:	SAMPLE	Prepared:	01/19/15
Lab ID:	263776-001	Analyzed:	01/19/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	39 *	60-140
Decachlorobiphenyl	24 *	36-133

Field ID:	ASB-04-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-002	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	110	60-140
Decachlorobiphenyl	82	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-05-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-003	Analyzed:	01/14/15
Diln Fac:	2.000		

Analyte	Result	RL
Aroclor-1016	ND	17
Aroclor-1221	ND	33
Aroclor-1232	ND	17
Aroclor-1242	ND	17
Aroclor-1248	ND	17
Aroclor-1254	ND	17
Aroclor-1260	ND	17

Surrogate	%REC	Limits
TCMX	69	60-140
Decachlorobiphenyl	50	36-133

Field ID:	ASB-05-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-004	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	95	60-140
Decachlorobiphenyl	113	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-06-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-005	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	23	12

Surrogate	%REC	Limits
TCMX	75	60-140
Decachlorobiphenyl	51	36-133

Field ID:	ASB-06-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-006	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	95	60-140
Decachlorobiphenyl	97	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-23-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-007	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	77	12

Surrogate	%REC	Limits
TCMX	86	60-140
Decachlorobiphenyl	70	36-133

Field ID:	ASB-26-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-008	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	12	12

Surrogate	%REC	Limits
TCMX	68	60-140
Decachlorobiphenyl	46	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-22-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-009	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND b	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	27	12

Surrogate	%REC	Limits
TCMX	63	60-140
Decachlorobiphenyl	44	36-133

Field ID:	ASB-19-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-010	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	71	60-140
Decachlorobiphenyl	46	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-11-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-011	Analyzed:	01/14/15
Diln Fac:	10.00		

Analyte	Result	RL
Aroclor-1016	ND	84
Aroclor-1221	ND	170
Aroclor-1232	ND	84
Aroclor-1242	ND	84
Aroclor-1248	ND	84
Aroclor-1254	ND	84
Aroclor-1260	3,700	84

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-18-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-012	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	23 *	60-140
Decachlorobiphenyl	19 *	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-14-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-013	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	18	12
Aroclor-1260	37	12

Surrogate	%REC	Limits
TCMX	67	60-140
Decachlorobiphenyl	45	36-133

Field ID:	ASB-13-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-014	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	45	12
Aroclor-1260	130	12

Surrogate	%REC	Limits
TCMX	32 *	60-140
Decachlorobiphenyl	25 *	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-21-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-015	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	130	12

Surrogate	%REC	Limits
TCMX	81	60-140
Decachlorobiphenyl	45	36-133

Field ID:	ASB-17-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-016	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	15	12
Aroclor-1260	16	12

Surrogate	%REC	Limits
TCMX	75	60-140
Decachlorobiphenyl	43	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-25-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-017	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	ND	9.7
Aroclor-1260	ND	9.7

Surrogate	%REC	Limits
TCMX	48 *	60-140
Decachlorobiphenyl	28 *	36-133

Field ID:	ASB-12-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-018	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	78	9.6
Aroclor-1260	230	9.6

Surrogate	%REC	Limits
TCMX	78	60-140
Decachlorobiphenyl	50	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-20-0.5-1.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-019	Analyzed:	01/15/15
Diln Fac:	2.000		

Analyte	Result	RL
Aroclor-1016	ND	13
Aroclor-1221	ND	27
Aroclor-1232	ND	13
Aroclor-1242	ND	13
Aroclor-1248	ND	13
Aroclor-1254	ND	13
Aroclor-1260	ND	13

Surrogate	%REC	Limits
TCMX	56 *	60-140
Decachlorobiphenyl	56	36-133

Field ID:	ASB-24-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-020	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	73	60-140
Decachlorobiphenyl	39	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-07-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-021	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	170	9.5
Aroclor-1260	430	9.5

Surrogate	%REC	Limits
TCMX	82	60-140
Decachlorobiphenyl	46	36-133

Field ID:	ASB-07-3.5-6.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-022	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	101	60-140
Decachlorobiphenyl	80	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-08-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-023	Analyzed:	01/16/15
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	130
Aroclor-1221	ND	260
Aroclor-1232	ND	130
Aroclor-1242	ND	130
Aroclor-1248	ND	130
Aroclor-1254	1,300	130
Aroclor-1260	4,000	130

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-08-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-024	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	107	60-140
Decachlorobiphenyl	95	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-09-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-025	Analyzed:	01/16/15
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	140
Aroclor-1221	ND	270
Aroclor-1232	ND	140
Aroclor-1242	350	140
Aroclor-1248	ND	140
Aroclor-1254	3,100	140
Aroclor-1260	8,100	140

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-09-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-026	Analyzed:	01/17/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	9.7	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	120	9.6
Aroclor-1260	300	9.6

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	104	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-10-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-027	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	43	9.6

Surrogate	%REC	Limits
TCMX	121	60-140
Decachlorobiphenyl	103	36-133

Field ID:	ASB-10-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-028	Analyzed:	01/17/15
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	140
Aroclor-1221	ND	270
Aroclor-1232	ND	140
Aroclor-1242	ND	140
Aroclor-1248	ND	140
Aroclor-1254	1,500	140
Aroclor-1260	4,900	140

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Type:	BLANK	Batch#:	219327
Lab ID:	QC772978	Prepared:	01/12/15
Diln Fac:	1.000	Analyzed:	01/13/15

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	66	36-133

Type:	BLANK	Batch#:	219379
Lab ID:	QC773179	Prepared:	01/13/15
Diln Fac:	1.000	Analyzed:	01/14/15

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	136	60-140
Decachlorobiphenyl	132	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Type:	BLANK	Batch#:	219555
Lab ID:	QC773865	Prepared:	01/19/15
Diln Fac:	1.000	Analyzed:	01/20/15

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	94	60-140
Decachlorobiphenyl	96	36-133

*= Value outside of QC limits; see narrative
b= See narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC772979	Batch#:	219327
Matrix:	Soil	Prepared:	01/12/15
Units:	ug/Kg	Analyzed:	01/15/15

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	169.1	152.6	90	58-144
Aroclor-1260	169.1	167.4	99	55-146

Surrogate	%REC	Limits
TCMX	85	60-140
Decachlorobiphenyl	87	36-133

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Field ID:	ASB-21-0.5-1.0	Batch#:	219327
MSS Lab ID:	263776-015	Sampled:	01/08/15
Matrix:	Soil	Received:	01/08/15
Units:	ug/Kg	Prepared:	01/12/15
Basis:	as received	Analyzed:	01/15/15
Diln Fac:	1.000		

Type: MS Lab ID: QC772980

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.980	169.3	100.6	59	51-155
Aroclor-1260	125.8	169.3	186.8	36 *	38-155

Surrogate	%REC	Limits
TCMX	51 *	60-140
Decachlorobiphenyl	41	36-133

Type: MSD Lab ID: QC772981

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	167.6	108.5	65	51-155	9	38
Aroclor-1260	167.6	162.3	22 *	38-155	13	55

Surrogate	%REC	Limits
TCMX	59 *	60-140
Decachlorobiphenyl	48	36-133

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC773180	Batch#:	219379
Matrix:	Soil	Prepared:	01/13/15
Units:	ug/Kg	Analyzed:	01/14/15

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	168.1	206.8	123	58-144
Aroclor-1260	168.1	212.8	127	55-146

Surrogate	%REC	Limits
TCMX	115	60-140
Decachlorobiphenyl	116	36-133

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Field ID:	ASB-20-0.5-1.5	Batch#:	219379
MSS Lab ID:	263776-019	Sampled:	01/08/15
Matrix:	Soil	Received:	01/08/15
Units:	ug/Kg	Prepared:	01/13/15
Basis:	as received	Analyzed:	01/15/15
Diln Fac:	2.000		

Type: MS Lab ID: QC773181

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<4.785	168.6	102.7	61	51-155
Aroclor-1260	<3.129	168.6	104.0	62	38-155

Surrogate	%REC	Limits
TCMX	42 *	60-140
Decachlorobiphenyl	40	36-133

Type: MSD Lab ID: QC773182

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	165.7	89.71	54	51-155	12	38
Aroclor-1260	165.7	100.1	60	38-155	2	55

Surrogate	%REC	Limits
TCMX	36 *	60-140
Decachlorobiphenyl	35 *	36-133

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC773866	Batch#:	219555
Matrix:	Soil	Prepared:	01/19/15
Units:	ug/Kg	Analyzed:	01/19/15

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	165.7	164.8	99	58-144
Aroclor-1260	165.7	173.2	105	55-146

Surrogate	%REC	Limits
TCMX	81	60-140
Decachlorobiphenyl	94	36-133

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	219555
MSS Lab ID:	263899-020	Sampled:	01/13/15
Matrix:	Soil	Received:	01/13/15
Units:	ug/Kg	Prepared:	01/19/15
Basis:	as received	Analyzed:	01/19/15
Diln Fac:	1.000		

Type: MS Lab ID: QC773867

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.344	165.7	148.3	89	51-155
Aroclor-1260	33.44	165.7	126.6	56	38-155

Surrogate	%REC	Limits
TCMX	71	60-140
Decachlorobiphenyl	53	36-133

Type: MSD Lab ID: QC773868

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.3	194.6	117	51-155	27	38
Aroclor-1260	166.3	179.7	88	38-155	34	55

Surrogate	%REC	Limits
TCMX	92	60-140
Decachlorobiphenyl	67	36-133

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Arsenic

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Prepared:	01/13/15

Field ID	Type	Lab ID	Result	RL	Batch#	Analyzed
ASB-04-0.5-1.0	SAMPLE	263776-001	4.5	0.27	219365	01/14/15
ASB-04-3.0-5.0	SAMPLE	263776-002	18	0.27	219365	01/14/15
ASB-05-0.5-1.0	SAMPLE	263776-003	2.1	0.24	219365	01/14/15
ASB-05-3.0-5.0	SAMPLE	263776-004	7.2	0.24	219365	01/14/15
ASB-06-0.5-1.0	SAMPLE	263776-005	2.7	0.23	219365	01/14/15
ASB-06-3.0-5.0	SAMPLE	263776-006	3.4	0.23	219365	01/14/15
ASB-23-0.5-1.0	SAMPLE	263776-007	2.9	0.25	219365	01/14/15
ASB-26-0.5-1.0	SAMPLE	263776-008	3.0	0.26	219365	01/14/15
ASB-22-0.5-1.0	SAMPLE	263776-009	4.3	0.26	219365	01/14/15
ASB-19-0.5-1.0	SAMPLE	263776-010	2.5	0.24	219365	01/14/15
ASB-11-0.5-1.0	SAMPLE	263776-011	2.3	0.23	219365	01/14/15
ASB-18-0.5-1.0	SAMPLE	263776-012	2.9	0.24	219365	01/14/15
ASB-14-0.5-1.0	SAMPLE	263776-013	2.6	0.27	219365	01/14/15
ASB-13-0.5-1.0	SAMPLE	263776-014	2.3	0.27	219365	01/14/15
ASB-21-0.5-1.0	SAMPLE	263776-015	4.2	0.23	219365	01/14/15
ASB-17-0.5-1.0	SAMPLE	263776-016	3.0	0.25	219365	01/14/15
ASB-25-0.5-1.0	SAMPLE	263776-017	2.2	0.24	219365	01/14/15
ASB-12-0.5-1.0	SAMPLE	263776-018	2.6	0.26	219365	01/14/15
ASB-20-0.5-1.5	SAMPLE	263776-019	2.2	0.25	219365	01/14/15
ASB-24-0.5-1.0	SAMPLE	263776-020	3.2	0.23	219365	01/14/15
ASB-07-0.5-1.0	SAMPLE	263776-021	4.3	0.26	219371	01/14/15
ASB-07-3.5-6.0	SAMPLE	263776-022	6.8	0.25	219371	01/13/15
ASB-08-0.5-1.0	SAMPLE	263776-023	4.0	0.26	219371	01/13/15
ASB-08-3.5-6.5	SAMPLE	263776-024	5.9	0.27	219371	01/13/15
ASB-09-0.5-1.0	SAMPLE	263776-025	4.2	0.26	219371	01/13/15
ASB-09-3.5-6.5	SAMPLE	263776-026	3.1	0.23	219371	01/13/15
ASB-10-0.5-1.0	SAMPLE	263776-027	5.0	0.24	219371	01/13/15
ASB-10-3.5-6.5	SAMPLE	263776-028	9.6	0.26	219371	01/13/15
	BLANK	QC773129	ND	0.25	219365	01/14/15
	BLANK	QC773152	ND	0.25	219371	01/13/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Prepared:	01/13/15

Field ID	Type	Lab ID	Result	RL	Batch#	Analyzed
ASB-04-0.5-1.0	SAMPLE	263776-001	10	0.27	219365	01/14/15
ASB-04-3.0-5.0	SAMPLE	263776-002	10	0.27	219365	01/14/15
ASB-05-0.5-1.0	SAMPLE	263776-003	6.2	0.24	219365	01/14/15
ASB-05-3.0-5.0	SAMPLE	263776-004	4.8	0.24	219365	01/14/15
ASB-06-0.5-1.0	SAMPLE	263776-005	6.0	0.23	219365	01/14/15
ASB-06-3.0-5.0	SAMPLE	263776-006	5.4	0.23	219365	01/14/15
ASB-23-0.5-1.0	SAMPLE	263776-007	9.6	0.25	219365	01/14/15
ASB-26-0.5-1.0	SAMPLE	263776-008	17	0.26	219365	01/14/15
ASB-22-0.5-1.0	SAMPLE	263776-009	8.8	0.26	219365	01/14/15
ASB-19-0.5-1.0	SAMPLE	263776-010	7.7	0.24	219365	01/14/15
ASB-11-0.5-1.0	SAMPLE	263776-011	11	0.23	219365	01/14/15
ASB-18-0.5-1.0	SAMPLE	263776-012	10	0.24	219365	01/14/15
ASB-14-0.5-1.0	SAMPLE	263776-013	7.1	0.27	219365	01/14/15
ASB-13-0.5-1.0	SAMPLE	263776-014	9.7	0.27	219365	01/14/15
ASB-21-0.5-1.0	SAMPLE	263776-015	15	0.23	219365	01/14/15
ASB-17-0.5-1.0	SAMPLE	263776-016	9.0	0.25	219365	01/14/15
ASB-25-0.5-1.0	SAMPLE	263776-017	7.4	0.24	219365	01/14/15
ASB-12-0.5-1.0	SAMPLE	263776-018	11	0.26	219365	01/14/15
ASB-20-0.5-1.5	SAMPLE	263776-019	7.6	0.25	219365	01/14/15
ASB-24-0.5-1.0	SAMPLE	263776-020	9.6	0.23	219365	01/14/15
ASB-07-0.5-1.0	SAMPLE	263776-021	10	0.26	219371	01/14/15
ASB-07-3.5-6.0	SAMPLE	263776-022	4.1	0.25	219371	01/13/15
ASB-08-0.5-1.0	SAMPLE	263776-023	11	0.26	219371	01/13/15
ASB-08-3.5-6.5	SAMPLE	263776-024	4.4	0.27	219371	01/13/15
ASB-09-0.5-1.0	SAMPLE	263776-025	9.1	0.26	219371	01/13/15
ASB-09-3.5-6.5	SAMPLE	263776-026	4.1	0.23	219371	01/13/15
ASB-10-0.5-1.0	SAMPLE	263776-027	4.1	0.24	219371	01/13/15
ASB-10-3.5-6.5	SAMPLE	263776-028	21	0.26	219371	01/13/15
	BLANK	QC773129	ND	0.25	219365	01/14/15
	BLANK	QC773152	ND	0.25	219371	01/13/15

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Arsenic

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	5.000
Matrix:	Soil	Received:	01/08/15
Units:	mg/Kg	Prepared:	01/13/15
Basis:	as received		

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled	Analyzed
	BS		QC773130		50.00	47.50	95	80-120			219365		01/14/15
	BSD		QC773131		50.00	47.74	95	80-120	1	20	219365		01/14/15
ASB-04-0.5-1.0	MS	263776-001	QC773132	4.468	48.08	35.53	65 *	72-120			219365	01/08/15	01/14/15
ASB-04-0.5-1.0	MSD	263776-001	QC773133		48.08	34.10	62 *	72-120	4	30	219365	01/08/15	01/14/15
	BS		QC773153		50.00	54.67	109	80-120			219371		01/13/15
	BSD		QC773154		50.00	55.98	112	80-120	2	20	219371		01/13/15
ZZZZZZZZZZ	MS	263755-001	QC773155	3.386	46.30	43.47	87	72-120			219371	01/06/15	01/13/15
ZZZZZZZZZZ	MSD	263755-001	QC773156		54.95	56.07	96	72-120	9	30	219371	01/06/15	01/13/15

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Batch QC Report

Lead

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	5.000
Matrix:	Soil	Received:	01/08/15
Units:	mg/Kg	Prepared:	01/13/15
Basis:	as received		

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled	Analyzed
	BS		QC773130		50.00	45.71	91	80-120			219365		01/14/15
	BSD		QC773131		50.00	46.21	92	80-120	1	20	219365		01/14/15
ASB-04-0.5-1.0	MS	263776-001	QC773132	10.04	48.08	41.80	66	52-122			219365	01/08/15	01/14/15
ASB-04-0.5-1.0	MSD	263776-001	QC773133		48.08	41.11	65	52-122	2	49	219365	01/08/15	01/14/15
	BS		QC773153		50.00	51.18	102	80-120			219371		01/13/15
	BSD		QC773154		50.00	52.57	105	80-120	3	20	219371		01/13/15
ZZZZZZZZZZ	MS	263755-001	QC773155	8.818	46.30	45.42	79	52-122			219371	01/06/15	01/13/15
ZZZZZZZZZZ	MSD	263755-001	QC773156		54.95	59.90	93	52-122	13	49	219371	01/06/15	01/13/15

RPD= Relative Percent Difference

ARCADIS

Appendix B

Analytical Data Validation Report

ARCADIS
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Imagine the result

ASPIRE PUBLIC SCHOOLS

Data Review

OAKLAND, CALIFORNIA

Volatile Organic Compounds (VOCs), Total Gasoline Range Petroleum Hydrocarbons (TPH-GRO), Polychlorinated Biphenyls (PCBs), and Metals Analyses

SDG #s: 263766 and 263776

Analyses Performed By:
Curtis and Tompkins
Berkeley, California

Report #: 22925R
Review Level: Tier II
Project: EM009155.0017.00001

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Groups (SDGs) # 263766 and 263776 for samples collected in association with the Aspire Public Schools site in Oakland, California. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data as reported by the laboratory were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Analysis			
					VOCs	GRO	PCBs	Metals
263766	ASB-16-0.5-1.0	263766-01	Soil	1/7/2015	X	X	X	X
	ASB-01-0.5-1.0	263766-02	Soil	1/7/2015	X	X	X	X
	ASB-01-3.5-4.0	263766-03	Soil	1/7/2015	X	X	X	X
	ASB-02-0.5-1.0	263766-04	Soil	1/7/2015	X	X	X	X
	ASB-02-4.0-5.0	263766-05	Soil	1/7/2015	X	X	X	X
	ASB-15-0.5-1.0	263766-06	Soil	1/7/2015	X	X	X	X
	ASB-03-0.5-1.0	263766-07	Soil	1/7/2015	X	X	X	X
	ASB-03-4.0-6.0	263766-08	Soil	1/7/2015	X	X	X	X
263776	ASB-04-0.5-1.0	263776-01	Soil	1/8/2015	X	X	X	X
	ASB-04-3.0-5.0	263776-02	Soil	1/8/2015	X	X	X	X
	ASB-05-0.5-1.0	263776-03	Soil	1/8/2015	X	X	X	X
	ASB-05-3.0-5.0	263776-04	Soil	1/8/2015	X	X	X	X
	ASB-06-0.5-1.0	263776-05	Soil	1/8/2015	X	X	X	X
	ASB-06-3.0-5.0	263776-06	Soil	1/8/2015	X	X	X	X
	ASB-23-0.5-1.0	263776-07	Soil	1/8/2015	X	X	X	X
	ASB-26-0.5-1.0	263776-08	Soil	1/8/2015	X	X	X	X
	ASB-22-0.5-1.0	263776-09	Soil	1/8/2015	X	X	X	X
	ASB-19-0.5-1.0	263776-10	Soil	1/8/2015	X	X	X	X
	ASB-11-0.5-1.0	263776-11	Soil	1/8/2015	X	X	X	X
	ASB-18-0.5-1.0	263776-12	Soil	1/8/2015	X	X	X	X
	ASB-14-0.5-1.0	263776-13	Soil	1/8/2015	X	X	X	X
	ASB-13-0.5-1.0	263776-14	Soil	1/8/2015	X	X	X	X
	ASB-21-0.5-1.0	263776-15	Soil	1/8/2015	X	X	X	X
	ASB-17-0.5-1.0	263776-16	Soil	1/8/2015	X	X	X	X
	ASB-25-0.5-1.0	263776-17	Soil	1/8/2015	X	X	X	X
	ASB-12-0.5-1.0	263776-18	Soil	1/8/2015	X	X	X	X
	ASB-20-0.5-1.5	263776-19	Soil	1/8/2015	X	X	X	X
	ASB-24-0.5-1.0	263776-20	Soil	1/8/2015	X	X	X	X
	ASB-07-0.5-1.0	263776-21	Soil	1/8/2015	X	X	X	X
	ASB-07-3.5-6.0	263776-22	Soil	1/8/2015	X	X	X	X
	ASB-08-0.5-1.0	263776-23	Soil	1/8/2015	X	X	X	X
	ASB-08-3.5-6.5	263776-24	Soil	1/8/2015	X	X	X	X
	ASB-09-0.5-1.0	263776-25	Soil	1/8/2015	X	X	X	X

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Analysis			
					VOCs	GRO	PCBs	Metals
263776	ASB-09-3.5-6.5	263776-26	Soil	1/8/2015	X	X	X	X
	ASB-10-0.5-1.0	263776-27	Soil	1/8/2015	X	X	X	X
	ASB-10-3.5-6.5	263776-28	Soil	1/8/2015	X	X	X	X

Note: Samples were reported on a wet-weight (as received) basis.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 8015B, 8260B, and 8082. Validation for the samples in this data set was performed following the procedures specified in *USEPA National Functional Guidelines for Organic Data Review of 1999.* Modifications to the procedures were necessary to accommodate method and reporting differences for samples analyzed using non-CLP methods (i.e. USEPA TO-15).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected as unusable. The compound may or may not be present in the sample.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and

provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260B	Water	14 days from collection to analysis	Cool to < 6 °C; pH < 2 with HCl
	Soil	48 hours from collection to extraction and 14 days from collection to analysis	Cool to < 6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e. laboratory method blanks and field blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field blanks also measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Target compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits are presented in the following table.

Sample Location	Surrogate	Recovery
ASB-02-0.5-1.0 ASB-05-0.5-1.0 ASB-18-0.5-1.0 ASB-14-0.5-1.0 ASB-17-0.5-1.0	Dibromofluoromethane	< LL but > 10%
	1,2-Dichloroethane-d4 Toluene-d8	> UL
	4-Bromofluorobenzene	AC
ASB-02-4.0-5.0 ASB-04-3.0-5.0	Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	AC
	4-Bromofluorobenzene	< LL but > 10%

Sample Location	Surrogate	Recovery
ASB-06-0.5-1.0 ASB-22-0.5-1.0 ASB-19-0.5-1.0 ASB-13-0.5-1.0 ASB-21-0.5-1.0 ASB-25-0.5-1.0 ASB-20-0.5-1.5 ASB-24-0.5-1.0	Dibromofluoromethane	< LL but > 10%
	1,2-Dichloroethane-d4	> UL
	Toluene-d8 4-Bromofluorobenzene	AC
ASB-16-0.5-1.0 ASB-01-0.5-1.0 ASB-01-3.5-4.0 ASB-03-4.0-6.0 ASB-04-0.5-1.0 ASB-05-3.0-5.0 ASB-06-3.0-5.0 ASB-23-0.5-1.0 ASB-26-0.5-1.0 ASB-11-0.5-1.0 ASB-12-0.5-1.0 ASB-07-0.5-1.0 ASB-08-3.5-6.5	1,2-Dichloroethane-d_4	> UL
	Dibromofluoromethane Toluene-d_8 4-Bromofluorobenzene	AC
ASB-15-0.5-1.0 ASB-03-0.5-1.0	Dibromofluoromethane	< LL but > 10%
	1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene	AC
ASB-07-3.5-6.0 ASB-08-0.5-1.0 ASB-09-0.5-1.0 ASB-09-3.5-6.5 ASB-10-0.5-1.0 ASB-10-3.5-6.5	Dibromofluoromethane 4-Bromofluorobenzene	AC
	1,2-Dichloroethane-d4 Toluene-d8	> UL

UL Upper control limit
LL Lower control limit
AC Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL (Upper Control Limit)	Non-detect	No Action
	Detect	J
< LL (Lower Control Limit) but > 10%	Non-detect	UJ
	Detect	J

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The spiked compounds used in the MS/MSD analysis must exhibit recoveries within the laboratory-established

acceptance limits. The relative percent difference (RPD) between the MS and MSD results must be within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSDs performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

Sample locations ASB-17-0.5-1.0, ASB-07-0.5-1.0, and ASB-10-0.5-1.0 were used in the MS/MSD analyses. Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Location	Compound	MS Recovery	MSD Recovery
ASB-17-0.5-1.0	Benzene	< LL but > 10%	< LL but > 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of MS/MSD deviations, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > 4x the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The spiked compounds used in the LCS analysis must exhibit recoveries within the laboratory-established acceptance limits.

All compounds associated with the LCS analyses exhibited recoveries within the control limits.

6. Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to five times the reporting limit (RL), a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate samples were not collected as part of this dataset.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks					X
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X		X	
Field Duplicate Sample RPD					X
Surrogate Spike %R		X	X		
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference

TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE (TPH-G) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
TPH-g SW-846 8015B	Soil	14 days from collection to analysis	Cool to < 6 °C
	Water	14 days from collection to analysis	Cool to < 6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e. laboratory method blanks and equipment rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected analyte in an associated blank is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Target analytes were not detected above the MDL in the associated blanks; therefore detected sample results are not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. The analysis requires surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within the control limits.

4. Matrix Spike/Matrix Spike Duplicate Sample (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The spiked analytes used in the MS/MSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS and MSD results must be within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSDs performed on sample locations where the analyte concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

Sample locations ASB-04-0.5-1.0 and ASB-07-0.5-1.0 were used in the MS/MSD analysis. All analytes associated with the MS/MSD analyses exhibited recoveries and RPDs within the control limits.

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The spiked analytes used in the LCS/LCSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The relative percent difference (RPD) between the LCS and LCSD results must be within the laboratory-established acceptance limits.

All analytes associated with the LCS and LCS/LCSD analyses exhibited recoveries and RPDs within the control limits.

6. Field Duplicate Sample Analysis

The field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 25% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent or duplicate sample concentrations are less than or equal to five times the reporting limit (RL), a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate samples were not collected as part of this dataset.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Note: The laboratory assigned the qualifier "Y" to the results for locations ASB-02-4.0-5.0 and ASB-03-4.0-6.0 to indicate that the chromatographic patterns exhibited by the samples were inconsistent with the profile of the referenced fuel standard; the TPHg/GRO results for these samples are indicative of organic compounds eluting within the gasoline range.

DATA VALIDATION CHECKLIST FOR TPH-G/GRO

TPH-g/GRO: SW-846 8015B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding Times		X		X	
Reporting Limits (Units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment Blanks					X
C. Trip Blanks					X
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD RPD		X		X	
Laboratory Duplicate Sample RPD					X
Field Duplicate Sample RPD					X
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R - Percent Recovery
RPD - Relative Percent Difference

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8082	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to < 6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to < 6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e. laboratory method blanks and equipment rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Target analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that one of the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Surrogate	Recovery
ASB-04-0.5-1.0 ASB-18-0.5-1.0 ASB-13-0.5-1.0 ASB-25-0.5-1.0	Tetrachloro-m-xylene Decachlorobiphenyl	< LL but > 10%
ASB-11-0.5-1.0 ASB-08-0.5-1.0 ASB-09-0.5-1.0 ASB-10-3.5-6.5	Tetrachloro-m-xylene Decachlorobiphenyl	D

LL Lower control limit
D Diluted below calibration range

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
One surrogate exhibiting recovery outside the control limits but > 10%	Non-detect	No Action
	Detect	
Surrogates diluted below the calibration curve	Non-detect	J[1]
	Detect	

[1] A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS and MSD must be within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

Sample locations ASB-01-0.5-1.0, ASB-21-0.5-1.0, and ASB-20-0.5-1.5 were used in the MS/MSD analyses. Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Location	Analyte	MS Recovery	MSD Recovery
ASB-01-0.5-1.0	Aroclor-1260	> UL	> UL
ASB-21-0.5-1.0	Aroclor-1260	< LL but > 10%	< LL but > 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of MS/MSD deviations, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J

Control Limit	Sample Result	Qualification
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > 4x the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSDs exhibiting RPDs greater than of the control limit are presented in the following table.

Sample Location	Compound
ASB-01-0.5-1.0	Aroclor-1260

The criteria used to evaluate the RPD between the MS and MSD are presented in the following table. In the case of RPD deviations, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The spiked analytes used in the LCS analysis must exhibit recoveries within the laboratory-established acceptance limits.

All analytes associated with the LCS analyses exhibited recoveries within the control limits.

6. Field Duplicate Sample Analysis

Field duplicate analysis is used to assess the precision of the field sampling procedures and analytical method. For water matrices, a control limit of 40% is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to five times the reporting limit (RL), the concentrations must differ by less than two times the RL. For non-detect results, the RL is used in the calculations.

Field duplicate samples were not collected as part of this dataset.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR PCBs

PCBs: SW-846 8082	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
Laboratory Control Sample (LCS) Accuracy %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD RPD		X	X		
Field Duplicate Sample RPD					X
Surrogate Spike %R		X	X		
Column (%D) (If dual column is performed-not confirmation purposes only)					X
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 6010B. Data were reviewed in accordance with the method specified criteria and USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The reported value is estimated due to the presence of interference.

  N Spiked sample recovery is not within the control limits.

  * Duplicate analysis is not within the control limits.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cool to < 6 °C; pH < 2 with HNO_3
	Soil	180 days from collection to analysis	Cool to < 6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e. laboratory method blanks and equipment rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks also measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected analyte in an associated blank (common laboratory contaminant analytes are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Target analytes were not detected above the MDL in the associated blanks; therefore detected sample results are not associated with blank contamination.

3. Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Duplicate Sample Analysis

MS/MSD and laboratory duplicate sample data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. All metal analytes must exhibit recoveries within the established acceptance limits of 75% to 125%, and the relative percent difference (RPD) between the MS and MSD results must be no greater than the established acceptance limit of 20%.

Note: The MS/MSD control limits do not apply for MS/MSDs performed on sample locations where the analyte concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. Sample results associated with MS/MSD QC exceedances where the parent samples are not site-specific are not qualified.

Sample location ASB-04-0.5-1.0 was used in the MS/MSD analysis. All analytes associated with MS/MSD recoveries were within the control limits with the exception of the following analyte(s) presented in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
ASB-04-0.5-1.0	Arsenic	65 %	62 %
	Lead	66 %	65 %

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of MS/MSD deviations, the sample results are qualified. The qualifications are applied to all sample results associated with the analytical batch.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery < 30%	Non-detect	R
	Detect	J
MS/MSD percent recovery > 125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Sample Analysis

The laboratory duplicate sample relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to five times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to five times the RL, a control limit of one times the RL is applied for water matrices and two times the RL for soil matrices.

MS/MSD analysis was performed in lieu of the laboratory duplicate sample analysis. The MS/MSD analyses exhibited acceptable RPDs.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit recoveries between the control limits of 80% and 120%. The relative percent difference (RPD) between the LCS and LCSD results must be no greater than the established acceptance limit of 20%.

All analytes associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5. Field Duplicate Sample Analysis

Field duplicate analysis is used to assess the precision of the field sampling procedures and analytical method. For water matrices, a control limit of 40% is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to five times the reporting limit (RL), the concentrations must differ by less than two times the RL. For non-detect results, the RL is used in the calculations.

Field duplicate samples were not collected as part of this dataset.

6. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution analysis was not performed on a sample location within these SDGs.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METALS

METALS: SW-846 6010B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma – Atomic Emission Spectrometry (ICP)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment/Field Blanks					X
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) Accuracy (%R)		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Laboratory Duplicate Sample RPD	X				X
Field Duplicate Sample RPD					X
ICP Serial Dilution	X				X
Dilution Factor		X		X	
Moisture Content					X

%R – Percent recovery
RPD – Relative percent difference

Validation Performed By: Dennis Dyke

Signature: 

Date: January 23, 2015

CHAIN OF CUSTODY /
CORRECTED SAMPLE ANALYSIS DATA SHEETS

#2637606

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #

Send Results to:

Contact & Company Name: Angeline Tan, ARCADIS-US
Telephone: (925) 286-6087
Address: 2999 Oak Rd, #300
Fax:
City: Walnut Creek State: CA Zip: 94597
E-mail Address: Angeline.Tan@arcadis-us.com

Project Name/Location (City, State): 1009 66th Ave. Oakland
Project #: EMC09155.0017
Sampler's Printed Name: Connor Williams
Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: TPHg by USEPA 8015M	Benzene USEPA 8260	Arsenic and Lead USEPA 6010B	PCBs USEPA 8082
1 ASB-16-0.5-1.0	1/7/15	14:00		✓	Soil	N/A				X	X	X	X
2 ASB-01-0.5-1.0		13:50											
3 ASB 01-3.5-4.0		14:00											
4 ASB-02-0.5-1.0		14:15											
5 ASB-02-4.0 5.0		~~14:45~~	15:20										
6 ASB-15-0.5-1.0		14:45											
7 ASB 03 0.5-1.0		15:45											
8 ASB-03-4.0 6.0		15:45											

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

REMARKS

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:
☐ Cooler packed with ice (✓)
Specify Turnaround Requirements:
Shipping Tracking #:
Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact
Sample Receipt:
Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Connor Williams	Printed Name: Ricky Orgus	Printed Name: Ricky Orgus	Printed Name: Mikelle Chong
Signature:	Signature:	Signature:	Signature:
Firm: AMS	Firm/Courier: CT	Firm/Courier: CT	Firm: CT
Date/Time: 1/7/15 16:20	Date/Time: 1/7/15 1620	Date/Time: 1/7/15 1700	Date/Time: 1/7/15 1700

intact on ice cold RL

20730826 CofC AR Form 01.12.2007

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received		

Field ID:	ASB-16-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-001	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID:	ASB-01-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-002	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	67-137

Field ID:	ASB-01-3.5-4.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-003	Analyzed:	01/09/15

Analyte	Result	RL
Gasoline C7-C12	8.2	0.93

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	67-137

Field ID:	ASB-02-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-004	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	67-137

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received		

Field ID:	ASB-02-4.0-5.0	Diln Fac:	40.00
Type:	SAMPLE	Batch#:	219293
Lab ID:	263766-005	Analyzed:	01/12/15

Analyte	Result	RL
Gasoline C7-C12	44 Y	8.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	67-137

Field ID:	ASB-15-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-006	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	67-137

Field ID:	ASB-03-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-007	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	67-137

Field ID:	ASB-03-4.0-6.0	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	219267
Lab ID:	263766-008	Analyzed:	01/10/15

Analyte	Result	RL
Gasoline C7-C12	2.3 Y	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	67-137

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-16-0.5-1.0	Diln Fac:	0.9524
Lab ID:	263766-001	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-128
1,2-Dichloroethane-d4	182 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	97	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-01-0.5-1.0	Diln Fac:	0.9242
Lab ID:	263766-002	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	97	76-128
1,2-Dichloroethane-d4	178 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-01-3.5-4.0	Diln Fac:	0.8651
Lab ID:	263766-003	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	179 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	85	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-02-0.5-1.0	Diln Fac:	0.9328
Lab ID:	263766-004	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND UJ	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	75 *	76-128
1,2-Dichloroethane-d4	171 *	80-137
Toluene-d8	121 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-02-4.0-5.0	Diln Fac:	0.9747
Lab ID:	263766-005	Batch#:	219399
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/14/15

Analyte	Result	RL
Benzene	ND UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	97	76-128
1,2-Dichloroethane-d4	114	80-137
Toluene-d8	87	80-120
Bromofluorobenzene	73 *	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-15-0.5-1.0	Diln Fac:	0.9634
Lab ID:	263766-006	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	71 *	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	107	80-120
Bromofluorobenzene	93	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-03-0.5-1.0	Diln Fac:	0.9728
Lab ID:	263766-007	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	97	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-03-4.0-6.0	Diln Fac:	0.9506
Lab ID:	263766-008	Batch#:	219313
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-128
1,2-Dichloroethane-d4	161 *	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	91	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID:	ASB-16-0.5-1.0	Diln Fac:	5.000
Type:	SAMPLE	Analyzed:	01/14/15
Lab ID:	263766-001		

Analyte	Result	RL
Aroclor-1016	ND	34
Aroclor-1221	ND	67
Aroclor-1232	ND	34
Aroclor-1242	ND	34
Aroclor-1248	ND	34
Aroclor-1254	ND	34
Aroclor-1260	1,100	34

Surrogate	%REC	Limits
TCMX	116	60-140
Decachlorobiphenyl	121	36-133

Field ID:	ASB-01-0.5-1.0	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	01/13/15
Lab ID:	263766-002		

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	130 J	9.7
Aroclor-1260	470 J	9.7

Surrogate	%REC	Limits
TCMX	87	60-140
Decachlorobiphenyl	62	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID: ASB-01-3.5-4.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/12/15
Lab ID: 263766-003

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	64	9.5

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	73	36-133

Field ID: ASB-02-0.5-1.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/12/15
Lab ID: 263766-004

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	ND	9.7
Aroclor-1260	84	9.7

Surrogate	%REC	Limits
TCMX	79	60-140
Decachlorobiphenyl	39	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID: ASB-02-4.0-5.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-005

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	110	60-140
Decachlorobiphenyl	69	36-133

Field ID: ASB-15-0.5-1.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-006

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	110	9.7
Aroclor-1260	400	9.7

Surrogate	%REC	Limits
TCMX	103	60-140
Decachlorobiphenyl	36	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/07/15
Units:	ug/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/09/15
Batch#:	219269		

Field ID: ASB-03-0.5-1.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-007

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	83	60-140
Decachlorobiphenyl	33 *	36-133

Field ID: ASB-03-4.0-6.0 Diln Fac: 1.000
Type: SAMPLE Analyzed: 01/13/15
Lab ID: 263766-008

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	116	60-140
Decachlorobiphenyl	54	36-133

Type: BLANK Diln Fac: 1.000
Lab ID: QC772724 Analyzed: 01/12/15

Analyte	Result	RL
Aroclor-1016	ND	9.7
Aroclor-1221	ND	19
Aroclor-1232	ND	9.7
Aroclor-1242	ND	9.7
Aroclor-1248	ND	9.7
Aroclor-1254	ND	9.7
Aroclor-1260	ND	9.7

Surrogate	%REC	Limits
TCMX	103	60-140
Decachlorobiphenyl	91	36-133

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Arsenic

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	219318
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/12/15
Diln Fac:	1.000	Analyzed:	01/12/15

Field ID	Type	Lab ID	Result	RL
ASB-16-0.5-1.0	SAMPLE	263766-001	12	0.25
ASB-01-0.5-1.0	SAMPLE	263766-002	5.0	0.24
ASB-01-3.5-4.0	SAMPLE	263766-003	7.0	0.24
ASB-02-0.5-1.0	SAMPLE	263766-004	3.5	0.27
ASB-02-4.0-5.0	SAMPLE	263766-005	2.9	0.25
ASB-15-0.5-1.0	SAMPLE	263766-006	2.0	0.25
ASB-03-0.5-1.0	SAMPLE	263766-007	3.7	0.26
ASB-03-4.0-6.0	SAMPLE	263766-008	5.5	0.27
	BLANK	QC772940	ND	0.25

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	263766	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	219318
Matrix:	Soil	Sampled:	01/07/15
Units:	mg/Kg	Received:	01/07/15
Basis:	as received	Prepared:	01/12/15
Diln Fac:	1.000	Analyzed:	01/12/15

Field ID	Type	Lab ID	Result	RL
ASB-16-0.5-1.0	SAMPLE	263766-001	9.8	0.25
ASB-01-0.5-1.0	SAMPLE	263766-002	9.2	0.24
ASB-01-3.5-4.0	SAMPLE	263766-003	3.6	0.24
ASB-02-0.5-1.0	SAMPLE	263766-004	11	0.27
ASB-02-4.0-5.0	SAMPLE	263766-005	4.2	0.25
ASB-15-0.5-1.0	SAMPLE	263766-006	8.3	0.25
ASB-03-0.5-1.0	SAMPLE	263766-007	10	0.26
ASB-03-4.0-6.0	SAMPLE	263766-008	4.2	0.27
	BLANK	QC772940	ND	0.25

ND= Not Detected
RL= Reporting Limit

263776

ARCADIS
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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 2

Lab Work Order #

Send Results to:

Contact & Company Name: Angeline Tan, AMS	Telephone: (925) 286-6087
Address: 2999 Oak Rd, #300	Fax:
City: Walnut Creek, State: CA, Zip: 94597	E-mail Address: angeline.tan@arcadis-us.com
Project Name/Location (City, State): 1099 66th Ave, Oakland	Project #: EMO09115.0017
Sampler's Printed Name: Connor Williams	Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix
1 ASB-04-0.5-1.0	1/8/15	07:30		X	Soil
2 ASB-04-3.0-5.0		07:50			
3 ASB-05-0.5-1.0		08:00			
4 ASB-05-3.0-5.0		08:30			
5 ASB-06-0.5-1.0		0807			
6 ASB-06-3.0-5.0		0845			
7 ASB-23-0.5-1.0		0855			
8 ASB-26-0.5-1.0		09:15			
9 ASB-22-0.5-1.0		0925			
10 ASB-19-0.5-1.0		09:40			
11 ASB-11-0.5-1.0		10:20			
12 ASB-18-0.5-1.0		11:05			
13 ASB-14-0.5-1.0		11:25			
14 ASB-13-0.5-1.0		11:45			

Preservative	none	none	none	none	none	none	none
Filtered (✓)							
# of Containers	2	2	2	2	2	2	2
Container Information							

PARAMETER ANALYSIS & METHOD

TPH-g by USEPA 8015 modified
Benzene by USEPA 8260
Arsenic, Lead by USEPA 6010B
PCBs by USEPA 8082

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

REMARKS

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Connor Williams	Printed Name: Ricky Crang	Printed Name: Ricky Crang	Printed Name: TOR LICUEZ
Signature:	Signature:	Signature:	Signature:
Firm: AMS	Firm/Courier: CPT	Firm/Courier: CPT	Firm: C&T
Date/Time: 1/8/15 16:08	Date/Time: 1/8/15 1607	Date/Time: 1/8/15 1710	Date/Time: 1/8/15 1710

staff on ice cold AL

20730826 CofC AR Form 01.12.2007

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

263776

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of 2

Lab Work Order #

Send Results to:

Contact & Company Name: Angeline Tan, AHS	Telephone: (925) 286-6087
Address: 2997 Oak Rd, #300	Fax:
City: Walnut Creek State: CA Zip: 94597	E-mail Address: angeline.tan@arcadis-us.com
Project Name/Location (City, State): 1009 66th Ave, Oakland	Project #: EM009155 0017
Sampler's Printed Name: Connor Williams	Sampler's Signature:

	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	TPHd - Soil modified	Benzene 8260	Arsenic + Lead 6010B	PCBs 8082	REMARKS
Sample ID						NA		2						
15 ASB-21-0.5-1.0	1/8/15	12:10		X	Soil									
16 ASB-17-0.5-1.0		12:25												
17 ASB-25-0.5-1.0		12:45												
18 ASB-12-0.5-1.0		12:50												
19 ASB-20-0.5-1.5		13:15												
20 ASB-24-0.5-1.0		13:25												
21 ASB-07-0.5-1.0		14:00												
22 ASB-07-3.5-6.0		14:40												
23 ASB-08-0.5-1.0		14:20												
24 ASB-08-3.5-6.5		14:05												
25 ASB-09-0.5-1.0		14:45												
26 ASB-09-3.5-6.5		14:30												
27 ASB-10-0.5-1.0		15:00												
28 ASB-10-3.5-6.5		15:15												

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
SE - Sediment
NL - NAPL/Oil
W - Water
SL - Sludge
SW - Sample Wipe
T - Tissue
A - Air
Other: _____

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Connor Williams	Printed Name: Ricky Cruz	Printed Name: Ricky Cruz	Printed Name:
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: AHS	Firm/Courier: FedEx	Firm/Courier: FedEx	Firm:
Shipping Tracking #:	Condition/Cooler Temp: _____	Date/Time: 1/8/15/16 09	Date/Time: 1/8/15 1607	Date/Time: 1/8/15 1710	Date/Time: 1/8/15 1710

intact on ice cold RL

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-04-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-001

Analyte	Result	RL
Gasoline C7-C12	1.1	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

Field ID: ASB-04-3.0-5.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-002

Analyte	Result	RL
Gasoline C7-C12	26	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	67-137

Field ID: ASB-05-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-003

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	67-137

Field ID: ASB-05-3.0-5.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-004

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-06-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-005

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-06-3.0-5.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-006

Analyte	Result	RL
Gasoline C7-C12	ND	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

Field ID: ASB-23-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-007

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

Field ID: ASB-26-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-008

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-22-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-009

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	67-137

Field ID: ASB-19-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-010

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	67-137

Field ID: ASB-11-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-011

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

Field ID: ASB-18-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-012

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	83	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-14-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-013

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-13-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-014

Analyte	Result	RL
Gasoline C7-C12	ND	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	67-137

Field ID: ASB-21-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-015

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	67-137

Field ID: ASB-17-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-016

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-25-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-017

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	83	67-137

Field ID: ASB-12-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-018

Analyte	Result	RL
Gasoline C7-C12	ND	0.95

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-20-0.5-1.5 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-019

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	67-137

Field ID: ASB-24-0.5-1.0 Batch#: 219277
Type: SAMPLE Analyzed: 01/11/15
Lab ID: 263776-020

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-07-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-021

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID: ASB-07-3.5-6.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-022

Analyte	Result	RL
Gasoline C7-C12	ND	0.92

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID: ASB-08-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-023

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Field ID: ASB-08-3.5-6.5 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-024

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	01/08/15
Basis:	as received	Received:	01/08/15

Field ID: ASB-09-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-025

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	67-137

Field ID: ASB-09-3.5-6.5 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-026

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	67-137

Field ID: ASB-10-0.5-1.0 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-027

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	67-137

Field ID: ASB-10-3.5-6.5 Batch#: 219278
Type: SAMPLE Analyzed: 01/10/15
Lab ID: 263776-028

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	67-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-04-0.5-1.0	Diln Fac:	0.9225
Lab ID:	263776-001	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	78	76-128
1,2-Dichloroethane-d4	145 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-04-3.0-5.0	Diln Fac:	0.9506
Lab ID:	263776-002	Batch#:	219346
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-128
1,2-Dichloroethane-d4	130	80-137
Toluene-d8	92	80-120
Bromofluorobenzene	71 *	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-05-0.5-1.0	Diln Fac:	0.9141
Lab ID:	263776-003	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND UJ	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	133	80-137
Toluene-d8	110	80-120
Bromofluorobenzene	94	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-05-3.0-5.0	Diln Fac:	0.9191
Lab ID:	263776-004	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	89	76-128
1,2-Dichloroethane-d4	145 *	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	95	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-06-0.5-1.0	Diln Fac:	0.9653
Lab ID:	263776-005	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	64 *	76-128
1,2-Dichloroethane-d4	153 *	80-137
Toluene-d8	114	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-06-3.0-5.0	Diln Fac:	0.9690
Lab ID:	263776-006	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-23-0.5-1.0	Diln Fac:	0.9488
Lab ID:	263776-007	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	76	76-128
1,2-Dichloroethane-d4	160 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-26-0.5-1.0	Diln Fac:	0.9843
Lab ID:	263776-008	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	79	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	116	80-120
Bromofluorobenzene	96	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-22-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-009	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	72 *	76-128
1,2-Dichloroethane-d4	161 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-19-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-010	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	164 *	80-137
Toluene-d8	109	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-11-0.5-1.0	Diln Fac:	0.9901
Lab ID:	263776-011	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result	RL
Benzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	162 *	80-137
Toluene-d8	104	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-18-0.5-1.0	Diln Fac:	0.9862
Lab ID:	263776-012	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	66 *	76-128
1,2-Dichloroethane-d4	166 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-14-0.5-1.0	Diln Fac:	0.9823
Lab ID:	263776-013	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	68 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-13-0.5-1.0	Diln Fac:	0.9524
Lab ID:	263776-014	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	70 *	76-128
1,2-Dichloroethane-d4	171 *	80-137
Toluene-d8	119	80-120
Bromofluorobenzene	96	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-21-0.5-1.0	Diln Fac:	0.9671
Lab ID:	263776-015	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	69 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	116	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-17-0.5-1.0	Diln Fac:	0.9634
Lab ID:	263776-016	Batch#:	219287
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/11/15

Analyte	Result		RL
Benzene	ND	UJ	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	62 *	76-128
1,2-Dichloroethane-d4	169 *	80-137
Toluene-d8	121 *	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-25-0.5-1.0	Diln Fac:	0.9124
Lab ID:	263776-017	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result		RL
Benzene	ND	UJ	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	63 *	76-128
1,2-Dichloroethane-d4	149 *	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	101	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-12-0.5-1.0	Diln Fac:	0.9009
Lab ID:	263776-018	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	76	76-128
1,2-Dichloroethane-d4	159 *	80-137
Toluene-d8	117	80-120
Bromofluorobenzene	103	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-20-0.5-1.5	Diln Fac:	0.9141
Lab ID:	263776-019	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result		RL
Benzene	ND	UJ	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	69 *	76-128
1,2-Dichloroethane-d4	168 *	80-137
Toluene-d8	118	80-120
Bromofluorobenzene	104	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-24-0.5-1.0	Diln Fac:	0.9398
Lab ID:	263776-020	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND UJ	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	67 *	76-128
1,2-Dichloroethane-d4	175 *	80-137
Toluene-d8	118	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-0.5-1.0	Diln Fac:	0.9294
Lab ID:	263776-021	Batch#:	219313
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/12/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	92	76-128
1,2-Dichloroethane-d4	179 *	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-07-3.5-6.0	Diln Fac:	0.9804
Lab ID:	263776-022	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-128
1,2-Dichloroethane-d4	193 *	80-137
Toluene-d8	126 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-08-0.5-1.0	Diln Fac:	0.9881
Lab ID:	263776-023	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	113	76-128
1,2-Dichloroethane-d4	196 *	80-137
Toluene-d8	125 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-08-3.5-6.5	Diln Fac:	0.9259
Lab ID:	263776-024	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	76-128
1,2-Dichloroethane-d4	196 *	80-137
Toluene-d8	120	80-120
Bromofluorobenzene	99	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-09-0.5-1.0	Diln Fac:	0.9560
Lab ID:	263776-025	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	83	76-128
1,2-Dichloroethane-d4	200 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	95	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-09-3.5-6.5	Diln Fac:	0.9452
Lab ID:	263776-026	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-128
1,2-Dichloroethane-d4	201 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	100	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-10-0.5-1.0	Diln Fac:	0.9208
Lab ID:	263776-027	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	76-128
1,2-Dichloroethane-d4	186 *	80-137
Toluene-d8	133 *	80-120
Bromofluorobenzene	102	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	EM009155-0017	Analysis:	EPA 8260B
Field ID:	ASB-10-3.5-6.5	Diln Fac:	0.9259
Lab ID:	263776-028	Batch#:	219370
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received	Analyzed:	01/13/15

Analyte	Result	RL
Benzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-128
1,2-Dichloroethane-d4	200 *	80-137
Toluene-d8	122 *	80-120
Bromofluorobenzene	98	79-128

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-04-0.5-1.0	Batch#:	219555
Type:	SAMPLE	Prepared:	01/19/15
Lab ID:	263776-001	Analyzed:	01/19/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND UJ	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	39 *	60-140
Decachlorobiphenyl	24 *	36-133

Field ID:	ASB-04-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-002	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	110	60-140
Decachlorobiphenyl	82	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-05-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-003	Analyzed:	01/14/15
Diln Fac:	2.000		

Analyte	Result	RL
Aroclor-1016	ND	17
Aroclor-1221	ND	33
Aroclor-1232	ND	17
Aroclor-1242	ND	17
Aroclor-1248	ND	17
Aroclor-1254	ND	17
Aroclor-1260	ND	17

Surrogate	%REC	Limits
TCMX	69	60-140
Decachlorobiphenyl	50	36-133

Field ID:	ASB-05-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-004	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	95	60-140
Decachlorobiphenyl	113	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-06-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-005	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	23	12

Surrogate	%REC	Limits
TCMX	75	60-140
Decachlorobiphenyl	51	36-133

Field ID:	ASB-06-3.0-5.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-006	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	95	60-140
Decachlorobiphenyl	97	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-23-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-007	Analyzed:	01/13/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	77	12

Surrogate	%REC	Limits
TCMX	86	60-140
Decachlorobiphenyl	70	36-133

Field ID:	ASB-26-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-008	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	12	12

Surrogate	%REC	Limits
TCMX	68	60-140
Decachlorobiphenyl	46	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-22-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-009	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	27	12

Surrogate	%REC	Limits
TCMX	63	60-140
Decachlorobiphenyl	44	36-133

Field ID:	ASB-19-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-010	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	71	60-140
Decachlorobiphenyl	46	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-11-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-011	Analyzed:	01/14/15
Diln Fac:	10.00		

Analyte	Result		RL
Aroclor-1016	ND	UJ	84
Aroclor-1221	ND		170
Aroclor-1232	ND		84
Aroclor-1242	ND		84
Aroclor-1248	ND		84
Aroclor-1254	ND		84
Aroclor-1260	3,700	J	84

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-18-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-012	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result		RL
Aroclor-1016	ND	UJ	12
Aroclor-1221	ND		24
Aroclor-1232	ND		12
Aroclor-1242	ND		12
Aroclor-1248	ND		12
Aroclor-1254	ND		12
Aroclor-1260	ND		12

Surrogate	%REC	Limits
TCMX	23 *	60-140
Decachlorobiphenyl	19 *	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-14-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-013	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	18	12
Aroclor-1260	37	12

Surrogate	%REC	Limits
TCMX	67	60-140
Decachlorobiphenyl	45	36-133

Field ID:	ASB-13-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-014	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND UJ	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	45 J	12
Aroclor-1260	130 J	12

Surrogate	%REC	Limits
TCMX	32 *	60-140
Decachlorobiphenyl	25 *	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-21-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-015	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	130 J	12

Surrogate	%REC	Limits
TCMX	81	60-140
Decachlorobiphenyl	45	36-133

Field ID:	ASB-17-0.5-1.0	Batch#:	219327
Type:	SAMPLE	Prepared:	01/12/15
Lab ID:	263776-016	Analyzed:	01/16/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	15	12
Aroclor-1260	16	12

Surrogate	%REC	Limits
TCMX	75	60-140
Decachlorobiphenyl	43	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-25-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-017	Analyzed:	01/14/15
Diln Fac:	1.000		

Analyte	Result		RL
Aroclor-1016	ND	UJ	9.7
Aroclor-1221	ND		19
Aroclor-1232	ND		9.7
Aroclor-1242	ND		9.7
Aroclor-1248	ND		9.7
Aroclor-1254	ND		9.7
Aroclor-1260	ND		9.7

Surrogate	%REC	Limits
TCMX	48 *	60-140
Decachlorobiphenyl	28 *	36-133

Field ID:	ASB-12-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-018	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	78	9.6
Aroclor-1260	230	9.6

Surrogate	%REC	Limits
TCMX	78	60-140
Decachlorobiphenyl	50	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-20-0.5-1.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-019	Analyzed:	01/15/15
Diln Fac:	2.000		

Analyte	Result	RL
Aroclor-1016	ND	13
Aroclor-1221	ND	27
Aroclor-1232	ND	13
Aroclor-1242	ND	13
Aroclor-1248	ND	13
Aroclor-1254	ND	13
Aroclor-1260	ND	13

Surrogate	%REC	Limits
TCMX	56 *	60-140
Decachlorobiphenyl	56	36-133

Field ID:	ASB-24-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-020	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	73	60-140
Decachlorobiphenyl	39	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-07-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-021	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	170	9.5
Aroclor-1260	430	9.5

Surrogate	%REC	Limits
TCMX	82	60-140
Decachlorobiphenyl	46	36-133

Field ID:	ASB-07-3.5-6.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-022	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.5
Aroclor-1221	ND	19
Aroclor-1232	ND	9.5
Aroclor-1242	ND	9.5
Aroclor-1248	ND	9.5
Aroclor-1254	ND	9.5
Aroclor-1260	ND	9.5

Surrogate	%REC	Limits
TCMX	101	60-140
Decachlorobiphenyl	80	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-08-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-023	Analyzed:	01/16/15
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND UJ	130
Aroclor-1221	ND	260
Aroclor-1232	ND	130
Aroclor-1242	ND	130
Aroclor-1248	ND	130
Aroclor-1254	1,300 J	130
Aroclor-1260	4,000 J	130

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-08-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-024	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	ND	9.6

Surrogate	%REC	Limits
TCMX	107	60-140
Decachlorobiphenyl	95	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-09-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-025	Analyzed:	01/16/15
Diln Fac:	20.00		

Analyte	Result		RL
Aroclor-1016	ND	UJ	140
Aroclor-1221	ND	UJ	270
Aroclor-1232	ND	UJ	140
Aroclor-1242	350	J	140
Aroclor-1248	ND	UJ	140
Aroclor-1254	3,100	J	140
Aroclor-1260	8,100	J	140

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	ASB-09-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-026	Analyzed:	01/17/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	9.7	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	120	9.6
Aroclor-1260	300	9.6

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	104	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3550B
Project#:	EM009155-0017	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	01/08/15
Units:	ug/Kg	Received:	01/08/15
Basis:	as received		

Field ID:	ASB-10-0.5-1.0	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-027	Analyzed:	01/15/15
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	9.6
Aroclor-1221	ND	19
Aroclor-1232	ND	9.6
Aroclor-1242	ND	9.6
Aroclor-1248	ND	9.6
Aroclor-1254	ND	9.6
Aroclor-1260	43	9.6

Surrogate	%REC	Limits
TCMX	121	60-140
Decachlorobiphenyl	103	36-133

Field ID:	ASB-10-3.5-6.5	Batch#:	219379
Type:	SAMPLE	Prepared:	01/13/15
Lab ID:	263776-028	Analyzed:	01/17/15
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND UJ	140
Aroclor-1221	ND	270
Aroclor-1232	ND	140
Aroclor-1242	ND	140
Aroclor-1248	ND	140
Aroclor-1254	1,500 J	140
Aroclor-1260	4,900 J	140

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Arsenic

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Prepared:	01/13/15

Field ID	Type	Lab ID	Result		RL	Batch#	Analyzed
ASB-04-0.5-1.0	SAMPLE	263776-001	4.5	J	0.27	219365	01/14/15
ASB-04-3.0-5.0	SAMPLE	263776-002	18		0.27	219365	01/14/15
ASB-05-0.5-1.0	SAMPLE	263776-003	2.1		0.24	219365	01/14/15
ASB-05-3.0-5.0	SAMPLE	263776-004	7.2		0.24	219365	01/14/15
ASB-06-0.5-1.0	SAMPLE	263776-005	2.7		0.23	219365	01/14/15
ASB-06-3.0-5.0	SAMPLE	263776-006	3.4		0.23	219365	01/14/15
ASB-23-0.5-1.0	SAMPLE	263776-007	2.9		0.25	219365	01/14/15
ASB-26-0.5-1.0	SAMPLE	263776-008	3.0		0.26	219365	01/14/15
ASB-22-0.5-1.0	SAMPLE	263776-009	4.3		0.26	219365	01/14/15
ASB-19-0.5-1.0	SAMPLE	263776-010	2.5		0.24	219365	01/14/15
ASB-11-0.5-1.0	SAMPLE	263776-011	2.3		0.23	219365	01/14/15
ASB-18-0.5-1.0	SAMPLE	263776-012	2.9		0.24	219365	01/14/15
ASB-14-0.5-1.0	SAMPLE	263776-013	2.6		0.27	219365	01/14/15
ASB-13-0.5-1.0	SAMPLE	263776-014	2.3		0.27	219365	01/14/15
ASB-21-0.5-1.0	SAMPLE	263776-015	4.2		0.23	219365	01/14/15
ASB-17-0.5-1.0	SAMPLE	263776-016	3.0		0.25	219365	01/14/15
ASB-25-0.5-1.0	SAMPLE	263776-017	2.2		0.24	219365	01/14/15
ASB-12-0.5-1.0	SAMPLE	263776-018	2.6		0.26	219365	01/14/15
ASB-20-0.5-1.5	SAMPLE	263776-019	2.2		0.25	219365	01/14/15
ASB-24-0.5-1.0	SAMPLE	263776-020	3.2		0.23	219365	01/14/15
ASB-07-0.5-1.0	SAMPLE	263776-021	4.3		0.26	219371	01/14/15
ASB-07-3.5-6.0	SAMPLE	263776-022	6.8		0.25	219371	01/13/15
ASB-08-0.5-1.0	SAMPLE	263776-023	4.0		0.26	219371	01/13/15
ASB-08-3.5-6.5	SAMPLE	263776-024	5.9		0.27	219371	01/13/15
ASB-09-0.5-1.0	SAMPLE	263776-025	4.2		0.26	219371	01/13/15
ASB-09-3.5-6.5	SAMPLE	263776-026	3.1		0.23	219371	01/13/15
ASB-10-0.5-1.0	SAMPLE	263776-027	5.0		0.24	219371	01/13/15
ASB-10-3.5-6.5	SAMPLE	263776-028	9.6		0.26	219371	01/13/15
	BLANK	QC773129	ND		0.25	219365	01/14/15
	BLANK	QC773152	ND		0.25	219371	01/13/15

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Lead

Lab #:	263776	Location:	1009 66th Ave, Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	EM009155-0017	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Sampled:	01/08/15
Units:	mg/Kg	Received:	01/08/15
Basis:	as received	Prepared:	01/13/15

Field ID	Type	Lab ID	Result		RL	Batch#	Analyzed
ASB-04-0.5-1.0	SAMPLE	263776-001	10	J	0.27	219365	01/14/15
ASB-04-3.0-5.0	SAMPLE	263776-002	10		0.27	219365	01/14/15
ASB-05-0.5-1.0	SAMPLE	263776-003	6.2		0.24	219365	01/14/15
ASB-05-3.0-5.0	SAMPLE	263776-004	4.8		0.24	219365	01/14/15
ASB-06-0.5-1.0	SAMPLE	263776-005	6.0		0.23	219365	01/14/15
ASB-06-3.0-5.0	SAMPLE	263776-006	5.4		0.23	219365	01/14/15
ASB-23-0.5-1.0	SAMPLE	263776-007	9.6		0.25	219365	01/14/15
ASB-26-0.5-1.0	SAMPLE	263776-008	17		0.26	219365	01/14/15
ASB-22-0.5-1.0	SAMPLE	263776-009	8.8		0.26	219365	01/14/15
ASB-19-0.5-1.0	SAMPLE	263776-010	7.7		0.24	219365	01/14/15
ASB-11-0.5-1.0	SAMPLE	263776-011	11		0.23	219365	01/14/15
ASB-18-0.5-1.0	SAMPLE	263776-012	10		0.24	219365	01/14/15
ASB-14-0.5-1.0	SAMPLE	263776-013	7.1		0.27	219365	01/14/15
ASB-13-0.5-1.0	SAMPLE	263776-014	9.7		0.27	219365	01/14/15
ASB-21-0.5-1.0	SAMPLE	263776-015	15		0.23	219365	01/14/15
ASB-17-0.5-1.0	SAMPLE	263776-016	9.0		0.25	219365	01/14/15
ASB-25-0.5-1.0	SAMPLE	263776-017	7.4		0.24	219365	01/14/15
ASB-12-0.5-1.0	SAMPLE	263776-018	11		0.26	219365	01/14/15
ASB-20-0.5-1.5	SAMPLE	263776-019	7.6		0.25	219365	01/14/15
ASB-24-0.5-1.0	SAMPLE	263776-020	9.6		0.23	219365	01/14/15
ASB-07-0.5-1.0	SAMPLE	263776-021	10		0.26	219371	01/14/15
ASB-07-3.5-6.0	SAMPLE	263776-022	4.1		0.25	219371	01/13/15
ASB-08-0.5-1.0	SAMPLE	263776-023	11		0.26	219371	01/13/15
ASB-08-3.5-6.5	SAMPLE	263776-024	4.4		0.27	219371	01/13/15
ASB-09-0.5-1.0	SAMPLE	263776-025	9.1		0.26	219371	01/13/15
ASB-09-3.5-6.5	SAMPLE	263776-026	4.1		0.23	219371	01/13/15
ASB-10-0.5-1.0	SAMPLE	263776-027	4.1		0.24	219371	01/13/15
ASB-10-3.5-6.5	SAMPLE	263776-028	21		0.26	219371	01/13/15
	BLANK	QC773129	ND		0.25	219365	01/14/15
	BLANK	QC773152	ND		0.25	219371	01/13/15

ND= Not Detected
RL= Reporting Limit

Appendix C

Action Levels Calculations

TABLE C-1
Appendix C
Aspire College
1009 66th Ave, Oakland, California

Input Parameter	Value	Units
Age of Receptor	12 to 18	years
Cancer Risk (CR)	1E-06	
Hazard Index	1E+00	
Exposure Time (ET)	8	Hours exposed/hours in a day
Cancer Averaging Time (ATc)	25550	days (in 70 years)
Non-cancer Averaging Time (ATnc)	91	days (in 0.25 years)
Exposure Frequency (EF)	20	days/year
Exposure Duration (ED)	0.25	year
Inhalation Unit Risk (IUR)	(IUR) - chemical specific	$(\mu g/m^3)^{-1}$
Life Time (LT)	70	years
Particulate Emission Factor (PEF)	1.00E+06	m^3/kg

AL = (CR * AT * CF)/(ET * EF * ED * IUR)

AL = (HI * ATnc * RfC * CF * PEF)/(ET * EF * ED)

where CF = 24 hours/day

Constituent	Maximum detected concentrations (mg/kg)	Inhalation Unit Risk $(mg/m^3)^{-1}$	RfC (mg/m^3)	Action Level based on cancer risk (mg/m^3)	Action Level based on non-cancer hazard (mg/m^3)	Dust Concentration based on Cancer Risk (mg/m^3)	Dust Concentration based on non-cancer Risk (mg/m^3)	Selected Dust Concentration (mg/m^3)
Gasoline C7-C12 (aliphatic)	44	--	0.6	--	3.29E+07	--	7.47E+11	7.47E+11
Gasoline C7-C12 (aromatic)	44	--	0.03	--	1.64E+06	--	3.73E+10	3.73E+10
Benzene	0.005	0.0078	0.03	1.97E+00	1.64E+06	3.93E+08	3.29E+14	3.93E+08
Arsenic	18	4.3	0.000015	3.57E-03	8.21E+02	1.98E+02	4.56E+07	1.98E+02
Lead	21	--	--	--	--	--	--	--