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UNDERGROUND STORAGE TANK CLOSURE REPORT

PORT OF OAKLAND
BERTH 25

JULY 2016

UNDERGROUND STORAGE TANK CF-04R
1599 Maritime Street
Port of Oakland
Oakland, California

Site Cleanup Program Case No. RO0000033

For:
Alameda County Department of Environmental Health

12315-35.02441

BASELINE ENVIRONMENTAL CONSULTING

5900 Hollis Street, Suite D, Emeryville, CA 94608 | P: (510) 420-8686 | www.baseline-env.com

18 July 2016
12315-35.02441

Mr. Steven Plunkett
Alameda County Department of Environmental Health
Certified Unified Program Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Subject: Underground Storage Tank Closure Report, UST CF-04R – Facility ID 176, 1599 Maritime Street, UST Removal Permit No. SR0029701, Site No. RO0000033, Port of Oakland, Berth 25

Dear Mr. Plunkett:

On behalf of the Port of Oakland ("Port"), BASELINE Environmental Consulting hereby transmits the Underground Storage Tank Closure Report for the removal of the underground storage tank ("UST") (CF-04R) in an area of Berth 25 at the Oakland Outer Harbor. Because the UST was located in an area subject to an Operation and Maintenance Agreement between the Port and the Department of Toxic Substances Control ("DTSC"), the Port, in a letter to the County and DTSC on 1 March 2016, requested that oversight of the UST site be provided by DTSC, should releases from the former operation of the UST be identified during UST removal. Therefore, this report is also being submitted to Mr. Thomas Price of DTSC.

Should you have any questions regarding this report, we will look forward to discussing it with you.

Sincerely,

Yane Nordhav
Principal
Professional Geologist No. 4009

Reginald Ramirez
Project Engineer
Professional Engineer No. C72258

YN:RR

Attachments

cc: Thomas Price, DTSC
John Prall, P.G., Port

PORT OF OAKLAND

July 18, 2016

Mr. Steven Plunkett
Hazardous Materials Specialist
Alameda County Department of Environmental Health
Certified Unified Program Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Subject: Underground Storage Tank Closure Report, UST CF-04R
1599 Maritime Street
Port of Oakland
Oakland, California
Facility ID 176
Site Cleanup Program Case No. RO0000033
UST Removal Permit No. SR0029701

Dear Mr. Plunkett:

I have reviewed the attached Underground Storage Tank Closure Report prepared by BASELINE Environmental Consulting, on behalf of the Port of Oakland, for underground storage tank CF-04R. I declare, under penalty of perjury, that the information contained in the attached document is true and correct to the best of my knowledge. Should you have any questions or need additional information, please do not hesitate to contact me at your convenience.

Sincerely,

John Prall, P.G.
Port Associate Environmental Scientist

5900 Hollis Street, Suite D, Emeryville, CA 94608 | P: (510) 420-8686 | www.baseline-env.com

UNDERGROUND STORAGE TANK CLOSURE REPORT

PORT OF OAKLAND
BERTH 25

JULY 2016

UNDERGROUND STORAGE TANK CF-04R
1599 Maritime Street
Port of Oakland
Oakland, California

Site Cleanup Program Case No. RO0000033

FOR:
Alameda County Department of Environmental Health

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BASELINE ENVIRONMENTAL COSULTING
5900 Hollis Street, Suite D, Emeryville, CA 94608 | P: (510) 420-8686 | www.baseline-env.com

STATEMENT OF PROFESSIONAL CERTIFICATION

Engineering evaluations and/or judgments described in this document were performed under supervision of and reviewed by a California –certified Professional Geologist

Yane Nordhav
Principal
Professional Geologist No. 4009

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Permit No. SR0029701
1599 Maritime Street, Oakland, CA

1. INTRODUCTION

On 16 May 2016, a 10,000-gallon diesel-fuel Underground Storage Tank ("UST"), designated as CF-04R, was removed from Port of Oakland's ("Port") Berth 25 by NRC Environmental Services ("NRC") on behalf of the Port (Figure 1). The UST was located adjacent to Building C-131 ("site") (Figure 2). BASELINE Environmental Consulting ("BASELINE") was retained by the Port to conduct air monitoring; collect confirmation soil and groundwater samples, as required by the Alameda County Department of Environmental Health ("ACDEH") (the Alameda County Certified Unified Program Agency); and prepare this Underground Storage Tank Closure Report ("Report"). The purpose of this Report is to provide data to the ACDEH to support closure of UST CF-04R.

UST CF-04R was installed by the Port and records indicated that the last permitted operator of the UST was Ports America. Ports America located at 1599 Maritime Street in Oakland, California, has terminated their lease with the Port, including Berth 25. A new tenant, TraPac, is now operating in Berth 25.

2. PERMITS

A UST Removal Permit ("permit") was obtained from ACDEH by NRC on 19 April 2016; a copy of the permit is provided in Appendix A. NRC also arranged for Oakland Fire Department ("OFD") to be on-site to observe the tank removal. In accordance with Bay Area Air Quality Management District ("BAAQMD") Regulation 8, Rule 40, the BAAQMD was notified by NRC 5 days prior to the UST removal.

3. BACKGROUND

UST CF-04R was installed in 1993, replacing a 10,000-gallon diesel-fuel storage tank UST CF-04. The UST replacement activity was conducted under the oversight of ACDEH and the OFD. The ACDEH Local Oversight Program site address is 707 Ferry Street, Oakland, California - Case No. RO0000033 or STID #3982. The current site address is 1599 Maritime Street, as Ferry Street no longer exists.

During the removal of UST CF-04, which was removed on 3 December 1993, soil was excavated to a depth of 12.5 feet below ground surface ("bgs"); at the associated pump island, soil was excavated to 5.0 feet bgs (Uribe & Associates, 1994). The soil was characterized and

transported off-site to a permitted landfill for disposal. Geotextile fabric was placed at the bottom and along the sidewalls of the excavation and, after placement of the new UST CF-04R, the excavation was backfilled to near surface with pea gravel. The surface was restored with aggregate base and a rebar-reinforced concrete slab. During removal activities, minor impacts to groundwater were identified. One downgradient groundwater monitoring well ("MW-1") was installed and between June 1994 and December 1995, five groundwater monitoring events occurred. Based on the results, ACDEH granted regulatory closure in 1996 and the Port properly abandoned groundwater monitoring well MW-1.

UST CF-04R was a 10,000-gallon double-walled diesel-fuel storage tank constructed of fiberglass and connected to a nearby pump island with a single dispenser by subsurface piping, as shown on the design drawings in Appendix B. The UST was approximately 30 feet in length and 8 feet in diameter with the top of the tank located approximately 3 feet bgs. There were approximately 15 linear-feet of double-walled fiberglass fuel conveyance pipe between the UST and the pump island.

On behalf of Ports America, UST CF-04R was last pressure tested on 4 November 2015 by Afforda-Te$t, of Galt, California using a digital manometer. Records indicate that the UST passed the pressure test (Appendix C). The tank monitoring system, a Veeder Root TLS 350, was also tested and certified as compliant with California Code of Regulations requirements. The monitoring system included an in-tank gauging probe, annular space or vault sensor, piping sump/trench sensors, and mechanical line leak detector.

4. SITE CONDITIONS

Berth 25 is part of an active marine terminal. Shipping containers are temporarily stored on the terminal and transferred between container ships and transport trucks. The terminal is paved with asphalt or concrete, which is underlain by artificial fill consisting of terrestrial and marine fill ranging in thickness from 10 to 15 feet. The fill is underlain by Young Bay Mud, which overlies Merritt Sands of the San Antonio Formation. Groundwater occurs in the fill under unconfined to semi-confined conditions and based on groundwater monitoring performed at groundwater monitoring well MW-MG9A (Figure 2), the depth to groundwater in the area of the UST ranges from 9 to 10 feet bgs. The groundwater flow direction is northwest, toward the Oakland Outer Harbor.

The UST is located in an area in Berths 25 and 26 that is subject to the Imminent and Substantial Endangerment Determination Order and Remedial Action Order No. 01/02-001 issued by the Department of Toxic Substances Control ("DTSC") on 14 September 2001 and amended on 24 June 2003. To reduce the risk from exposure to residual contamination remaining in the subsurface, the Port entered into an Operation and Maintenance ("O&M") Agreement with DTSC on 18 August 2011 and recorded a Covenant to Restrict Use of Property, Environmental Restriction and Agreement with the Alameda County Clerk on 26 August 2011 to define a Restricted Area where certain future land uses are prohibited (Figure 2).

An O&M Plan approved by DTSC on 27 October 2010 sets forth specific requirements for breaching the cap within the Restricted Area. The O&M Plan also includes a Risk Management Plan ("RMP") detailing requirements for a health and safety plan for construction workers, dust management, management of excavated soil, specifications for imported soil, stormwater management, and dewatered groundwater management during cap breaches. Because UST CF-04R was located within the Restricted Area, the removal activities were subject to the RMP in terms of management of excess soil, import soil quality, health and safety provisions, dust management, dewatered groundwater management, stormwater management, and cap restoration.

Groundwater samples collected from groundwater monitoring well MW-MG9A, which is located near the former UST (Figure 2), indicates that the groundwater in the vicinity contains tetrachloroethene ("PCE") and degradation byproducts trichloroethene ("TCE") and *cis*-1,2-dichloroethene ("DCE"). The Port is currently performing remediation of the groundwater through monitored natural attenuation with annual groundwater monitoring under DTSC oversight.

5. UST REMOVAL ACTIVITIES

During the first week in May 2016, the Port installed K-rail around the UST work area and NRC subsequently installed 6-foot tall fence sections with windscreens along the top of the K-rail. A locking gate to control access to the work area was also installed at the northeast corner.

On 6 May 2016, BASELINE collected background air quality measurements at the site. The measurements were collected using a photo-ionization detector ("PID") calibrated with isobutylene and set with a correction factor for benzene, and a particulate meter measuring particulates less than 10 microns in diameter ("PM10") or "respirable" dust. The background measurements were taken at four compass points around the work area. The results indicated that Volatile Organic Compounds ("VOCs") above the PID detection limit (1 part-per-million ["ppm"]) were not detected and the PM10 concentrations ranged from 0.0082 to 0.0121 milligrams per cubic meter ("mg/m^3"). Action levels specified in the RMP are 5 ppm for VOCs and 2.5 mg/m^3 for PM10.

On 9 May 2016, NRC removed 2,000 gallons of diesel fuel from the UST; the diesel fuel was placed in a 5,000-gallon vacuum truck. BASELINE preformed short-term air monitoring while NRC was removing fuel from the UST, no VOCs were detected and PM10 concentrations ranged from 0.0161 to 0.0218 mg/m^3, similar to background levels and below action levels.

Photograph 1: NRC removing fuel from UST.

On 10 May 2016, BASELINE preformed air monitoring with the PID while NRC penetrated the concrete surface over the UST at seven locations with a hoe ram. Sustained VOCs readings emanating from the holes ranged from non-detect to 4.5 ppm.

On 13 May 2016, NRC removed the pump dispenser; demolished the concrete overlying the UST and the pump dispenser island; and pumped out water and oily sludge from an adjacent oil-water separator into the vacuum truck. The UST was triple rinsed and the resultant water was also stored in the 5,000-gallon vacuum truck. The contents of the vacuum truck were disposed of by NRC, on behalf of the Port, to DeMenno Kerdoon as hazardous waste (Appendix D). During demolition of the overlying concrete, the fiberglass fill port and pump containment structures were damaged. In accordance with the RMP, BASELINE performed air monitoring with a PID and PM10 meter in the worker breathing space downwind of the work. No exceedances of the action levels were recorded. Air monitoring logs are provided in Appendix E.

Photograph 2: Concrete demolition.

The concrete rubble and pea gravel surrounding the UST were excavated on 14 and 15 May 2016. The construction debris, consisting of concrete, rebar, filter fabric, and pea gravel were placed in bins with covers and stored adjacent to Berth 25 maintenance building (Figure 2). The pea gravel was excavated to expose the top two-thirds of the UST in preparation of removing the UST on 16 May 2016. The UST was damaged along the southwest side and at the northwest end while excavating the surrounding pea gravel. The double-walled fiberglass fuel-conveyance piping was removed and observed to be in good condition with no obvious cracks or leaks. The oil-water separator was removed intact and BASELINE collected two soil samples from the soil below the structure at 4.5 feet bgs. During these activities, BASELINE performed air monitoring with a PID and PM10 meter in the worker breathing space downwind of the work; no exceedances of the action levels were recorded.

Photograph 3: Excavation of pea gravel.

Photograph 4: Groundwater encountered at approximately 9 feet bgs, no sheen or odor.

Photograph 5: Double-walled fuel conveyance pipe.

Photograph 6: UST exposed and ready to be removed.

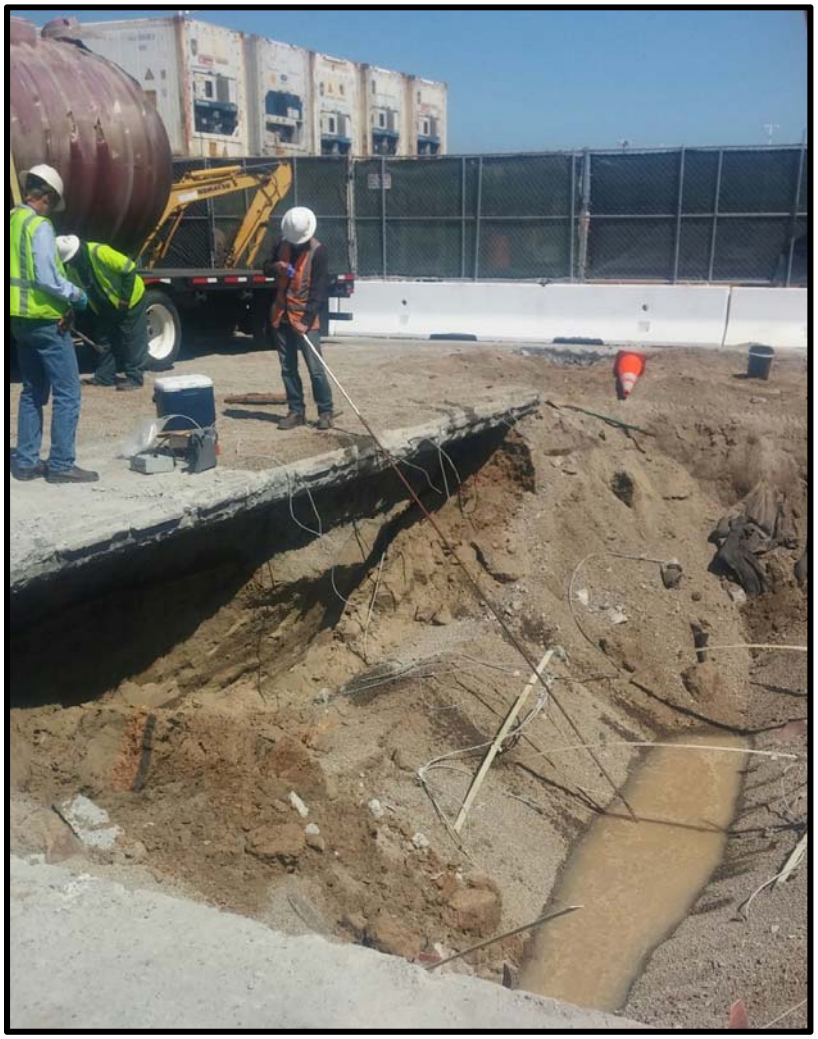
Photograph 7: Oil-Water separator.

The UST was removed on 16 May 2016 in the presence of Steven Plunket from ACDEH and Sheryl Skillern from OFD. Prior to removal from the excavation, 500 pounds of dry ice were introduced into the UST to displace any explosive vapors and the lower explosive limit ("LEL") and oxygen content were measured. When the LEL and oxygen concentrations had reached acceptable levels, and with the approval of the OFD, the UST was lifted out of the excavation and was visually inspected prior to loading for transport. The LEL and oxygen concentrations were documented on a Hazardous Waste Tank Closure Certification form. The UST was observed to be in good condition except for the damage incurred during excavation of the surrounding pea gravel, as noted above. The UST was disposed of at Ecology Control Industries in Richmond, California as hazardous waste. Copies of the hazardous waste manifests and the Hazardous Waste Tank Closure Certification are provided in Appendix D. During these activities, BASELINE performed air monitoring with a PID and PM10 meter in the worker breathing space downwind of the work; no exceedances of the action levels were recorded.

Photograph 8: UST lifted out of excavation.

Photograph 9: UST loaded on truck.

After consultation with the ACDEH, BASELINE collected two soil samples from the excavation sidewalls within the vadose zone; one soil sample from below the pump dispenser island; and one groundwater sample from the bottom of the excavation as shown on Figure 3. These samples are discussed in more detail below.



Photograph 10: Collection of groundwater sample.

5.1 Confirmation Samples

BASELINE collected the following soil and groundwater samples after removal of the UST and dispenser island to evaluate whether a release from the UST, dispenser, fuel-conveyance pipe, or oil-water separator had occurred:

- Two soil samples (UST-CF-04R;W-8.5 and UST-CF-04R;E-8.5) from the sidewalls at the UST ends within the vadose zone at 8.5 feet bgs;
- One soil sample (UST-CF-04R;D-7.0) from under the dispenser at 7.0 feet bgs;[1]

[1] Note that the soil sample from under the dispenser island was at 7.0 feet bgs because during the removal of the previous UST in 1993, the area under the dispenser was over-excavated to a depth of

- Two soil samples (O/W-Separator-1 and O/W-Separator-2) from below the oil-water separator at 4.5 feet bgs; and
- One groundwater sample (UST-CF-04R;GW) from the groundwater, which was present at approximately 9.0 feet bgs.

The samples were submitted to Curtis & Tompkins, Ltd, a State-certified analytical laboratory, for the following analysis:

- Total Petroleum Hydrocarbons in the diesel ("TPH-d") and motor oil ("TPH-mo") ranges in accordance with Environmental Protection Agency ("EPA") Method 8015B and
- VOCs in accordance with EPA Method 8260B.

6. RESULTS SUMMARY

The analytical results for the soil and groundwater samples collected are described below and summarized on Table 1 and laboratory reports are included in Appendix F. The results were screened against the San Francisco Bay Regional Water Quality Control Board's ("Water Board") Environmental Screening Levels ("ESLs"), assuming a commercial/industrial land use where the shallow groundwater is not a drinking water source (Water Board, 2016).

6.1 Soil from Excavation Sidewall - UST-CF-04R;W-8.5 and UST-CF-04R;E-8.5

- TPH-d or TPH-mo was not detected at or above laboratory reporting limits in either sidewall sample.
- No VOC was reported at or above laboratory reporting limits in either sidewall sample.

6.2 Soil under Dispenser Island - UST CF-04R;D-7.0

- TPH-d was reported at 6.9 milligrams per kilogram ("mg/kg") and TPH-mo at 34 mg/kg in the soil sample collected under the dispenser island. These reported values are below the ESLs of 880 and 5,100 mg/kg, respectively.
- No VOC was reported at or above laboratory reporting limits in the soil sample collected under the dispenser island.

6.3 Soil underneath Oil-Water Separator - O/W-Separator-1 and O/W-Separator-2

- TPH-d was reported at 18 and 91 mg/kg in soil samples O/W-Separator-1 and O/W-Separator-2, respectively, collected under the oil-water separator. These reported values are below the TPH-d ESL of 880 mg/kg.
- TPH-mo was reported at 230 and 170 mg/kg in soil samples O/W-Separator-1 and O/W-Separator-2, respectively, collected under the oil-water separator. These reported values are below the TPH-mo ESL of 5,100 mg/kg.

---

approximately 5 feet and then backfilled with pea gravel. BASELINE collected the soil sample underneath the pea gravel.

- PCE was reported at 0.0041 and 0.0080 mg/kg in soil samples O/W-Separator-1 and O/W-Separator-2, respectively, collected under the oil-water separator. These reported values are below the PCE ESL of 0.42 mg/kg (based on leaching-to-groundwater pathway).
- No other VOC was reported at or above laboratory reporting limits in the soil samples collected under the oil-water separator.

6.4 Groundwater in Excavation - UST-CF-04R;GW

- The groundwater sample collected from the bottom of the excavation was reported to contain 190 micrograms per liter ("µg/L") TPH-d, which is below the ESL of 640 µg/L; the sample did not contain TPH-mo at or above the laboratory reporting limit of 280 µg/L which is below the ESL of 50,000 µg/L.
- The groundwater sample was reported to contain 12 µg/L PCE, 1.3 µg/L TCE, and 0.8 µg/L *cis*-1,2-DCE. The TCE and *cis*-1,2-DCE values are below the ESLs of 49 and 590 µg/L, respectively; the PCE concentration reported exceeds the PCE ESL of 8.9 µg/L (based on seafood ingestion pathway).
- No other VOC was reported at or above laboratory reporting limits in the groundwater sample.

7. EXCAVATION BACKFILL AND SURFACE RESTORATION

After receipt of the soil and groundwater analytical results, BASELINE provided a summary of the results to Steven Plunkett of ACDEH and Thomas Price of the DTSC. After review of the results, both agency approved backfill of the excavation (Appendix G). On 25 and 26 May 2016, the excavation was backfilled with the excavated pea gravel to approximately 3 feet below the surrounding surface elevation followed by controlled density fill to surrounding surface elevation. Final surface restoration will be completed following planned demolition of Building C-131.

8. CONCLUSIONS

Based on the results, it does not appear that there has been a release from the UST; the low detection of petroleum hydrocarbons in the diesel and motor oil ranges are likely residual impacts from the previous UST, which was removed in 1993, and are consistent with background levels at Berth 25.

The PCE, TCE, and *cis*-1,2-DCE concentrations in the groundwater are consistent with the known chlorinated solvent plume in the area. The low levels of PCE reported in the soil samples under the oil-water separator are likely the result of vapors migrating up from the groundwater. The existing O&M Agreement, Covenant to Restrict Use of Property, and measures in the RMP will continue to provide the necessary procedures and protocols to protect human health and the environment from the low levels of residual chemical or chemical compounds in the soil and groundwater at the site.

9. REFERENCES

Hunter Surveying, Inc. (HSI), 2016. *Monitoring Wells at Port of Oakland Berth 25*, 6 July.

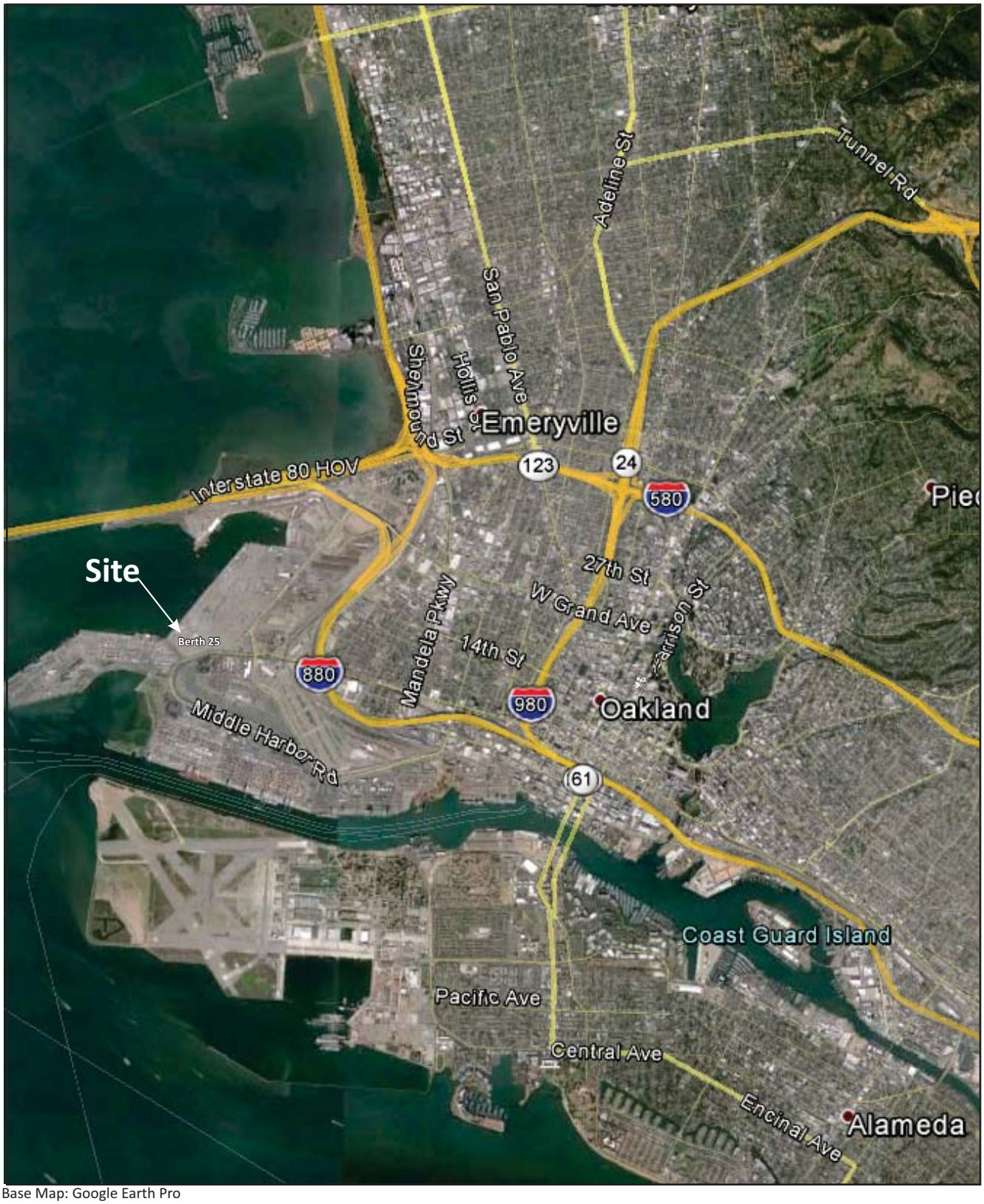
San Francisco Bay Regional Water Quality Control Board (Water Board), 2016. *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)*, Interim Final, February (Rev 3).

Uribe & Associates, 1994. *Final Report, Underground Storage Tank Removal and Soil Excavation at Berth 25, 707 Ferry Street, Oakland, California*, January.

FIGURES

REGIONAL LOCATION

Figure 1



Base Map: Google Earth Pro

Underground Storage Tank Closure Report
Berth 25 Port of Oakland
Oakland, California

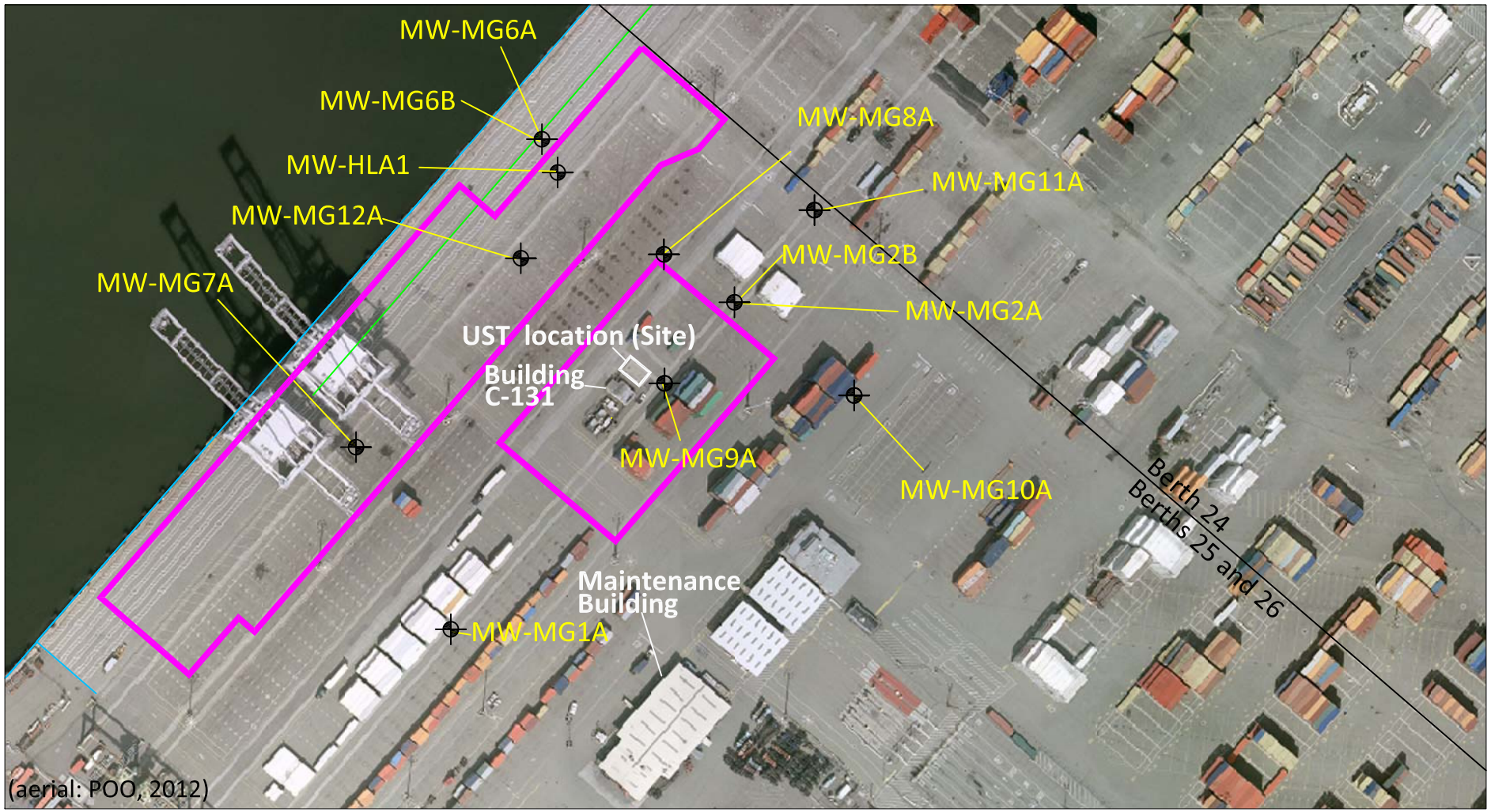
Approximate Scale
0 5,000 Feet

BASELINE ENVIRONMENTAL CONSULTING

12315-35.02441.Fig1.cdr 07/11/16

UNDERGROUND STORAGE TANK (UST) CF-04R LOCATION

Figure 2



Legend

DTSC Restricted Area

MW-MG1A — Groundwater Monitoring Well

Note:

Monitoring well locations based on well survey performed by Hunter Surveying, Inc. (HSI) on 29 June 2016 (HSI, 2016).

DTSC = Department of Toxic Substances Control

0 200 Feet

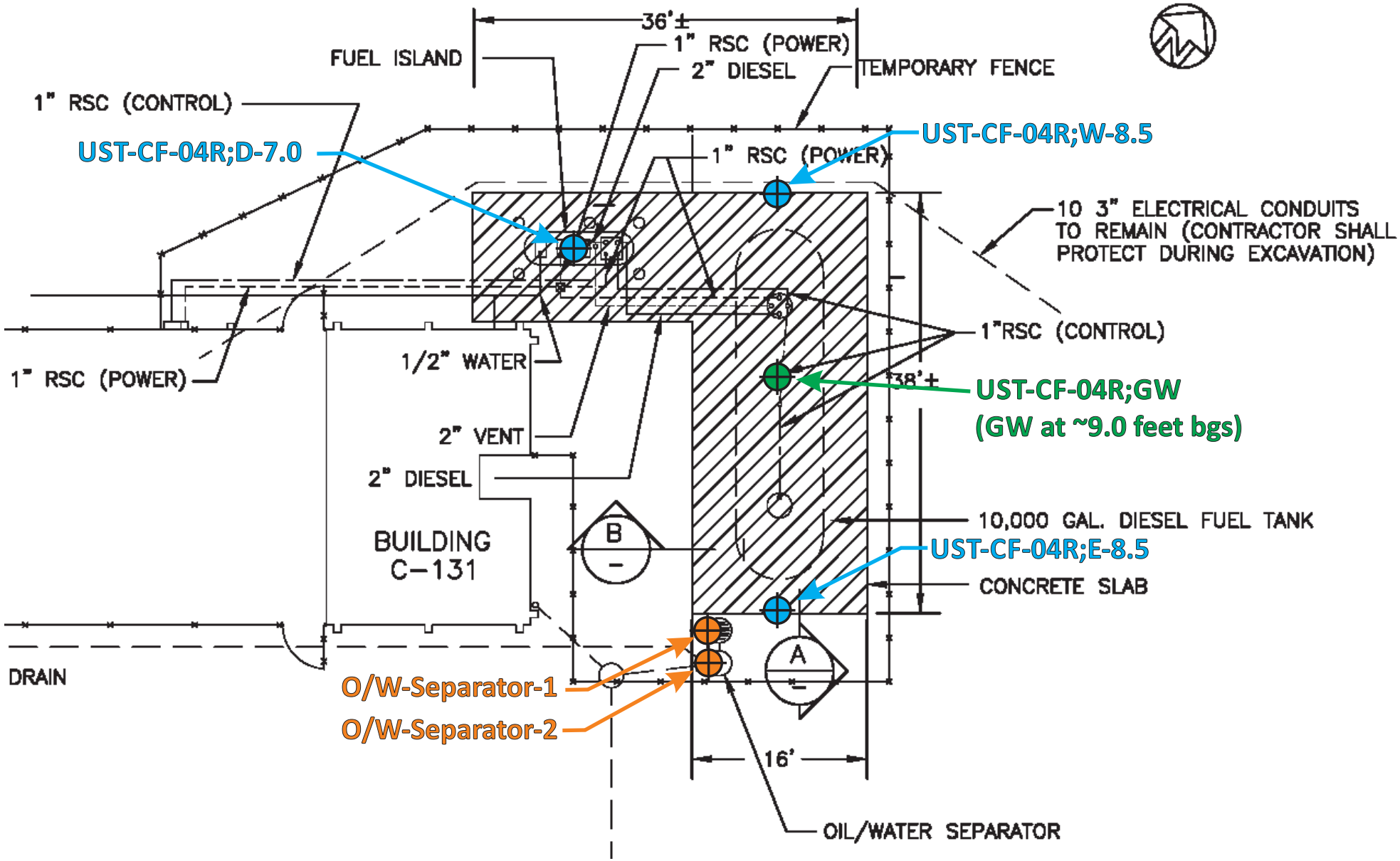
BASELINE ENVIRONMENTAL CONSULTING

Underground Storage Tank Closure Report
Berth 25 Port of Oakland, Oakland, California

V:\Base\12315 Port of Oakland\12315-35 UST AST and Oil Water Sep Removal\12315-35.02441 UST Removal Rpt\Figures\12315-35.02441.Fig2.dwg, 7/15/2016 3:17:26 PM

SOIL AND GROUNDWATER SAMPLE LOCATIONS

Figure 3



Underground Storage Tank Closure Report
Berth 25 Port of Oakland
Oakland, California

Approximate Scale
0 12.5 Feet

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TABLE

TABLE 1: Soil and Groundwater Sample Results
Berth 25 Port of Oakland

Location	Sample Identification	TPH-d	TPH-mo	PCE	TCE	cis-1,2-DCE
Soil in mg/kg						
West UST Excavation Sidewall	UST-CF-04R;W-8.5	<1.0	<5.0	<0.0042	<0.0042	<0.0042
East UST Excavation Sidewall	UST-CF-04R;E-8.5	<1.0	<5.0	<0.0044	<0.0044	<0.0044
Under Fuel Dispenser Island	UST-CF-04R;D-7.0	**6.9 Y**	**34**	<0.0043	<0.0043	<0.0043
Under Oil-Water Separator	O/W-Separator-1	**18 Y**	**230**	**0.0041**	<0.0035	<0.0035
Under Oil-Water Separator	O/W-Separator-2	**91 Y**	**170**	**0.0080**	<0.0040	<0.0040
Site-Specific ESL - Soil (mg/kg)[1]		880	5,100	0.42	0.51	35
Groundwater in µg/L						
UST Excavation Groundwater	UST-CF-04R;GW	**190 Y**	<280	**12**	**1.3**	**0.80**
Site-Specific ESL - Groundwater (µg/L)[2]		640	50,000	8.9	49	590

Notes:
Sample locations are shown on Figure 3.
Only volatile organic compounds with detection above the laboratory reporting limit in at least one sample are shown.
Laboratory reports by Curtis & Tompkins, Ltd. are included in Appendix F.
Total Petroleum Hydrocarbons in the diesel (TPH-d) and motor oil (TPH-mo) ranges by Environmental Protection Agency (EPA) Method 8015B.
Volatile Organic Compounds by EPA Method 8260.
Bold value indicates concentration above the laboratory reporting limit.
Shaded value exceeds Site-specific ESL.
mg/kg = milligram per kilogram
µg/L = microgram per liter
Y = sample chromatogram does not match standard
<#.# = compound not detected at or above the laboratory reporting limit
PCE = tetrachloroethene
TCE = trichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene

[1]San Francisco Bay Regional Water Quality Control Board (Water Board), 2016, *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)* , Interim Final, February (Rev 3). Site-specific ESLs are the lowest of the following values considered appropriate for the site: (1) direct exposure levels for commercial or industrial shallow soil exposure; (2) direct exposure levels for construction worker with any soil depth exposure; (3) leaching to groundwater levels for a non-drinking water resource; (4) soil gross contamination levels; and (5) soil nuisance levels for commercial or industrial shallow soil exposure.

[2]Water Board, 2016, *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)* , Interim Final, February (Rev 3). Site-specific ESLs are the lowest of the following values considered appropriate for the site: (1) aquatic habitat goal levels for freshwater ecotoxicity; (2) aquatic habitat goal levels for saltwater ecotoxicity; (3) aquatic habitat goal levels for seafood ingestion concerns; (4) groundwater vapor intrusion levels commercial or industrial shallow groundwater; (5) groundwater gross contamination levels; and (6) groundwater nuissance levels for non-drinking water resource.

APPENDICES

APPENDIX A

UST REMOVAL PERMIT

ALAMEDA COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502-6577
PHONE (510) 567-6700

ACCEPTED
Underground Storage Tank Closure Permit Application
Alameda County Division of Hazardous Materials
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

These closure/removal plans have been received and found to be acceptable and essentially meet the requirements of State and Local Health Laws. Changes to your closure plans indicated by this Department are to ensure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/destruction.

One copy of the accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any changes or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspections Department to determine if such changes meet the requirements of State and local laws.

Notify this Department at least 72 hours prior to the following required inspections:

X Removal of Tank(s) and Piping
X Sampling
X Final Inspection

Issuance of a) permit to operate, b) permanent site closure, is dependent on compliance with accepted plans and all applicable laws and regulations.

*THERE IS A FINANCIAL PENALTY FOR NOT CLEANING THESE INSPECTIONS:

Contract Specialist: [signature] 4/19/2016

SR0029701 SP

Phone: 510-383-1767
Email: Steven.Plunkett@acgov.org

UNDERGROUND STORAGE TANK CLOSURE PLAN

*** * * Complete closure plan according to instructions * * ***

1. Name of Business PORTS AMERICA

   Business Owner or Contact Person **(PRINT)** _____

2. Site Address 1599 MARITIME STREET

   City, State OAKLAND CA. Zip 94604 Phone _____

3. Mailing Address _____

   City, State _____ Zip _____ Phone _____

4. Property Owner PORT OF OAKLAND

   Business Name (if applicable) _____

   Address 530 WATER STREET

   City, State OAKLAND CA. Zip 94604 Phone _____

5. Generator name under which tank will be manifested

   PORT OF OAKLAND

   EPA I.D. No. under which tank(s) will be manifested C A 4 0 0 0 2 1 3 1 0 0

6. Contractor NRC ENVIRONMENTAL SERVICES
Address 1605 FERRY POINT
City, State ALAMEDA, CA. Zip 94501 Phone 510-749-1390
License Type A-GENERAL ENGINEERING ID# 716581 COPY ATTACHED

7. Consultant (if applicable) BASELINE ENVIRONMENTAL CONSULTING
Address 5900 HOLLIS STREET SUITE D
City, State EMERYVILLE, CA. Zip 94608 Phone 510-420-8686

8. Main Contact Person for Investigation (if applicable)
Name STEVE HANCOCK Title PROJECT MANAGER
Company NRC ENVIRONMENTAL SERVICES
Phone 510-549-1390

9. Number of underground tanks being closed with this plan 1
Length of piping being removed under this plan APPROX 60 FEET
Total number underground tanks at this facility (**confirmed with owner or operator) 1

10. State Registered Hazardous Waste Transporters/Facilities (See Instructions).

a) Product/Residual Sludge/Rinsate Transporter
Name NRC ENVIRONMENTAL SVCS. EPA I.D. No. CAR000030114
Hauler License No. 5158 License Exp. Date JUNE 30, 2016
Address 1605 FERRY POINT
City, State ALAMEDA, CA. Zip 94501

b) Product/Residual Sludge/Rinsate Disposal Site
Name CROSBY & OVERTON EPA I.D. No. CAD028409019
Address 1630 W. 17TH STREET
City, State LONG BEACH, CA. Zip 90813

c) Tank and Piping Transporter

Name NRC Environmental Svcs. EPA I.D. No. CAR000030114

Hauler License No. 5158 License Exp. Date June 30-2016

d) Tank and Piping Disposal Site

Name Ecology Control Industries EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City, State Richmond, CA. Zip 94801

11. Sample Collector

Name James McCarty P.E.

Company Baseline Environmental Consulting

Address 5900 Hollis Street

City, State Emeryville, CA. Zip 94608 Phone 510-420-8686

12. Laboratory

Name Mike Dahlquist

Company Curtis & Tompkins Ltd.

Address 2323 Fifth Street

City, State Berkeley, CA. Zip 94710

State Certification No. 2896

13. Have tank(s) or piping leaked in the past? Yes [ ] No [ ] Unknown [X]

If yes, describe:

14. Describe method(s) to be used for rendering tank(s) inert:

Remove any residual or freestanding liquids then rinse tank and piping with fresh clear water pump freestanding liquids and inert tank with dry ice at a ratio of 10 Lbs per 1,000 gals of volume.

Before tank(s) are pumped out and inerted, all associated piping must be flushed back into the tank(s). All accessible piping must then be removed. Inaccessible piping must be permanently plugged using grout.

The Bay Area Air Quality Management District, (415) 771-6000, along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of a combustible gas indicator to verity tank inertness. **It is the contractor's responsibility to have a functional combustible gas indicator on-site to verity that the tank(s) is inerted.**

15. Tank History and Sampling Information ***(See Instructions)***

Tank		Material to be sampled (tank contents, soil, groundwater)	Location and Depth of Sample(s)
Capacity (gallons)	Use History include date last used (estimated)		
10,000 DIESEL	EST. LAST USE 2013	TANK CONTENTS SOIL GROUNDWATER IF PRESENT.	SEE BASELINE REPORT AND ACDEH MATRIX

One soil sample must be collected for every 20 linear feet of underground piping that is removed. A groundwater sample must be collected if any groundwater is present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (estimated)	Sampling Plan
16 yds pea gravel & soil	Attached / Baseline Plan

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

Will the excavated soil be returned to the excavation immediately after tank removal?

[ ] yes [ ] no [X] unknown

If yes, explain reasoning _____

_____

If unknown at this point in time, please be aware that **excavated soil may not be returned to the excavation without <u>prior</u> approval from this office. This means that the contractor, consultant, or responsible party must communicate with the Specialist IN ADVANCE of backfilling activities.**

16. Chemical methods and associated detection limits to be used for analyzing sample(s):

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits shall be followed.

See Table 2, Recommended Minimum Verification Analyses for Underground Tank Leaks.

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
ATTACHED BASELINE PLAN			

17. Submit Site Health and Safety Plan (See Instructions) ATTACHED

18. Submit Worker's Compensation Certificate copy ATTACHED

    Name of Insurer STAR INDEMNITY & LIABILITY COMPANY

19. Submit Plot Plan ***(See Instructions)***

20. Enclose Deposit (See Instructions)

21. **Report all leaks or contamination to this office within 5 days of discovery.** The written report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report (URL) form.

22. **Submit a closure report to this office within 60 days of the tank removal. The closure report must contain all information listed in item 22 of the instructions.**

23. Submit State (Underground Storage Tank Permit Application) Forms A and B (one-B form for each UST to be removed) (mark box 8 for "tank removed" in the upper right hand corner).

I declare that to the best of my knowledge and belief that the statements and information provided above are correct and true.

I understand that information, in addition to that provided above, may be needed in order to obtain approval from the Environmental Protection Division and that no work is to begin on this project until this plan has been approved.

I understand that any changes in design, materials, or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

CONTRACTOR INFORMATION

Name of Business NRC Environmental Services

Name of Individual Steve Hancock

Signature _____ Date 4-6-16

[X] PROPERTY OWNER OR [ ] MOST RECENT TANK OPERATOR (Check one)

Name of Business Port of Oakland

Name of Individual John Pratt

Signature _____ Date 4/6/2016

Conditions for Approval of UST Removal and Closure
Port Of Oakland Berth 25-26
1599 Maritime Ave, Oakland

The following items are included in the Conditions of Approval by Item:

1. The tank shall be triple rinsed once it has been removed from the tank pit. Please remove the tank, place it on bermed plastic sheeting before introducing any liquids. Ensure that all liquids are contained within the berm area and appropriately disposed.

2. All contents that have accumulated in tank shall be removed and appropriately disposed under a uniform hazardous waste disposal manifest. All soil removed from the tank pit must be placed on plastic sheeting and shall be profiled for disposal using the attached minimum verification for diesel fuel, kerosene and jet fuel (previously provided). Please add naphthalene by EPA Method 8260 to the suite of analysis.

3. Dry ice shall be used to render the interior atmosphere of the UST inert and prior to the tank removal, please contact the City of Oakland Fire Department and confirm their presence during UST LEL monitoring.

4. Soil samples shall be collected from each end of the tank pit in native soil and beneath the UST(s) in native soil, approximately 12 feet below the ground surface. Should groundwater be encountered in the tank pit, a sample of the groundwater shall be collected and submitted for chemical analysis and soil samples shall be collected at the capillary fringe.

5. A copy of the UST removal permit must be available onsite, at all times, during the UST removal activities.

6. Prior to any UST removal activities provide ACDEH with 72 hours advanced notice.

7. A UST tank closure report shall be provided to the ACDEH within 60 days, after the UST tank removal has been completed.

MINIMUM VERIFICATION ANALYSES FOR UNDERGROUND STORAGE TANK SITES

Alameda County Department of Environmental Health

Certified Unified Program Agency (CUPA) and Local Oversight Program (LOP)

1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700 http://www.acgov.org/aceh/

This document describes required laboratory analyses for soil and groundwater samples collected for underground storage tank (UST) sites. These requirements replace those previously described in the Unidocs guidance document entitled, "Recommended Minimum Verification Analyses for Underground Storage Tank Leaks" (UN-078). Analytes may be added or deleted during site characterization and remediation with approval from ACDEH.

Material Stored	Analytes	Analytical Method	
		Soil	Groundwater
Gasoline Leaded or Unleaded	TPH as gasoline C5-C12	EPA 8260B/C	EPA 8260B/C
	BTEX, MTBE, TBA, naphthalene, EDB, EDC , and ethanol[2]	EPA 8260B/C	EPA 8260B/C
	Lead[3]	EPA 6010	No analysis[4]
Unknown Fuel	Same analytes as for gasoline	As above	As above
	TPH as diesel C12-C22	EPA 8015	EPA 8015
Diesel, Jet Fuel, Kerosene, or Fuel Oil	TPH specific to fuel (e.g. TPH as kerosene)	EPA 8015	EPA 8015
	BTEX, MTBE, and naphthalene	EPA 8260B/C	EPA 8260B/C
Chlorinated Solvents	Volatile Organic Compounds (full scan including BTEX, naphthalene, and chlorinated hydrocarbons)	EPA 8260B/C full scan	EPA 8260B/C full scan
	TPH as Stoddard Solvent C7-C12	EPA 8015	EPA 8015
Waste Oil, Used Oil, Unknown Oil, or Bunker Fuel	TPH as gasoline C5-C12	EPA 8260B/C	EPA 8260B/C
	TPH as diesel C12-C22	EPA 8015	EPA 8015
	TPH as motor oil C23-C32[5]	EPA 8015	No analysis[4]
	Volatile Organic Compounds (full scan including BTEX, MTBE, TBA, naphthalene, and chlorinated hydrocarbons)	EPA 8260B/C full scan	EPA 8260B/C full scan
	Metals: Cd, Cr, Pb, Ni, Zn	EPA 6010	No analysis[4]
	PCBs	EPA 8082A	EPA 8082A
	Semi Volatile Organic Compounds (including PAHs[6], pentachlorophenol, and creosote)	EPA 8270	EPA 8270

Notes:

1. Silica gel cleanup is not to be performed for any of the above analyses.
2. Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Methyl tertiary Butyl Ether (MTBE), Tert Butyl Alcohol (TBA), lead scavengers Ethylene Dibromide (EDB) and Ethylene Dichloride (EDC), and ethanol. Additional fuel oxygenates Tert amyl ether (TAME), di-isopropyl ether (DIPE), and Ethyl t-butyl ether (ETBE) may be added as optional analytes.
3. Organic lead may be added as an optional analyte at fuel leak sites where lead is an analyte.
4. No groundwater sample for metals or TPH as motor oil is required unless requested by ACEH.
5. For USTs that potentially contained oils that are not petroleum-based, analysis for hexane extractable materials using EPA Method 9071B for soil and EPA Method 1664 for water is required.
6. Polycyclic aromatic hydrocarbon (PAH) analysis must include naphthalene, acenaphthene, acenaphthylene, anthracene, chrysene, fluorine, fluoranthene, phenanthrene, pyrene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(k)fluoranthene, benzo(a)anthracene, indeno(1,2,3-c,d)pyrene, dibenz(a,b)anthracene, and benzo(g,h,i)perylene.

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
OPERATING PERMIT APPLICATION – TANK INFORMATION (One form per UST)

TYPE OF ACTION *(Check one item only. For a UST closure or removal, complete only this section and Sections I, II, III, IV, and IX below)* 430.
☐ 1. NEW PERMIT ☐ 3. RENEWAL PERMIT ☐ 5. CHANGE OF INFORMATION
☐ 6. TEMPORARY UST CLOSURE ☐ 7. UST PERMANENT CLOSURE ON SITE ☒ 8. UST REMOVAL

DATE UST PERMANENTLY CLOSED: 430a. | DATE EXISTING UST DISCOVERED: 430b.

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)* 1.

BUSINESS NAME *(Same as Facility Name or DBA – Doing Business As)* 3.
BRTS AMERICA

BUSINESS SITE ADDRESS 103.
1599 MARITIME STREET

CITY 104.
OAKLAND

II. TANK DESCRIPTION

TANK ID # 432.
CF-04R

TANK MANUFACTURER 433.

TANK CONFIGURATION: THIS TANK IS 434.
☒ 1. A STAND-ALONE TANK
☐ 2. ONE IN A COMPARTMENTED UNIT
Complete one page for each compartment in the unit.

DATE UST SYSTEM INSTALLED 435.

TANK CAPACITY IN GALLONS 436.
10,000

NUMBER OF COMPARTMENTS IN THE UNIT 437.
1

III. TANK USE AND CONTENTS

TANK USE
☒ 1a. MOTOR VEHICLE FUELING ☐ 1b. MARINA FUELING ☐ 1c. AVIATION FUELING 439.
☐ 3. CHEMICAL PRODUCT STORAGE ☐ 4. HAZARDOUS WASTE (Includes Used Oil) ☐ 5. EMERGENCY GENERATOR FUEL [HSC §25281.5(c)]
☐ 6. OTHER GENERATOR FUEL ☐ 95. UNKNOWN ☐ 99. OTHER (Specify): 439a.

CONTENTS PETROLEUM:
☐ 1a. REGULAR UNLEADED ☐ 1c. MIDGRADE UNLEADED ☐ 1b. PREMIUM UNLEADED 440.
☒ 3. DIESEL ☐ 5. JET FUEL ☐ 6. AVIATION GAS
☐ 8. PETROLEUM BLEND FUEL ☐ 9. OTHER PETROLEUM (Specify): 440a.

NON-PETROLEUM: ☐ 7. USED OIL ☐ 10. ETHANOL
☐ 11. OTHER NON-PETROLEUM (Specify): 440b.

IV. TANK CONSTRUCTION

TYPE OF TANK ☐ 1. SINGLE WALL ☒ 2. DOUBLE WALL ☐ 95. UNKNOWN 443.

PRIMARY CONTAINMENT ☐ 1. STEEL ☒ 3. FIBERGLASS ☐ 6. INTERNAL BLADDER 444.
☐ 7. STEEL + INTERNAL LINING ☐ 95. UNKNOWN ☐ 99. OTHER (Specify): 444a.

SECONDARY CONTAINMENT ☐ 1. STEEL ☒ 3. FIBERGLASS ☐ 6. EXTERIOR MEMBRANE LINER ☐ 7. JACKETED 445.
☐ 90. NONE ☐ 95. UNKNOWN ☐ 99. OTHER (Specify): 445a.

OVERFILL PREVENTION ☐ 1. AUDIBLE & VISUAL ALARMS ☐ 2. BALL FLOAT ☐ 3. FILL TUBE SHUT-OFF VALVE 452.
☐ 4. TANK MEETS REQUIREMENTS FOR EXEMPTION FROM OVERFILL PREVENTION EQUIPMENT

V. PRODUCT / WASTE PIPING CONSTRUCTION

PIPING CONSTRUCTION ☐ 1. SINGLE WALL ☐ 2. DOUBLE WALL ☐ 99. OTHER 460.

SYSTEM TYPE ☐ 1. PRESSURE ☐ 2. GRAVITY ☐ 3. CONVENTIONAL SUCTION ☐ 4. SAFE SUCTION [23 CCR §2636(a)(3)] 458.

PRIMARY CONTAINMENT ☐ 1. STEEL ☐ 4. FIBERGLASS ☐ 8. FLEXIBLE ☐ 10. RIGID PLASTIC 464.
☐ 90. NONE ☐ 95. UNKNOWN ☐ 99. OTHER (Specify): 464a.

SECONDARY CONTAINMENT ☐ 1. STEEL ☐ 4. FIBERGLASS ☐ 8. FLEXIBLE ☐ 10. RIGID PLASTIC 464b.
☐ 90. NONE ☐ 95. UNKNOWN ☐ 99. OTHER (Specify): 464c.

PIPING/TURBINE CONTAINMENT SUMP TYPE ☐ 1. SINGLE WALL ☐ 2. DOUBLE WALL ☐ 90. NONE 464d.

VI. VENT, VAPOR RECOVERY (VR) AND RISER / FILL PIPE PIPING CONSTRUCTION

VENT PRIMARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464e. 464e1.
VENT SECONDARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464f. 464f1.
VR PRIMARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464g. 464g1.
VR SECONDARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464h. 464h1.
VENT PIPING TRANSITION SUMP TYPE		☐ 1. SINGLE WALL	☐ 2. DOUBLE WALL	☐ 90. NONE		464i.
RISER PRIMARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464j. 464j1.
RISER SECONDARY CONTAINMENT	☐ 1. STEEL	☐ 4. FIBERGLASS	☐ 10. RIGID PLASTIC	☐ 90. NONE	☐ 99. OTHER (Specify):	464k. 464k1.
FILL COMPONENTS INSTALLED	☐ 1. SPILL BUCKET	☐ 3. STRIKER PLATE/BOTTOM PROTECTOR	☐ 4. CONTAINMENT SUMP			451a-c.

VII. UNDER DISPENSER CONTAINMENT (UDC)

CONSTRUCTION TYPE ☐ 1. SINGLE WALL ☐ 2. DOUBLE WALL ☐ 3. NO DISPENSERS ☐ 90. NONE 469a.

CONSTRUCTION MATERIAL ☐ 1. STEEL ☐ 4. FIBERGLASS ☐ 10. RIGID PLASTIC ☐ 99. OTHER (Specify) 469b. 469c.

VIII. CORROSION PROTECTION

STEEL COMPONENT PROTECTION ☐ 2. SACRIFICIAL ANODE(S) ☐ 4. IMPRESSED CURRENT ☐ 6. ISOLATION 448.

IX. APPLICANT SIGNATURE

CERTIFICATION: I certify that this UST system is compatible with the hazardous substance stored and that the information provided herein is true, accurate, and in full compliance with legal requirements.

APPLICANT SIGNATURE John Prall | DATE April 6, 2016 470.

APPLICANT NAME (print) 471. John Prall | APPLICANT TITLE Assoc. Prof. Environmental Scientist 472.

CONTRACTORS STATE LICENSE BOARD

Contractor's License Detail for License # 716581

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

CSLB complaint disclosure is restricted by law (B&P 7124.6) If this entity is subject to public complaint disclosure, a link for complaint disclosure will appear below. Click on the link or button to obtain complaint and/or legal action information.
Per B&P 7071.17 , only construction related civil judgments reported to the CSLB are disclosed.
Arbitrations are not listed unless the contractor fails to comply with the terms of the arbitration.
Due to workload, there may be relevant information that has not yet been entered onto the Board's license database.

Data current as of 1/12/2016 3:47:37 PM

Business Information

NRC ENVIRONMENTAL SERVICES INC
3777 LONG BEACH BLVD SUITE 100
LONG BEACH, CA 90807
Business Phone Number:(562) 432-1304

Entity Corporation
Issue Date 12/20/1995
Expire Date **12/31/2017**

License Status

This license is current and active.

All information below should be reviewed.

Additional Status

The license may be suspended at a future date if the qualifying person is not replaced by 03/06/2016.

Classifications

A - GENERAL ENGINEERING CONTRACTOR
C21 - BUILDING MOVING, DEMOLITION
C22 - ASBESTOS ABATEMENT

Certifications

HAZ - HAZARDOUS SUBSTANCES REMOVAL
ASB - ASBESTOS (Check DOSH Asbestos Registration)

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with WESTCHESTER FIRE INSURANCE COMPANY.
Bond Number: K07093846
Bond Amount: $15,000
Effective Date: 01/01/2016
Contractor's Bond History

Workers' Compensation

This license has workers compensation insurance with the ZURICH AMERICAN INSURANCE COMPANY
Policy Number:WC0112369
Effective Date: 03/16/2015
Expire Date: 03/16/2016
Workers' Compensation History

Miscellaneous Information

06/10/2015 - DOSH REGISTRATION VERIFIED FOR C22

Other

Personnel listed on this license (current or disassociated) are listed on other licenses.

NRCUSHO-01 BAKERRY

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 3/15/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Willis Towers Watson Certificate Center	
Willis of New York, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 37230-5191	PHONE (A/C, No, Ext): (877) 945-7378	FAX (A/C, No): (888) 467-2378
	E-MAIL ADDRESS: certificates@willis.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Starr Indemnity & Liability Company	38318
INSURED	INSURER B :	
NRC Environmental Services, Inc. 9520 10th Ave. S., Suite 150 Seattle, WA 98108	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			1000066148161	03/16/2016	03/16/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 25,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			SISIPCA08364316	03/16/2016	03/16/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED RETENTION $			1000336870161	03/16/2016	03/16/2017	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		1000002061	03/16/2016	03/16/2017	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Contractor's Poll.			1000066148161	03/16/2016	03/16/2017	See Attached	
A	Professional Liab.			1000066148161	03/16/2016	03/16/2017	See Attached	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The Excess Policy is following form.

Evidence of Coverage

CERTIFICATE HOLDER

NRC Environmental Services Inc.
1605 Ferry Point
Alameda, CA 94501

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ADDITIONAL COVERAGE SCHEDULE

COVERAGE	LIMITS
POLICY TYPE: Contractors Pollution Liability **CARRIER: Starr Indemnity & Liability Company** **POLICY TERM: 3/16/2016 – 3/16/2017** **POLICY NUMBER: 1000066148161**	**$1,000,000 Each occurrence** **$2,000,000 Aggregate**
POLICY TYPE: Professional Liability **CARRIER: Starr Indemnity & Liability Company** **POLICY TERM: 3/16/2016 – 3/16/2017** **POLICY NUMBER: 1000066148161**	**$1,000,000 Each occurrence** **$2,000,000 Aggregate**

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

HAZARDOUS WASTE TRANSPORTER REGISTRATION
HAZARDOUS WASTE OF CONCERN TRANSPORTER

NAME AND ADDRESS OF REGISTERED TRANSPORTER

NRC ENVIRONMENTAL SERVICE INC.
1111 MARAUDER STREET
CHICO, CA 95973

TRANSPORTER REGISTRATION NO: 5158

EXPIRATION DATE: JUNE 30, 2016

THIS IS TO CERTIFY THAT THE FIRM NAMED ABOVE IS DULY REGISTERED TO TRANSPORT HAZARDOUS WASTE IN THE STATE OF CALIFORNIA IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 6.5, DIVISION 20 OF THE HEALTH AND SAFETY CODE AND TITLE 22 OF THE CALIFORNIA CODE OF REGULATIONS, DIVISION 4.5.

THIS REGISTRATION CERTIFICATE MUST BE CARRIED WITH EACH SHIPMENT OF HAZARDOUS WASTE.

FOR REGISTRATION INFORMATION, PLEASE CALL (916) 440-7145.

Tari L. Patterson
(AUTHORIZED SIGNATURE)

JUNE 10, 2015
(DATE)

NRC	SAFETY MANAGEMENT SYSTEM	SAFETY
Form 8.1.3 / Revision: 02/2015	Daily Health and Safety Plan / Safety Meeting	Date:03/06/2016_Job #: _____

Client: Port of Oakland	**Project Name**: Above and Underground Storage Tank Removal
Project Location: Oakland, CA	**Client Contact Name / Number**:
NRC Project Supervisor: Steve Hancock	**Cell Phone**: 510-385-0444
NRC Safety: Matthew D. Gerry	**Cell Phone**: 510-775-5212
CPR / FA:	**Cell Phone**:

PRE-WORK BRIEFING / STOP WORK AUTHORITY / FIT FOR DUTY

☐ **Stop Work Authority**: You have obligation and authority to report an unsafe situation to your site Supervisor.	
☐ **NRC Supervisor**: Ask each crew member if they have any accidents, incidents, near miss suggestions and are Fit For Duty.	**NRC Supervisor Signature Acknowledgment: _____ Date: _____**

EMERGENCY PROCEDURES

Hospital Name: Concentra Urgent Care	**Hospital Address/Phone:** 384 Embarcadero West, Oakland, CA 94607 510-465-9565	**Work Site Address:** 2500 7th Street, Oakland, CA (Berths 25/26)	
Meeting Location in Emergency:	To be decided by supervisor during pre- job safety meeting.		
Location of Emergency Equip:	**First Aid Kit**: NRC Vehicle	**Fire Extinguisher:** NRC Vehicle	**Eye Wash:** NRC Vehicle

DAILY SCOPE OF WORK / TASKS

1) Mobilize equipment from NRC yard and transport to job site.
2) Conduct pre- job safety briefing and review Health and Safety Plan (HASP). Set up and barricade off work area. Dawn established PPE.
3) Conduct ambient air monitoring of the area to verify no vapors or fumes are present. Air monitoring will go on for the duration of job with results documented.
4) Purge surrounding piping leading to the tanks to prevent run back during removal. Will be done with pressure washer.
5) Conduct lock out tag out. Disconnect piping; piping may need to be cut off for removal.
6) Pump out any residual diesel and liquids from tank into totes or drum

7) Excavate and remove pee gravel fill that is surrounding tank.
8) Remove tank from surrounding foundation. 3rd party crane and rigging contractor with NRC support.
9) Backfill foundation/ cap with pee gravel (once given clearance).
9) Decontaminate personnel and properly label/ placard any drums, totes, or bins.
10) Demobilize and transport any waste to pre- designated disposal facility.

JOB PREPARATION PERMITS / HOST FACILITY DOCUMENTATION

X Hazard Specific: JHA	**X** NRC Confined Space Permit * **If confined space entry is needed into tank. Ambient air monitoring to occur for duration of project.**	**X** Special Training / Competent Person * **Rigging done by 3rd party.**	☐ Other:
X Vehicle / Equipment Inspection	**X** Lockout-Tagout / Isolation Verified * **All sources of energy need to be locked out. Ensure all piping is purged and disconnected from tank before removal.**	☐ Fall Protection Plan	☐ Other:
X Excavation / Ground Disturbance * **Certified Excavation/ Back hoe operator required.**	☐ Scaffolding	☐ Host Permit: CSWP & APPENDIX	☐ Other:

HAZARD COMMUNICATION / SDS

NAME OF CHEMICAL Manufacturer	PHYSICAL PROPERTIES	ROUTES OF ENTRY	EXPOSURE LIMITS
Gasoline (Vapors/ Residual)	MW:__110_ Air = 29 VD_____VP___38-300_mmHg IP:_____eV - PID=10.6eV PH:_____ Fl.P:_-45 Degrees F__ LEL:__1.4__% UEL:__7.6___%	**X** Inhalation **X** Ingestion **X** Contact **X** Absorption (eye contact)	PEL:_____500 PPM___ REL/TLV____400 PPM TWA____ IDLH:____1,100 PPM_____
Dust (Particulates)	MW:_____ Air = 29 VD_____VP_____mmHg IP:_____eV - PID=10.6eV PH:_____ Fl.P:_____ LEL:____% UEL:_____%	**X** Inhalation **X** Ingestion ☐ Contact **X** Absorption (eye contact)	PEL:_____ REL/TLV_____ IDLH:_____
Diesel Fuel	FP: 125 deg F LEL/UEL=0.3%/10.0% Spec Grav=0.81-0.88	**X** Inhalation **X** Ingestion **X** Contact	PID < 100 ppm LEVEL D PPE

	BP= 320-700 deg F pH=N/A VP=0.4 (mmHg)	**X** Absorption (eye contact)	PID > 100 ppm < 500 ppm Don LEVEL C PPE -FF APR with GMA-P100 cartridge.

JOB HAZARD ANALYSIS

(Separate JHA for Additional Tasks)

TASK	HAZARD	PREVENTION	RESP PROTECTION	PPE *Specify Polymer*
Mobilization	• Site Security • Slips / Trips / Falls • Traffic	• Conduct pre- use vehicle inspection. Report any defects to yard personnel. • Follow all traffic laws while mobilizing to site and demobilizing from site. • Site surfaces are irregular. • Signs and visual barriers will be in place during work hours, and when site is unattended. • If the site has traffic through and adjacent to the work area; limit all walking and access to set points. Assign employee to monitor work/ traffic area if necessary. • Any site hazards identified during pre-job assessment (i.e. adverse weather conditions) will be addressed as needed with Project Manager and Safety Manager if necessary.	☐ H.F AP ☐ F.F. AP Resp. Cartridge_____ ☐ Supplied Air ☐ SCBA	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Leather Gloves**
Delivery of Site Equipment & Supplies	• Back strains, and hand injuries from equipment and supplies • Injury from landing incorrectly	• Verify before lifting that material is secured. Do not throw equipment from truck, lift any object over 50lbs with assistance. If in doubt of the weight ask for HELP first. Lift properly with legs and maintain footing. • Use dolly if needed to transport heavy materials and equipment. • Must use ladder and 3 point contact when exiting from trailer/ truck – DO NOT jump off.	☐ H.F AP ☐ F.F. AP Resp. Cartridge_____ ☐ Supplied Air ☐ SCBA	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Leather Gloves**
Set up of Equipment and Job Site	• Pinch points • Sharp edges • Back injury • Slips, trips, falls • Equipment failure	• Properly inspect all equipment prior to beginning work. All defective equipment will be removed from work site/ service and reported.	☐ H.F AP ☐ F.F. AP Resp. Cartridge_____ ☐ Supplied Air	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest**

		• Fill out heavy machinery inspection form prior to using back hoe or excavator. • Assess work area prior to beginning work. Any hazards identified shall be reported to the site supervisor and mitigated/ eliminated. STOP work authority is in affect at all times. • Barricade off work area. Ensure pedestrians and general traffic stays out of work area. • Verify before lifting that material is secured. Do not throw equipment from truck, lift any object over 50lbs with assistance. If in doubt of the weight ask for HELP first. Lift properly with legs and maintain footing. • Communicate and hazards or concerns with site supervisor.	☐ SCBA	☒ **Leather Gloves** **Level D PPE**
Ambient Air Monitoring (MX6 5 Gas Meter) of Work Area	• Explosive conditions (Although no hot work is involved) • Asphyxiation	• Discuss results of air monitoring i.e. LEL, O2. Write down results in air monitoring log. • In the event that explosive / toxic / IDLH atmospheres are present, work shall cease and effective grounding on tank and equipment shall be installed and verified with an OHM meter. • If entry is required, fill out the proper air monitoring log and post at the entrance to the tank.	Full face or half face respirator depending on air monitoring test results and if entry is required.	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Purge Piping (Pressure Washing) Leading Into Tank (Refer to Pressure Washing JHA)	• High Pressure water to skin injection • Splash back	• Pressure washer wand and equipment must never be aimed at any part of the body or person. • Pressure washer repair or fitting adjustments are done once the machine is off and all water supplies are removed. • De-pressurization of unit is done under extreme care wearing a full face shield with safety glasses. • All work requires full face shields and safety glasses. • Never aim at surfaces that are perpendicular to the operator, always work at an angle away from the cleaning target.	☐ H.F AP ☐ F.F. AP Resp. Cartridge_____ ☐ Supplied Air ☐ SCBA	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Face Shield** ☒ **Tyvec Suit** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Nitrile Gloves** **Level D PPE**

Heavy Machinery (excavator, backhoe, loader, compactor) See Back hoe JHA	• Equipment Failure • Slips / Trips / Falls • Overhead hazards • Moving Material • Struck by • Damage to equipment • LOTO • Dusty environment • Noise	• Conduct pre-operation inspection of all parts including connections and hydraulic lines. • Ensure grease and spare parts are available in case of failure. • Inspect fire extinguishers on equipment. • Never operate machinery outside of manufacturer's specification, never alter equipment. • Access machinery using handrails; maintain three points of contact at all times, ensure surfaces and boots are dry and free from debris. • Power lines, canopies and other structures on site may interfere with operation of equipment. Where these hazards cannot be removed or controlled, the operator is only to proceed with approval and direction from the site safety officer. • Use ground guides for equipment movement. • Ensure bucket is never overfilled, swing radius is clear. • Never walk under bucket. The operator must maintain communication with field Supervisor and awareness of the position of other personnel. • Ensure all Piping and energy sources have been properly LOTO prior to beginning excavation and removal work. • When equipment is not in use, be sure parking brake is set and equipment is stage on level ground and not blocking entry/exit paths. • Wear half face respirator w/ P-100 cartridge for the duration of excavation work. • Wet down dirt/ gravel piles to minimize dust in the air. • Wear hearing protection for the duration of work.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE** *** Personnel air pumps may be provided by BASELINE Environmental. Works in dusty environment (due to the nature of the site) should have at least one personnel pump with cassette.**
All UST System Removal Activities	• Slips / Trips / Falls • Heat / cold stress • Biological hazards (insects, snakes, wildlife, vegetation)	• Keep work area free of excess material and debris. • Take breaks as needed.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses**

	• Traffic (including pedestrian) • Fire / explosion	• Inspect work areas when arriving onsite to identify hazards. • Utilize cones, signs, flags and/or other traffic control devices. • Setup exclusion zone surrounding work area. • Inspect area behind vehicle prior to backing and use spotter. • No smoking near work area (establish designated area off-site). • Ensure type 20-ABC full charged fire ext. • As site conditions / activities warrant, establish Hot Work Permit including air monitoring using direct-reading, real time instruments such as LEL/O2 meter. • Stop work if hazardous conditions are identified.		☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Removal of Liquids	• Chemical Hazards • Flammable Atmosphere • Opening Tanks • Vacuum Truck Operations • Removal of liquids inside storage tank / piping may pose a flammable and toxic hazard • Trip / Fall Hazards • Noise	• Where a potential for exposure to gasoline or oils exist, employees must wear PPE, including eye/face protection and skin protection. • Pumps, vacuum truck may be used to reduce the possibility for employee exposure. • All lines entering the UST system will be drained and capped to prevent an uncontrolled flow of liquid into the system during removal operations. • Air monitoring for LEL will be contacted when activities result in a release of flammable vapors. • Fire extinguishers will be stationed to facilitate safe access in the event of a fire. • Tanks will be accessed through the associated manholes. • Tanks will be opened under direction of the Site Supervisor. All open manholes will be clearly marked with caution tape, and attended at all times. • Close access ports or manways after use to prevent trip / fall hazard. • A vacuum truck will be used to pump out residual liquids. The operator is experienced and qualified to perform the operations.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**

		• The vacuum truck will be bonded / grounded during operations to prevent static from ignited flammable vapors. • The operator will remain in close proximity to the vacuum truck to ensure motors are functioning properly and emergency shut off is available. Hazardous liquid will be stored in vacuum truck; the truck will be placarded as needed. • Wear hearing protection for the duration of pumping operations.		
Use of Cutting Saw (Removal of Pipes, etc.) and Hand Tools (Refer to Hand Tool JHA	• Pinch points • Improper/ deficient inspection • Not properly trained • Shock/ electrical • Strain-sprain • Difficult- positions • Cut-hazards • Dust • Noise	• Use proper holding and supporting techniques when turning wrenches, screw-drivers, and other torque-enhancing tools. • Inspect all tools prior to use. Defective tools will be removed from the work site. • Ensure any employee using tools has had the proper training on those tools. • Report any nicked or damaged electrical cords. Don't use tools that are missing ground plugs (unless they didn't have one to begin with). • Ensure proper direction and grip on plumbing fixtures prior to use of full body weight for counterbalance – use proper footing stance. • Verify correct pipelines prior to disassembly. • Wear hearing protection while using any tools that create noise. • Wear half face respirator w/ P-100 cartridge when using tools.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Loading of Misc. Debris (pipes, etc.)	• Falling or Flying Debris • Cuts from Jagged Debris • Strains/ Sprains • Slips, Trips, Falls	• Load all debris into buckets (if possible) • Leather gloves if loading by hand. • At no time shall debris be thrown into a bucket. • If debris is greater than 50 lbs., use buddy system to lift onto truck or ask the crane operators for assistance. • Check area for slip, trip, and fall hazards. Discuss with site supervisor and maintain situational awareness.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves**

				Level D PPE
Hoisting UST From Foundation (3rd Party)	• Breaking of sling or rigging equipment • Losing control of tank • Tank rolling on flat bed • Overhead / suspended loads	• Keep hands clear of hoisting operation; do not use hands to align double sling as it is lifting tank. Use the correct sling to lift tank. DO NOT USE slings that are used to "dog" equipment to trailers. • Inspect all equipment prior to use. Any defective equipment will be removed from the job. • Use a safety factor of Load x 125% = Chain Selected. • Sound horn frequently during lifting operations. • Secure tag lines before lifting UST and AST. • Use wheel chocks to prevent rolling once UST and AST are placed on trailer.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Backfill as Necessary	• Noise • Slips, trips, falls • Pinch points • Strains/sprains • Struck by • Equipment failure • Dusty environment • Failure to LOTO surrounding piping, electrical lines, etc. • Strike hazards	• Use hearing protection for the duration of heavy machinery work. • Ensure all piping, electrical wires, etc. have been identified and properly de energized through LOTO. Do not start digging until verified. • Ensure area around excavator is been barricaded off. Assign someone to control traffic if needed. Inspect overhead/ strike hazards and make sure equipment is an established distance away. • Maintain situational awareness at all times when work is being conducted. Immediately STOP work if a hazard is identified and report to site supervisor. • Keep hands out of pinch points. • Use proper ergonomics when lifting or moving debris. • Maintain and establish communication with back hoe/ excavator operator for the duration of operations. • Stay clear of back hoe/ excavator during operations. • Wet down gravel/ dirt to minimize dust.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**

		• Ensure bins are properly labeled and secured.		
Drum/ Bin Handling	• Slip, Trips and Falls • Pinch Points • Sprains/ strains • Spill • Failure to label/ placard totes	• Use bung or speed wrench to tighten the container. • Align and hold tools firmly. • Use proper stance. • Wear gloves to guard against nicks in the steel lid. • Use dolly when moving drums. • Ask for help if moving totes with pallet jack. • If spill occurs, stop work and contain/ clean up spill area. • Stay clear anytime bin is being moved on job site. • Make sure all drums are properly labeled and placarded before leaving work site.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Decontaminate Equipment and Personnel	• Accidental exposure/ contamination • Spill	• Establish decontamination area before job begins in pre- job safety briefing. • Properly dispose of spent PPE in pre-labeled drums. • Protect areas from overspray of cleaners or wash-water.	Half face with P-100 (HEPA) Cartridge	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**
Waste Hauling	• Shifting of load on flatbed truck • Falls from truck • Defective equipment	• Load must be tarp covered prior to moving vehicle. • Ensure metal appurtenances are properly secured to flatbed truck. Use properly rated straps. Inspect all straps prior to using them to secure tank. • Ensure straps are not securely fastened around jagged or sharp edges. If needed use a form of protection to prevent straps from becoming cut. • Access to the top of the truck for tarp operations must be done to ensure proper footing.	None	☒ **Hard Hat** ☒ **Safety Glasses** ☒ **Cotton Coveralls** ☒ **Steel Toe Boots** ☒ **Reflective Vest** ☒ **Leather Gloves** **Level D PPE**

		• Access to and from the vehicle must be three point contact.		
Demobilization and Transport Waste for Disposal	• Cuts from removing barrier tape • Improper labeling/ placarding • Picking up loose debris • Traffic	• Wear gloves at all times. • Enforce housekeeping regulations at all times. • Follow all traffic laws while driving. Use spotter when backing up. • Ensure all equipment is secure before leaving job site. • Ensure totes and drums are properly labeled/ placarded before leaving job site.	None	☒ Hard Hat ☒ Safety Glasses ☒ Cotton Coveralls ☒ Steel Toe Boots ☒ Reflective Vest ☒ Leather Gloves Level D PPE

AIR MONITORING LOG

(Note: If project requires more monitoring entries, please use separate monitoring log)

			Sensors				PID	DETECTOR TUBES
Date	Time	Location Description	LEL (%)	O2 (%)	H2S (ppm)	CO (ppm)	VOC ppm	Chemical:_____ PPM:_____
		ACTION LEVELS - any single reading > action level; call safety	5%	< 20 %	5 ppm	25 ppm	> ___ppm	> 0.5 ppm
			continuous levels > 15 minutes					

CREW SAFETY SUGGESTIONS

DESCRIPTION OF HAZARD	SUGGESTION

NRC	SAFETY MANAGEMENT SYSTEM	SAFETY
Form 8.1.3 / Revision: 02/2015	Daily Health and Safety Plan / Safety Meeting	Date:03/06/2016_Job #: _____

SUPERVISOR JOB DE-BRIEFING

☐ Ask each crew member if they have any accidents, incidents, near miss, suggestions or concerns about fatigue.

☐ **NRC Supervisor Signature Acknowledgment:** _____ **Date:** _____

DAILY SAFETY MEETING ATTENDANCE SIGNATURE

Based on the work description, I have received adequate training or experience to perform my assigned tasks and will follow all the required safety rules and protocols.
** I am aware that I am to sign in at the beginning of shift and sign out at the end of my shift.
I must notify the Supervisor/PM on site of any injury/accident/near miss that I had during my shift or that I observed. **

PRINT NAME	SIGNATURE IN	SIGNATURE OUT – *Check yes if you were injured on the job today* *Check no if you were not injured today*	Yes	No
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
	Date:_____	Date:_____	☐	☐
			☐	☐

NRC	SAFETY MANAGEMENT SYSTEM	TEAM SAFETY IT'S THE WAY TO GO!
Form 8.1.3 / Revision: 02/2015	Daily Health and Safety Plan / Safety Meeting	Date:03/06/2016_Job #: _____

Based on the work description, I have received adequate training or experience to perform my assigned tasks and will follow all the required safety rules and protocols.
** I am aware that I am to sign in at the beginning of shift and sign out at the end of my shift.
I must notify the Supervisor/PM on site of any injury/accident/near miss that I had during my shift or that I observed. **

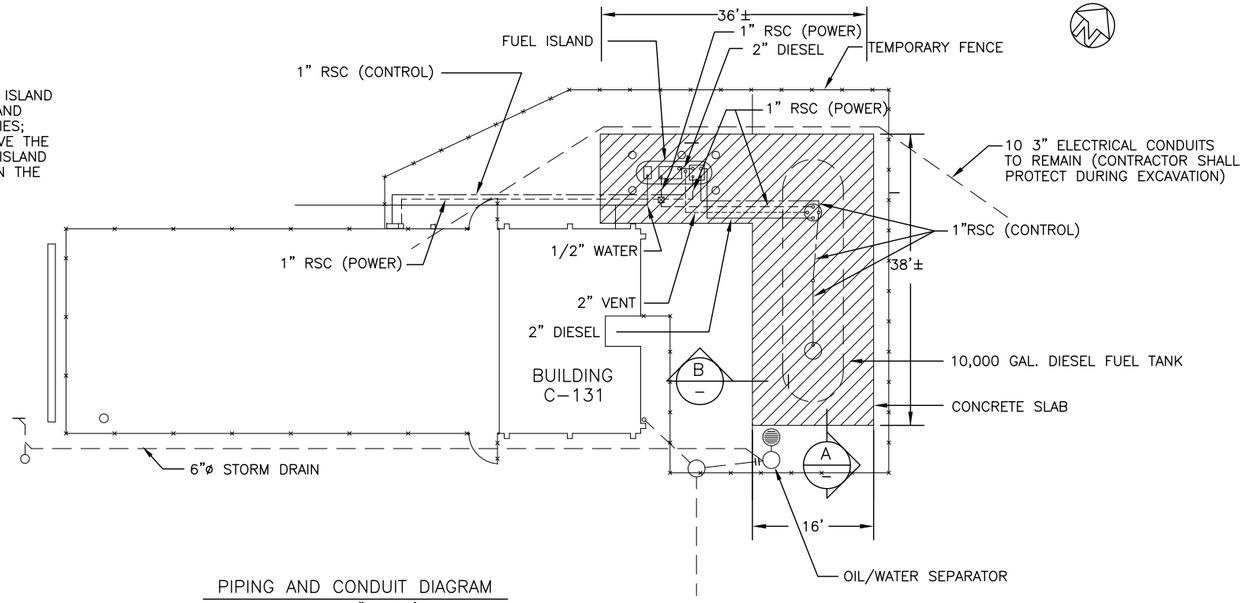
	Date:		**Date:**	

APPENDIX B

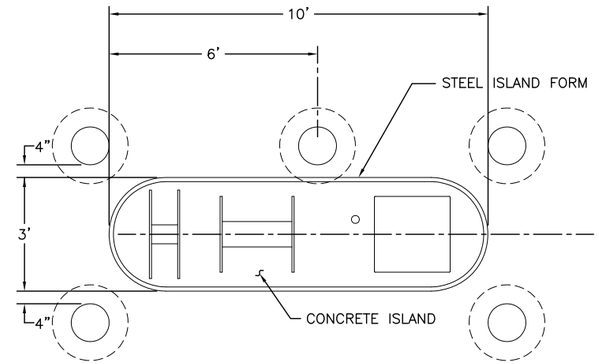
UST AND OIL-WATER SEPARATOR DESIGN DRAWINGS

NOTES:

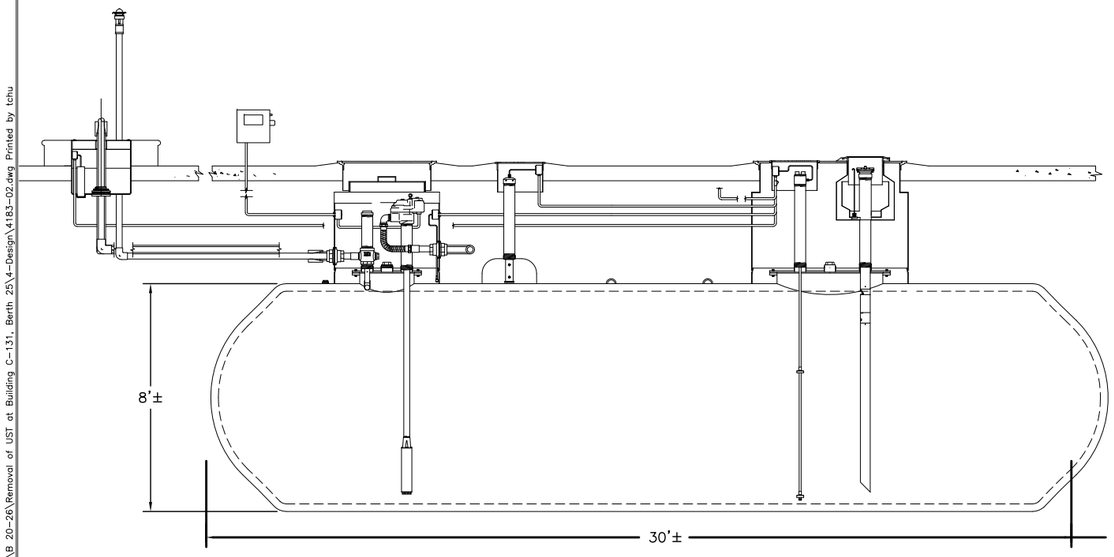
1. REMOVE EXISTING TANK, OIL/WATER SEPARATOR AND DISPENSER ISLAND INCLUDING BUT NOT LIMITED TO: THE PUMP, DISPENSER, FUEL AND WATER HOSE AND REEL; FUEL AND VENT PIPING AND ACCESSORIES; ELECTRICAL CONDUIT AND CONTROL BOX; CONCRETE SLABS ABOVE THE TANK AND OIL/WATER SEPARATOR AND ADJACENT TO THE FUEL ISLAND SEPARATOR; AND GUARD POSTS AND FOUNDATIONS AS SHOWN IN THE HATCHED AREA. REMOVAL ALL CONTAMINATED SOIL AND FILL AS DETERMINED BY THE ENGINEER.
2. ALL STRUCTURES ARE EXISTING UNLESS OTHERWISE NOTED
3. FURNISH AND INSTALL ENGINEERED FILL SUFFICIENT TO REPLACE THE REMOVED STRUCTURES AND SOIL UP TO 12" BELOW FINAL GRADE. FURNISH AND INSTALL 12" CDF ABOVE FILL.



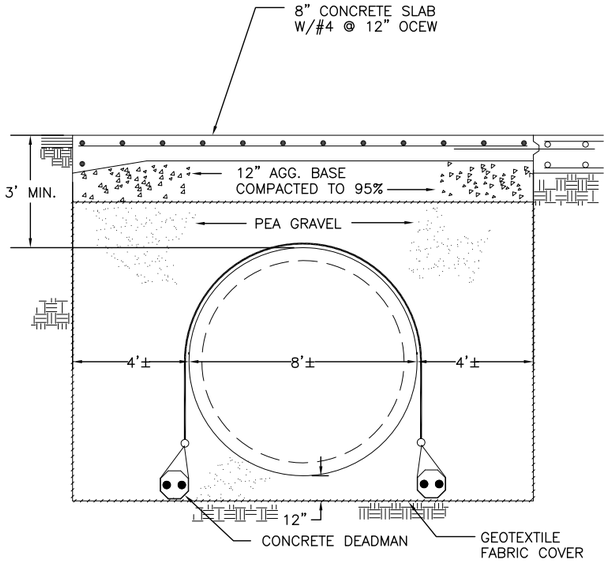
PIPING AND CONDUIT DIAGRAM
SCALE: 1" = 10'



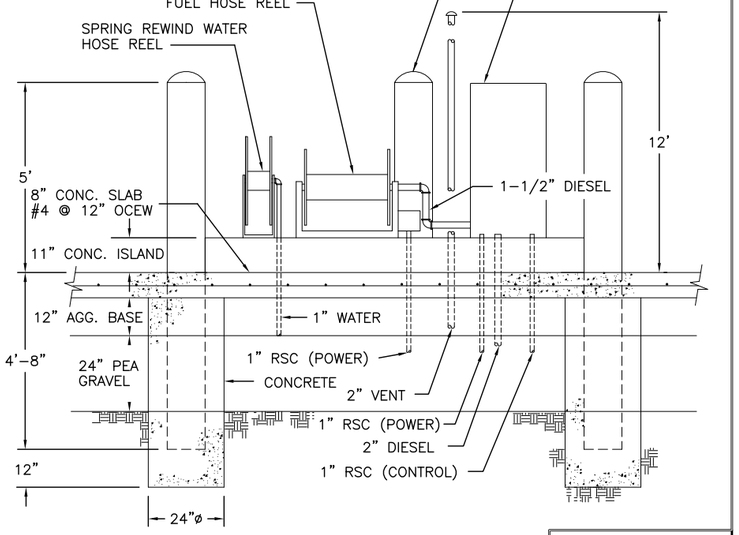
ISLAND PLAN
N.T.S.



EXISTING 10,000 GALLON DIESEL TANK (A)
N.T.S.



TANK SECTION (B)
N.T.S.



ISLAND ELEVATION
N.T.S.

W.O.#

REFERENCES:
PLANS AA-3168, AA-3330
FIELD BOOKS

"PORT OF OAKLAND DATUM"
IS 3.20' BELOW N.G.V.D. '29

CAUTION:
CHECK TRACING FOR LATEST REVISIONS

REVIEWED _____ FACILITIES DEPT
REVIEWED _____ REVENUE DEPT
REVIEWED _____

NO.	REVISIONS	DATE	REV'D	APP'D

DRAWN _____
DESIGNED _____ C 63213 REG. ENGINEER NO.
CHECKED _____ C 64694 REG. ENGINEER NO.

CAUTION: THIS PLAN MAY BE REDUCED 0 1" 2" ORIGINAL SCALE

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER _____ C 43841 REG. ENGINEER NO.
APPROVED _____ C 42009 REG. ENGINEER NO.
RECOMMENDED _____ C 64694 REG. ENGINEER NO.

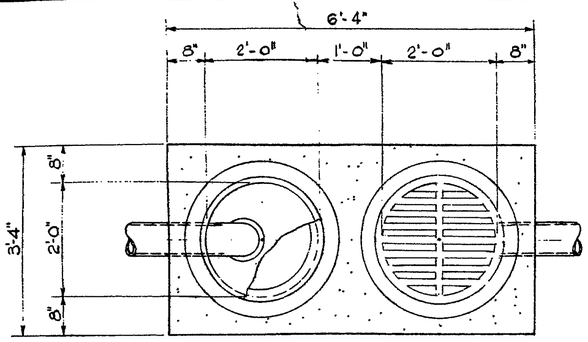
OUTER HARBOR

REMOVAL OF FUEL STORAGE TANKS CF-04R AND CF-40, BERTH 25

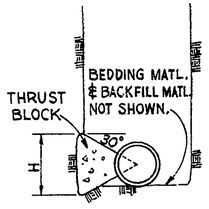
DEMOLITION PLAN – CF-04R

DATE: 02/05/16
SCALE: AS SHOWN
SHEET: 02 OF 03 SHEETS
D1 | AA-4183

PRINT DATE 03-29-16 10:11:14 N:\PDDM2\Projects_2\B 20-26\Removal of UST at Building C-131, Berth 25\4-Design\4183-02.dwg Printed by tchu



PLAN



TYPICAL SECTION
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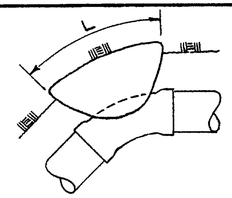
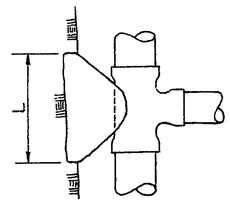


BEND
NO SCALE



TEE
NO SCALE

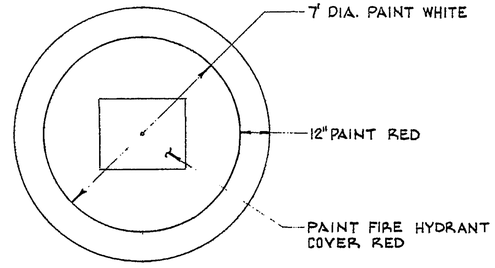
THRUST BLOCK BEARING AREAS					
	BEARING AREA (HxL) SQ.FT.				
SIZE	90° BEND	45° BEND	22½° BEND	11¼° BEND	TEES & DEAD ENDS
4"	2.5	1.5	1.0	0.5	1.8
6"	5.5	3.0	1.5	1.0	3.8
8"	9.5	5.0	2.5	1.5	6.6

MAX. H = 2'-0"
ALLOWABLE SOIL PRESSURE 1500 P.S.F.

NOTES:

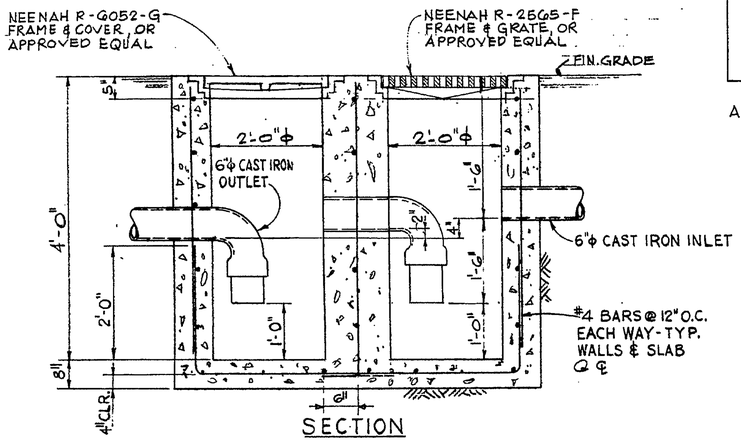
1. THRUST BLOCKS AT ALL BENDS ARE TO BE PLACED PERPENDICULAR TO BISECTOR OF ANGLE SUBTENDED BY BEND.
2. AMOUNT OF BEARING SURFACE IN SQ. FT. (HxL) IS IN TABLE AT LEFT.
3. ALL THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. ALL CAPPED ENDS SHALL HAVE A WOOD PANEL PLACED BETWEEN THE CONCRETE AND CAPPED END.

THRUST BLOCKS



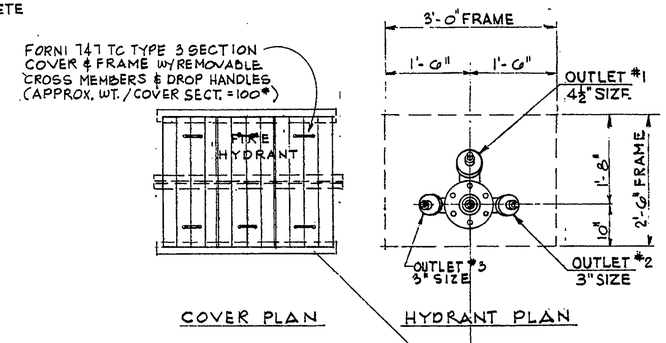
PLAN

FIRE HYDRANT PAINTING DETAIL
3/8"=1'-0"



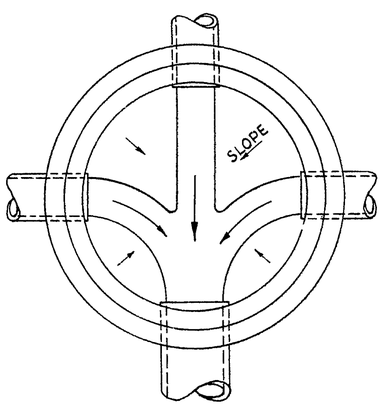
SECTION

GREASE TRAP DETAIL
NO SCALE
STRUCT. NO. S17 & S19
SEE SHEETS P-2 & P-3

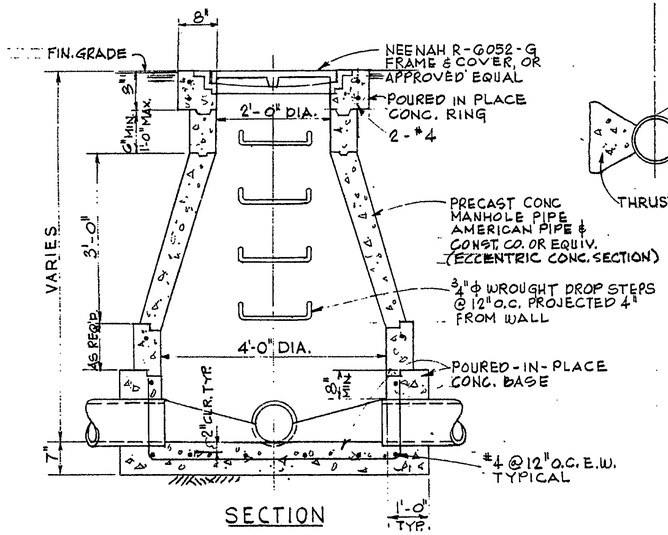


COVER PLAN

HYDRANT PLAN

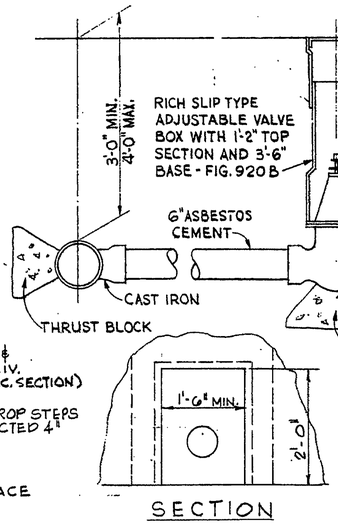


PLAN

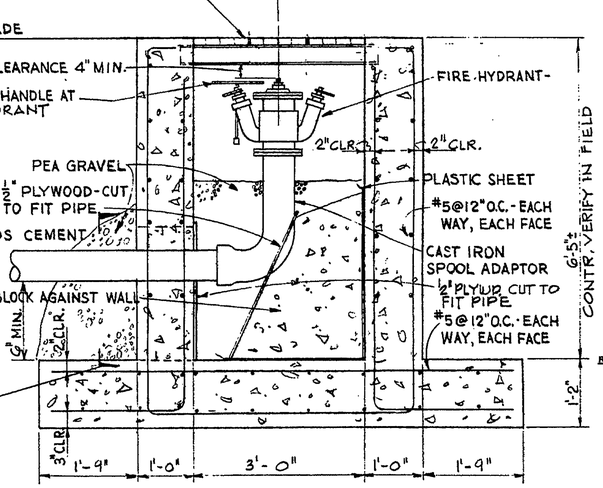


SECTION

SANITARY SEWER MANHOLE DETAIL
3/4"=1'-0"
SEE SHEET P7



SECTION



FIRE HYDRANT DETAIL
SEE SCHEDULE ON SHEET P9
3/4"=1'-0"

"PORT OF OAKLAND DATUM" IS 3.20' BELOW MEAN SEA LEVEL

GRAPHIC SCALE 0 1 2 — 3/4"=1'-0"; 0 1 2 3 4 6 — 5/8"=1'-0"

NOTE: THIS DRAWING IS PRELIMINARY AND FOR STUDY PURPOSES ONLY UNLESS SIGNED BY CHIEF ENGINEER

NO.	REVISIONS	DATE	APP'D

Jordan | Casper | Woodman | Dobson
Architecture Structural Engineering
3664 Grand Avenue, Oakland, Calif.

DESIGNED NB
DRAWN HC
CHECKED RBW
APPROVED Richard B. Woodman
LICENSE NO. CE 19274 PROJECT NO. 75110

REVIEWED
RECOMMENDED
APPROVED
ASST CHIEF ENGINEER

PORT OF OAKLAND
OAKLAND, CALIFORNIA

OUTER HARBOR TERMINAL
CONSTRUCTION OF YARD IMPROVEMENTS
BERTHS 2, 3 AND 4

GREASE TRAP, M.H., F.H. AND THRUST BLOCKS

CHIEF ENGINEER

DATE DEC. 11, 1978 FILE AA-1709 SHEET P8 OF SHEETS
SCALE AS NOTED

CAUTION - CHECK TRACING FOR LATEST REVISIONS AND GRAPHIC SCALE FOR POSSIBLE REDUCTION

APPENDIX C

UST PRESSURE AND MONITORING SYSTEM TEST RESULTS

Afforda-Test

416 2nd Street Phone: (209) 744-0112
Galt, Ca 95632 Fax: (209) 744-0116
afforda@softcom.net

VR-401/402
AST Static Pressure Performance Test Report Form

Permit Number:		Test Company: AFFORDA TEST	
Site Name: PORTS AMERICA		Technician: ED STERNS	
Site Address: 1599 MARITIME		Certification Number	Expiration Date
City: OAKLAND CA	Zip:	District: BAY AREA	2016
Date/Time of Test: 11-04-15			

TEST INFORMATION				
Total number of nozzles: 1			Are the tanks manifolded? ☐ Yes ☒ No	
Phase I vapor recovery system executive order (as referenced on Permit to Operate)				2 PT
Phase I vapor recovery system configuration	☐ 2-point			
Phase II vapor recovery system executive order (as referenced on Permit to Operate)				BALANCE
Nitrogen introduction point	☐ Phase I vapor coupler	☐ Phase I vent line		☒ Phase II vapor riser
Pressure measuring device	☐ incline manometer	☒ digital manometer		☐ mechanical gauge
Calibration date for pressure measuring device (must be within 90 days of the test)				11-04-15
Ending value for digital manometer drift test if applicable (must be 0.01 in. w.c. or less)				0.00
Nitrogen introduction flow rate, F (must be between 1 and 5 CFM)				2CFH
Number of hoses with over 100 ml (balance hoses must be drained prior to testing)				0

TANK INFORMATION					
Tank No.	1	2	3	4	ALL
Product grade	87				
Actual tank capacity (gallons)	2000				
Gasoline volume (gallons)	1000				
Ullage (gallons)[1]	1000				
If tanks are not manifolded, number of nozzles	NA				

2 IN. W.C. STATIC PRESSURE TEST					
Test No.	1	2	3	4	5
Start time	1300				
Initial Pressure, inches of water column (in. w.c.)	2.0				
Pressure at one minute, in. w.c.	1.99				
Pressure at two minutes, in. w.c.	1.98				
Pressure at three minutes, in. w.c.	1.97				
Pressure at four minutes, in. w.c.	1.95				
Pressure at five minutes, in. w.c.	1.93				
Allowable minimum pressure, in. w.c.	**1.77**				
Pass / Fail	**PASS**				

NOTE: [1]The minimum ullage during the test shall be 25 percent of the tank capacity or 300 gallons, whichever is greater.

I declare, under penalty of perjury under the laws of the state of California that based on information and belief formed after reasonable inquiry, the statements and information provided in this document are true, accurate, and complete.

Signature of Technician: Ed Sterns Date: 11-4-15

Appendix VI
MONITORING SYSTEM CERTIFICATION

For Use By All Jurisdictions Within the State of California

Authority Cited: Chapter 6.7, Health and Safety Code; Chapter 16, Division 3, Title 23, California Code of Regulations

This form must be used to document testing and servicing of monitoring equipment. A separate certification or report must be prepared for each monitoring system control panel by the technician who performs the work. A copy of this form must be provided to the tank system owner/operator. The owner/operator must submit a copy of this form to the local agency regulating UST systems within 30 days of test date.

A. General Information

Facility Name: PORTS AMERICA Bldg. No.:

Site Address: 1599 MARITIME ST City: OAKLAND Zip:

Facility Contact Person: GILL Contact Phone No.: (510) 464-8613

Make/Model of Monitoring System: VEEDER ROOT TLS 350 Date of Testing/Servicing: 11-04-15

B. Inventory of Equipment Tested/Certified

Check the appropriate boxes to indicate specific equipment inspected/serviced:

Tank ID: DIE	**Tank ID:**
☒ In-Tank Gauging Probe. Model: MAG 1	☐ In-Tank Gauging Probe. Model:
☒ Annular Space or Vault Sensor. Model: 301	☐ Annular Space or Vault Sensor. Model:
☒ Piping Sump / Trench Sensor(s). Model: 208	☐ Piping Sump / Trench Sensor(s). Model:
☐ Fill Sump Sensor(s). Model:	☐ Fill Sump Sensor(s). Model:
☒ Mechanical Line Leak Detector. Model: LD 2000	☐ Mechanical Line Leak Detector. Model:
☐ Electronic Line Leak Detector. Model:	☐ Electronic Line Leak Detector. Model:
☐ Tank Overfill / High-Level Sensor. Model:	☐ Tank Overfill / High-Level Sensor. Model:
☐ Other (specify equipment type and model in Section E on Page 2).	☐ Other (specify equipment type and model in Section E on Page 2).
Tank ID:	**Tank ID:**
☐ In-Tank Gauging Probe. Model:	☐ In-Tank Gauging Probe. Model:
☐ Annular Space or Vault Sensor. Model:	☐ Annular Space or Vault Sensor. Model:
☐ Piping Sump / Trench Sensor(s). Model:	☐ Piping Sump / Trench Sensor(s). Model:
☐ Fill Sump Sensor(s). Model:	☐ Fill Sump Sensor(s). Model:
☐ Mechanical Line Leak Detector. Model:	☐ Mechanical Line Leak Detector. Model:
☐ Electronic Line Leak Detector. Model:	☐ Electronic Line Leak Detector. Model:
☐ Tank Overfill / High-Level Sensor. Model:	☐ Tank Overfill / High-Level Sensor. Model:
☐ Other (specify equipment type and model in Section E on Page 2).	☐ Other (specify equipment type and model in Section E on Page 2).
Dispenser ID: 1	**Dispenser ID:**
☐ Dispenser Containment Sensor(s). Model:	☐ Dispenser Containment Sensor(s). Model:
☒ Shear Valve(s).	☐ Shear Valve(s).
☒ Dispenser Containment Float(s) and Chain(s).	☐ Dispenser Containment Float(s) and Chain(s).
Dispenser ID:	**Dispenser ID:**
☐ Dispenser Containment Sensor(s). Model:	☐ Dispenser Containment Sensor(s). Model:
☐ Shear Valve(s).	☐ Shear Valve(s).
☐ Dispenser Containment Float(s) and Chain(s).	☐ Dispenser Containment Float(s) and Chain(s).
Dispenser ID:	**Dispenser ID:**
☐ Dispenser Containment Sensor(s). Model:	☐ Dispenser Containment Sensor(s). Model:
☐ Shear Valve(s).	☐ Shear Valve(s).
☐ Dispenser Containment Float(s) and Chain(s).	☐ Dispenser Containment Float(s) and Chain(s).

*If the facility contains more tanks or dispensers, copy this form. Include information for every tank and dispenser at the facility.

C. Certification - I certify that the equipment identified in this document was inspected/serviced in accordance with the manufacturers' guidelines. Attached to this Certification is information (e.g. manufacturers' checklists) necessary to verify that this information is correct and a Plot Plan showing the layout of monitoring equipment. For any equipment capable of generating such reports, I have also attached a copy of the report; *(check all that apply)*: ☒ **System set-up** ☒ **Alarm history report**

Technician Name (print): FELIX RAMIREZ Signature:

Certification No.: 5273934-UT License No: 08-1740

Testing Company Name: AFFORDA-TEST Phone No. (209) 744-0113

Testing Company Address: 416 2nd STREET GALT, CA 95632 Date of Testing/Servicing: 11-04-15

D. Results of Testing/Servicing

Software Version Installed: **324.01**

Complete the following checklist:

☒ Yes	☐ No*	Is the audible alarm operational?
☒ Yes	☐ No*	Is the visual alarm operational?
☒ Yes	☐ No*	Were all sensors visually inspected, functionally tested, and confirmed operational?
☒ Yes	☐ No*	Were all sensors installed at lowest point of secondary containment and positioned so that other equipment will not interfere with their proper operation?
☐ Yes	☐ No* ☒ N/A	If alarms are relayed to a remote monitoring station, is all communications equipment (e.g., modem) operational?
☒ Yes	☐ No* ☐ N/A	For pressurized piping systems, does the turbine automatically shut down if the piping secondary containment monitoring system detects a leak, fails to operate, or is electrically disconnected? If yes: which sensors initiate positive shut-down? *(Check all that apply)* ☒ Sump/Trench Sensors; ☐ Dispenser Containment Sensors. Did you confirm positive shut-down due to leaks and sensor failure/disconnection? ☒ Yes; ☐ No.
☐ Yes	☐ No* ☒ N/A	For tank systems that utilize the monitoring system as the primary tank overfill warning device (i.e., no mechanical overfill prevention valve is installed), is the overfill warning alarm visible and audible at the tank fill point(s) and operating properly? If so, at what percent of tank capacity does the alarm trigger? %
☐ Yes	☒ No	Was any monitoring equipment replaced? If yes, identify specific sensors, probes, or other equipment replaced and list the manufacturer name and model for all replacement parts in Section E, below.
☐Yes*	☒ No	Was liquid found inside any secondary containment systems designed as dry systems? *(Check all that apply)* ☐ Product; ☐ Water. If yes, describe causes in Section E, below.
☒ Yes	☐ No*	Was monitoring system set-up reviewed to ensure proper settings? Attach set up reports, if applicable
☒ Yes	☐ No*	Is all monitoring equipment operational per manufacturer's specifications?

*** In Section E below, describe how and when these deficiencies were or will be corrected.**

E. Comments: FLAPPER VALVE IN DROP TUBE

F. In-Tank Gauging / SIR Equipment:

☒ Check this box if tank gauging is used only for inventory control.
☐ Check this box if no tank gauging or SIR equipment is installed.

This section must be completed if in-tank gauging equipment is used to perform leak detection monitoring.

Complete the following checklist:

☒ Yes	☐ No*	Has all input wiring been inspected for proper entry and termination, including testing for ground faults?
☒ Yes	☐ No*	Were all tank gauging probes visually inspected for damage and residue buildup?
☒ Yes	☐ No*	Was accuracy of system product level readings tested?
☒ Yes	☐ No*	Was accuracy of system water level readings tested?
☒ Yes	☐ No*	Were all probes reinstalled properly?
☒ Yes	☐ No*	Were all items on the equipment manufacturer's maintenance checklist completed?

*** In Section H, below, describe how and when these deficiencies were or will be corrected.**

Line Leak Detectors (LLD):

☐ Check this box if LLDs are not installed.

Complete the following checklist:

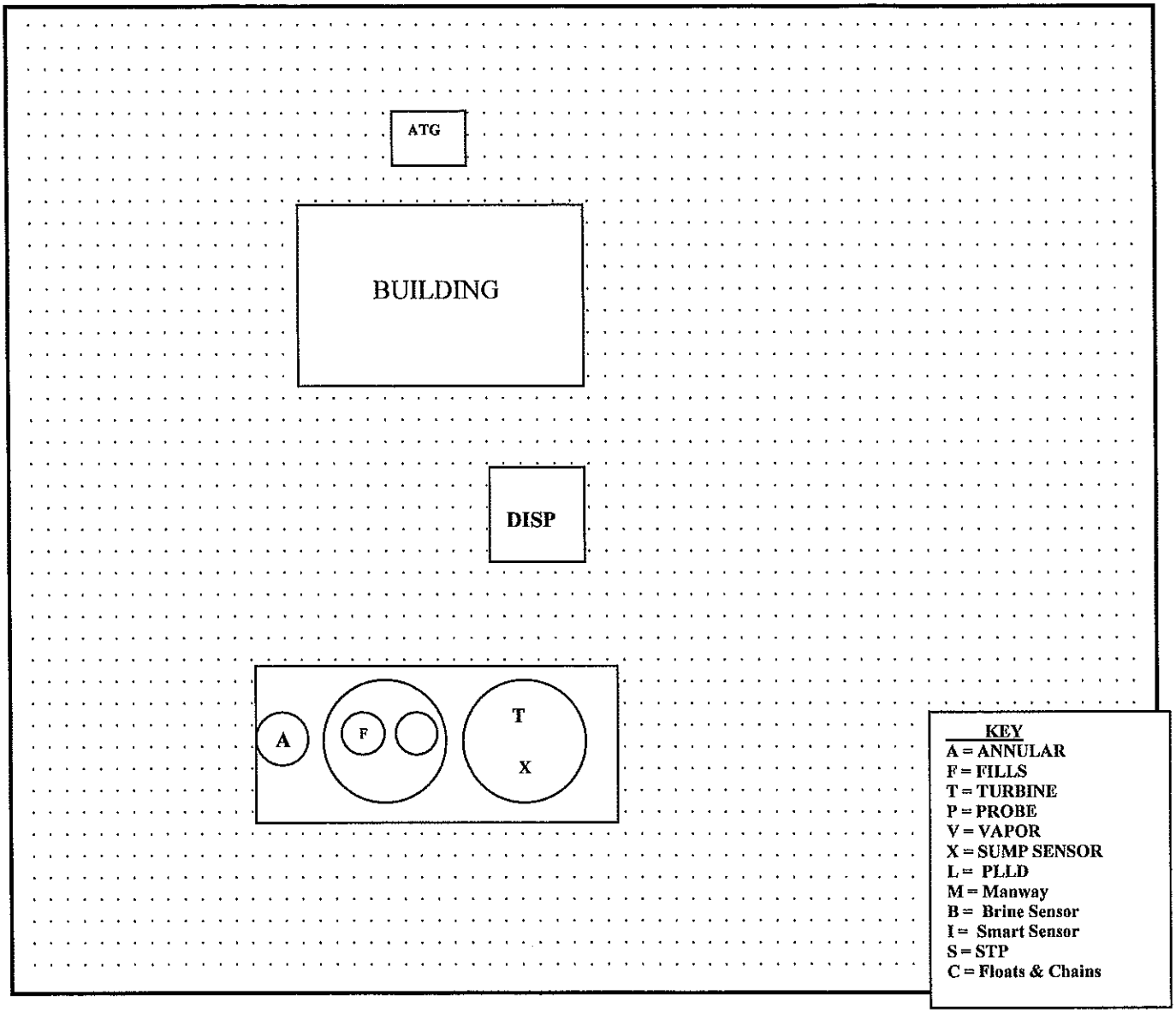
☒ Yes	☐ No* ☐ N/A	For equipment start-up or annual equipment certification, was a leak simulated to verify LLD performance? *(Check all that apply)* Simulated leak rate: ☒ 3 g.p.h.; ☐ 0.1 g.p.h ; ☐ 0.2 g.p.h.
☒ Yes	☐ No*	Were all LLDs confirmed operational and accurate within regulatory requirements?
☒ Yes	☐ No*	Was the testing apparatus properly calibrated?
☒ Yes	☐ No* ☐ N/A	For mechanical LLDs, does the LLD restrict product flow if it detects a leak?
☐ Yes	☐ No* ☒ N/A	For electronic LLDs, does the turbine automatically shut off if the LLD detects a leak?
☐ Yes	☐ No* ☒ N/A	For electronic LLDs, does the turbine automatically shut off if any portion of the monitoring system is disabled or disconnected?
☐ Yes	☐ No* ☒ N/A	For electronic LLDs, does the turbine automatically shut off if any portion of the monitoring system malfunctions or fails a test?
☐ Yes	☐ No* ☒ N/A	For electronic LLDs, have all accessible wiring connections been visually inspected?
☒ Yes	☐ No*	Were all items on the equipment manufacturer's maintenance checklist completed?

*** In Section H, below, describe how and when these deficiencies were or will be corrected.**

Comments:

UST Monitoring Site Plan

Site Address: PORTS AMERICA 1599 MARITIME STREET OAKLAND CA 94607



Date map was drawn: 1/4/2011.

Instructions

If you already have a diagram that shows all required information, you may include it, rather than this page, with your Monitoring System Certification. On your site plan, show the general layout of tanks and piping. Clearly identify locations of the following equipment, if installed: monitoring system control panels; sensors monitoring tank annular spaces, sumps, dispenser pans, spill containers, or other secondary containment areas; mechanical or electronic line leak detectors; and in-tank liquid level probes (if used for leak detection). In the space provided, note the date this Site Plan was prepared.

Afforda-Te$t

415 2nd Street
Galt, California 95632
(209) 744-0112 (800) 524-9087 FAX (209) 744-0116

LEAK DETECTOR TEST REPORT

Owner/Contractor/Eng:	TEST DATE: 11-04-15	ENVIRONMENTAL HEALTH AGENCY: ALAMEDA CO
SITE NAME: PORT AMERICA Site Address: 1599 MARTITIME ST	TECHNICIAN NAME: FELIX RAMIREZ	X Present Not Present
City: OAKLAND CA Phone: (510)464-8613	TECHNICIAN SIGNATURE:	INSPECTOR NAME: STEVE
Operator Name:	OTTL # 08-1740 ICC # 5273934-UT	

LEAK DETECTOR KEY

A	LD2000	E	FE Petro STP-MLD	K	Red Jacket FXIV
B	99 LD2000	F	FE Petro STP-MLD-E	M	Red Jacket FXIVD
C	VAPORLESS HI-FLOW	G	FE Petro STP-MLD-D	N	Red Jacket Hi-Flow
D	F E PETRO HI-FLOW	H	FE Petro STP-MLD-DE		Other

FTA LEAK DETECTOR TEST INFORMATION

Calibrated to 10 psi

Dispenser Number	Product	LD Key (from above)	Resiliency	OpeningTime (In Seconds)	Test Leak Rate (ML per Minute)	Functional Element (Holding PSI)	Metering PSI	Pass/Fail
NA	87	NA						
NA	89	NA						
NA	91	NA						
1	DIE	A	125	6	189/3	31	21	PASS

Spill Bucket Testing Report Form

This form is intended for use by contractors performing annual testing of UST spill containment structures. The completed form and printouts from tests (if applicable), should be provided to the facility owner/operator for submittal to the local regulatory agency.

1. FACILITY INFORMATION

Facility Name:	PORTS AMERICA	Date of Testing:	11-04-15
Facility Address:	1599 MARITIME ST OAKLAND CA		
Facility Contact:	GIL	Phone:	510-464-8613
Date Local Agency Was Notified of Testing :10-20-15			
Name of Local Agency Inspector *(if present during testing)*:	ALAMEDA CO STEVE		

2. TESTING CONTRACTOR INFORMATION

Company Name:	**AFFORDA TEST** 416 2nd Street Galt, CA 95632 (209) 744-0112 Fax: (209) 744-0116
Technician Conducting Test:	☐ Lyle D. Nimmo 5249115-UT ☐ Zane A. Nimmo 5263322-UT ☐ David A. Winkler 5263373-UT ☒ Felix G. Ramirez 5273934-UT
Credentials[1]:	☒ ICC Service Tech. ☒ SWRCB Tank Tester

3. SPILL BUCKET TESTING INFORMATION

Test Method Used:	☒ Hydrostatic	☐ Vacuum	☐ Other	
Test Equipment Used: TAPE / H20			Equipment Resolution: 1/16	
Identify Spill Bucket *(By Tank Number, Stored Product, etc.)*	**1 DIE**	**2**	**3**	**4**
Bucket Installation Type:	☐ Direct Bury ☒ Contained in Sump	☐ Direct Bury ☐ Contained in Sump	☐ Direct Bury ☐ Contained in Sump	☐ Direct Bury ☐ Contained in Sump
Bucket Diameter:	11			
Bucket Depth:	13			
Wait time between applying vacuum/water and start of test:	-			
Test Start Time (T_I):	1300			
Initial Reading (R_I):	12			
Test End Time (T_F):	1400			
Final Reading (R_F):	12			
Test Duration ($T_F - T_I$):	1 HOUR			
Change in Reading ($R_F - R_I$):	0			
Pass/Fail Threshold or Criteria:	-			
Test Result:	☒ **Pass** ☐ **Fail**	☐ **Pass** ☐ **Fail**	☐ **Pass** ☐ **Fail**	☐ **Pass** ☐ **Fail**

Comments – *(include information on repairs made prior to testing, and recommended follow-up for failed tests)*

CERTIFICATION OF TECHNICIAN RESPONSIBLE FOR CONDUCTING THIS TESTING

I hereby certify that all the information contained in this report is true, accurate, and in full compliance with legal requirements.

Technician's Signature:  Date:11-04-15

[1] State laws and regulations do not currently require testing to be performed by a qualified contractor. However, local requirements may be more stringent.

APPENDIX D

WASTE MANIFESTS AND HAZARDOUS WASTE TANK CLOSURE CERTIFICATION

CONTENTS & RINSEATE
TANK CF-04R CF-40

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	CAL000284007	1	NRC 510 749-1390	014378566 JJK

5. Generator's Name and Mailing Address
PORT OF OAKLAND
530 WATER STREET
OAKLAND CA 94607
ATT: JEFF RUBIN

Generator's Site Address (if different than mailing address)
PORT OF OAKLAND
[illegible]
OAKLAND CA 94607

Generator's Phone: 510 [illegible]

6. Transporter 1 Company Name
NRC ENVIRONMENTAL SERVICES INC.
U.S. EPA ID Number: CAR000003014

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Crosby & Overton, Inc.
1630 W. 17th Street
Long Beach CA 90813
U.S. EPA ID Number: CAD028409019
Facility's Phone: 562 432-5445

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. [illegible], WASTE Flammable liquids, n.o.s. (diesel and gasoline) 3, PGII	001	TT	03000	G	D001 D018 331
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
[illegible]
PO# 102497-15
Port of Oakland / Port of oakland

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible] Signature: [signature] Month 6 Day 21 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Samuel [illegible] Signature: [signature] Month 6 Day 21 Year 16
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator): Demenno/Kerdoon U.S. EPA ID Number: [illegible]
Facility's Phone: [illegible]
18c. Signature of Alternate Facility (or Generator): [signature] Month 6 Day 24 Year 16

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. [illegible] 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. TRANSPORTER'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAL000286097	2. Page 1 of 1	3. Emergency Response Phone: NRCES 510 749-1390	4. Manifest Tracking Number: 014378647 JJK

5. Generator's Name and Mailing Address: ATTN: JEFF RUBIN
PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607

Generator's Site Address (if different than mailing address):
PORT OF OAKLAND
BERTH 23/25- MARITIME
OAKLAND CA 94607

Generator's Phone: 510-627-1134

6. Transporter 1 Company Name: NRC ENVIRONMENTAL SERVICES INC.
U.S. EPA ID Number: CAR000080114

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
ECOLOGY CONTROL INDUSTRIES
255 PARR BLVD.
RICHMOND CA 94801
Facility's Phone: 510 235-1393
U.S. EPA ID Number: CAD000478992

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON-RCRA HAZARDOUS WASTE, SOLIDS (EMPTY STORAGE TANK)	001	~~TP~~ CF	5800	P	512
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: [illegible] PROTECTIVE EQUIPMENT CDM/004: 102497
TO#: 19-MT-17 [illegible] PROFILE:
[illegible] 1105 FERRY POINT ALAMEDA, CA. 94501
ECT 527.5007. TANK 34739.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
[illegible] Port of Oakland	[signature]	05	16	16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Transporter 1: SAMUEL MINER	Samuel Miner	05	16	16
Transporter 2:				

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H129			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year
[illegible handwritten name]	[signature]	5	25	16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

UNIFIED PROGRAM CONSOLIDATED FORM

HAZARDOUS WASTE

HAZARDOUS WASTE TANK CLOSURE CERTIFICATION

Page 1 of 1

I. FACILITY IDENTIFICATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3: Port of Oakland

FACILITY ID# 1: CAL000268097

TANK OWNER NAME 740: Port of Oakland

TANK OWNER ADDRESS 741: 530 Water Street

TANK OWNER CITY 742: Oakland | STATE 743: Ca. | ZIP CODE 744: 94607

II. TANK CLOSURE INFORMATION

TANK INTERIOR ATMOSPHERE READINGS		Tank ID # (Attach additional copies of this page for more than three tanks)	Concentration of Flammable Vapor – Top	Concentration of Flammable Vapor – Center	Concentration of Flammable Vapor – Bottom	Concentration of Oxygen – Top	Concentration of Oxygen – Center	Concentration of Oxygen – Bottom
	1	CF-04R 745	7.0 746a	7.0 746b	7.0 746c	17.8 747a	17.8 747b	17.8 747c
	2	748	749a	749b	749c	750a	750b	750c
	3	751	752a	752b	752c	753a	753b	753c

III. CERTIFICATION

On examination of the tank, I certify the tank is visually free from product, sludge, scale (thin, flaky residual of tank contents), rinseate and debris. I further certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF CERTIFIER

NAME OF CERTIFIER (Print) 754: Steven E. Hancock

TITLE OF CERTIFIER 755: Project Manager

ADDRESS 756: 1605 Ferry Point

CITY 757: Alameda, Ca.

PHONE 758:

DATE 759: 5/16/16

CERTIFICATION TIME: 13:30

STATUS OR AFFILIATION OF CERTIFYING PERSON

Certifier is a representative of the CUPA, authorized agency, or LIA: 760

☐ Yes ☒ No

Name of CUPA, authorized agency, or LIA: 761

If certifier is other than CUPA / LIA check appropriate box below: 762

- ☐ a. Certified Industrial Hygienist (CIH)
- ☐ b. Certified Safety Professional (CSP)
- ☐ c. Certified Marine Chemist (CMC)
- ☐ d. Registered Environmental Health Specialist (REHS)
- ☐ e. Professional Engineer (PE)
- ☐ f. Class II Registered Environmental Assessor
- ☒ g. Contractors' State License Board licensed contractor (with hazardous substance removal certification)

TANK PREVIOUSLY HELD FLAMMABLE OR COMBUSTIBLE MATERIALS 763

(If yes, the tank interior atmosphere shall be re-checked with a combustible gas indicator prior to work being conducted on the tank.) ☒ Yes ☐ No

CERTIFIER'S TANK MANAGEMENT INSTRUCTIONS FOR SCRAP DEALER, DISPOSAL FACILITY, ETC: 764

Tank was delivered to ECI for disposal manifest and disposal certification attached. 500 Lbs of dry ice were used.

Present were Oakland Fire – CUPA

A copy of this certificate shall accompany the tank to the recycling / disposal facility and be provided to the CUPA. If there is no CUPA, copies shall be submitted to the LIA and authorized agency; owner / operator of the tank system; removal contractor; and the recycling / disposal facility.

APPENDIX E

AIR MONITORING LOGS

FIELD LOG

Project name:	Berths 25/26 CF-04R Removal	Project no.:	12315-35
Logger:	WKS	Date:	5-6-16
Weather conditions:	showers Rained for hour before air monitoring		
Site personnel:	no precipitation during air monitoring		

Time	Field Activities	
	PID ppm	PM10 ug/m3
11:48 BG1	0.0	9.2
BG2	0.0	12.1
BG3	0.0	8.2
BG4	0.0	10.4

FIELDLOG.XLS (8/27/14)

FIELD LOG

page ___ of ___

Project name:	Berths 25/26 CF-04R Removal	Project no.:	12315-35
Logger:	Cem Atabek	Date:	5/9/16
Weather conditions:	Sunny		
Site personnel:	NRC, Parm Sandhu		

Time	Field Activities
1430	- arrive at site, NRC is pumping fuel out of UST into vac truck (5,000 gal) discuss schedule, take ambient readings with PID and Dust meter, fencing is still being installed, will begin breaking concrete tomorrow, estimated 2,000 gal in UST and 500 in AST.

Time	Station location	PID reading (ppm)	Dust reading (ug/m3)
15:00	S-1	0.0	17.2
15:02	S-2	0.0	16.1
15:03	S-3	0.0	16.2
15:05	S-4	0.0	21.8

Time	Field Activities
	- Wind is from the SW, PID readings in work zone also 0.0
15:30	- leave site

FIELDLOG.XLS (8/27/14)

FIELD LOG

page ___ of ___

Project name:	Berths 25/26 CF-04R Removal	Project no.:	12315-35
Logger:	Cam Atabek	Date:	5/10/16
Weather conditions:	Overcast		
Site personnel:	NRC, John Prall		

Time	Field Activities
900	- arrive at site, discuss status with John Prall, NRC is still removing fuel from UST.
935	- Calibrate PID meter, reads 53 ppm with C.F. set to 0.53 benzene
940	- Take PID readings in holes, used excavator to break holes
	1 - through asphalt at NW side of tank, reading = 0.0
	2 - through asphalt at SE side of tank, reading = 0.5 then 0.0
	3 - Through asphalt/concrete on SW side of oil water separator = 4.0 then drops slowly to 0.0
	4 - through concrete on N side of UST, reading = 1.2 then drops quickly to 0.0
	5 - through concrete on NE side of UST, reading = 7.1 then fluctuates between 4 and 5 for a few minutes, pretty steady around 4.5 slight petroleum odor in hole
	6 - through asphalt on NE side of UST, reading = 2 then drops to 1.8 where it stabilized for a few minutes
	7 - NW side of UST through concrete, reading = 3.0 then stabilizes at 0.4
1105	- leave site

FIELDLOG.XLS (8/27/14)

VOC - Air Monitoring Log
UST CF-04R Removal
Berths 25/26
Port of Oakland

Date: 5/13/16

Instumentation

Model: MiniRAE3000
Calibration: 100 ppm Isobutylene
Time: 810
Serial Number: 592-~~911816~~ 909189
Response Factor: Benzene

Time	PM Measurement (ppm)
8:30	0.0
9:00	0.0
10:00	0.0
11:00	0.0
12:00	0.0
13:00	0.0
14:00	0.0
15:00	0.0
16:00	0.0

PM10 - Air Monitoring Log
UST CF-04R Removal
Berths 25/26
Port of Oakland

Date: 5/13/16

Instumentation

Model: Thermo pDR-1500

Serial Number: 0115250003 ~~592-909189~~

Time	PM Measurement (mg/m^3)
8:15	0.039
8:30	0.065
8:45	0.280
9:00	0.009
9:15	0.095
10:15	0.150
11:15	0.009
12:15	0.010
13:15	0.009
14:15	0.039
15:15	0.063
16:15	0.031

PM10 - Air Monitoring Log
UST CF-04R Removal
Berths 25/26
Port of Oakland

removing concrete & rebar, loading in bin

Date: 5/14/16

Instumentation

Model: Thermo pDR-1500

Serial Number: ~~592-909189~~ 01152500003

Time	PM Measurement (mg/m^3)
07:30	0.068
07:45	0.021
08:00	0.291
08:15	0.0071
9:00	0.149
10:00	0.078
11:38	0.167
12:38	0.049
13:47	0.057
14:40	0.036
/	

PM10 - Air Monitoring Log
UST CF-04R Removal
Berths 25/26
Port of Oakland

Date: 5/15/16

Excavating Pea gravel w/ min-excavator

Instumentation

Model: Thermo pDR-1500

Serial Number: ~~592-909189~~ 0115250003

Time	PM Measurement (mg/m^3)
7:23	0.061
7:51	0.008
8:16	0.024
8:34	0.030
9:05	0.009
10:25	0.031
11:34	0.024
13:03	0.027
14:07	0.015
	Done

==========

16/05/13 08:12

****

Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-909189
Unit Firmware Ver	V1.20

Running Mode	Hygiene Mode
Measure Type	Avg
Datalog Mode	Continuous
Datalog Type	Auto
Diagnostic Mode	No
Stop Reason	Power Down

Site ID	RAE00000
User ID	1

Begin	5/13/2016 8:12
End	5/13/2016 16:47
Sample Period(s)	60
Number of Records	514

Sensor	VOC(ppm)
Span	100
Span 2	N/A
Low Alarm	5
High Alarm	1000
Over Alarm	15000
STEL Alarm	100
TWA Alarm	50
Measurement Gas	Benzene
Calibration Time	5/13/2016 8:12
Peak	N/A
Min	N/A
Average	N/A

****

Datalog

Index	Date/Time	VOC(ppm) (Avg)
1	2016/05/13 08:13:51	0
2	2016/05/13 08:14:51	0
3	2016/05/13 08:15:51	0
4	2016/05/13 08:16:51	0
5	2016/05/13 08:17:51	0
6	2016/05/13 08:18:51	0
7	2016/05/13 08:19:51	0
8	2016/05/13 08:20:51	0
9	2016/05/13 08:21:51	0
10	2016/05/13 08:22:51	0
11	2016/05/13 08:23:51	0.011
12	2016/05/13 08:24:51	0
13	2016/05/13 08:25:51	0
14	2016/05/13 08:26:51	0
15	2016/05/13 08:27:51	0
16	2016/05/13 08:28:51	0
17	2016/05/13 08:29:51	0
18	2016/05/13 08:30:51	0
19	2016/05/13 08:31:51	0
20	2016/05/13 08:32:51	0
21	2016/05/13 08:33:51	0

22	2016/05/13 08:34:51	0
23	2016/05/13 08:35:51	0
24	2016/05/13 08:36:51	0
25	2016/05/13 08:37:51	0
26	2016/05/13 08:38:51	0
27	2016/05/13 08:39:51	0
28	2016/05/13 08:40:51	0
29	2016/05/13 08:41:51	0
30	2016/05/13 08:42:51	0
31	2016/05/13 08:43:51	0
32	2016/05/13 08:44:51	0
33	2016/05/13 08:45:51	0
34	2016/05/13 08:46:51	0
35	2016/05/13 08:47:51	0
36	2016/05/13 08:48:51	0
37	2016/05/13 08:49:51	0
38	2016/05/13 08:50:51	0
39	2016/05/13 08:51:51	0
40	2016/05/13 08:52:51	0
41	2016/05/13 08:53:51	0
42	2016/05/13 08:54:51	0
43	2016/05/13 08:55:51	0
44	2016/05/13 08:56:51	0
45	2016/05/13 08:57:51	0
46	2016/05/13 08:58:51	0
47	2016/05/13 08:59:51	0
48	2016/05/13 09:00:51	0
49	2016/05/13 09:01:51	0
50	2016/05/13 09:02:51	0
51	2016/05/13 09:03:51	0
52	2016/05/13 09:04:51	0
53	2016/05/13 09:05:51	0
54	2016/05/13 09:06:51	0
55	2016/05/13 09:07:51	0
56	2016/05/13 09:08:51	0
57	2016/05/13 09:09:51	0
58	2016/05/13 09:10:51	0
59	2016/05/13 09:11:51	0
60	2016/05/13 09:12:51	0
61	2016/05/13 09:13:51	0
62	2016/05/13 09:14:51	0
63	2016/05/13 09:15:51	0
64	2016/05/13 09:16:51	0
65	2016/05/13 09:17:51	0
66	2016/05/13 09:18:51	0
67	2016/05/13 09:19:51	0
68	2016/05/13 09:20:51	0
69	2016/05/13 09:21:51	0
70	2016/05/13 09:22:51	0
71	2016/05/13 09:23:51	0
72	2016/05/13 09:24:51	0
73	2016/05/13 09:25:51	0
74	2016/05/13 09:26:51	0
75	2016/05/13 09:27:51	0
76	2016/05/13 09:28:51	0
77	2016/05/13 09:29:51	0
78	2016/05/13 09:30:51	0
79	2016/05/13 09:31:51	0
80	2016/05/13 09:32:51	0
81	2016/05/13 09:33:51	0
82	2016/05/13 09:34:51	0
83	2016/05/13 09:35:51	0
84	2016/05/13 09:36:51	0

85	2016/05/13 09:37:51	0
86	2016/05/13 09:38:51	0
87	2016/05/13 09:39:51	0
88	2016/05/13 09:40:51	0
89	2016/05/13 09:41:51	0
90	2016/05/13 09:42:51	0
91	2016/05/13 09:43:51	0
92	2016/05/13 09:44:51	0
93	2016/05/13 09:45:51	0
94	2016/05/13 09:46:51	0
95	2016/05/13 09:47:51	0
96	2016/05/13 09:48:51	0
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99	2016/05/13 09:51:51	0
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102	2016/05/13 09:54:51	0
103	2016/05/13 09:55:51	0
104	2016/05/13 09:56:51	0
105	2016/05/13 09:57:51	0
106	2016/05/13 09:58:51	0
107	2016/05/13 09:59:51	0
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110	2016/05/13 10:02:51	0
111	2016/05/13 10:03:51	0
112	2016/05/13 10:04:51	0
113	2016/05/13 10:05:51	0
114	2016/05/13 10:06:51	0
115	2016/05/13 10:07:51	0
116	2016/05/13 10:08:51	0
117	2016/05/13 10:09:51	0
118	2016/05/13 10:10:51	0
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121	2016/05/13 10:13:51	0
122	2016/05/13 10:14:51	0
123	2016/05/13 10:15:51	0
124	2016/05/13 10:16:51	0
125	2016/05/13 10:17:51	0
126	2016/05/13 10:18:51	0
127	2016/05/13 10:19:51	0
128	2016/05/13 10:20:51	0
129	2016/05/13 10:21:51	0
130	2016/05/13 10:22:51	0
131	2016/05/13 10:23:51	0
132	2016/05/13 10:24:51	0
133	2016/05/13 10:25:51	0
134	2016/05/13 10:26:51	0
135	2016/05/13 10:27:51	0
136	2016/05/13 10:28:51	0
137	2016/05/13 10:29:51	0
138	2016/05/13 10:30:51	0
139	2016/05/13 10:31:51	0
140	2016/05/13 10:32:51	0
141	2016/05/13 10:33:51	0
142	2016/05/13 10:34:51	0
143	2016/05/13 10:35:51	0
144	2016/05/13 10:36:51	0
145	2016/05/13 10:37:51	0
146	2016/05/13 10:38:51	0
147	2016/05/13 10:39:51	0

148	2016/05/13 10:40:51	0
149	2016/05/13 10:41:51	0
150	2016/05/13 10:42:51	0
151	2016/05/13 10:43:51	0
152	2016/05/13 10:44:51	0
153	2016/05/13 10:45:51	0
154	2016/05/13 10:46:51	0
155	2016/05/13 10:47:51	0
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163	2016/05/13 10:55:51	0
164	2016/05/13 10:56:51	0
165	2016/05/13 10:57:51	0
166	2016/05/13 10:58:51	0
167	2016/05/13 10:59:51	0
168	2016/05/13 11:00:51	0
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170	2016/05/13 11:02:51	0
171	2016/05/13 11:03:51	0
172	2016/05/13 11:04:51	0
173	2016/05/13 11:05:51	0
174	2016/05/13 11:06:51	0
175	2016/05/13 11:07:51	0
176	2016/05/13 11:08:51	0
177	2016/05/13 11:09:51	0
178	2016/05/13 11:10:51	0
179	2016/05/13 11:11:51	0
180	2016/05/13 11:12:51	0
181	2016/05/13 11:13:51	0
182	2016/05/13 11:14:51	0
183	2016/05/13 11:15:51	0
184	2016/05/13 11:16:51	0
185	2016/05/13 11:17:51	0
186	2016/05/13 11:18:51	0
187	2016/05/13 11:19:51	0
188	2016/05/13 11:20:51	0
189	2016/05/13 11:21:51	0
190	2016/05/13 11:22:51	0
191	2016/05/13 11:23:51	0.002
192	2016/05/13 11:24:51	0
193	2016/05/13 11:25:51	0
194	2016/05/13 11:26:51	0
195	2016/05/13 11:27:51	0.001
196	2016/05/13 11:28:51	0
197	2016/05/13 11:29:51	0.001
198	2016/05/13 11:30:51	0
199	2016/05/13 11:31:51	0
200	2016/05/13 11:32:51	0
201	2016/05/13 11:33:51	0
202	2016/05/13 11:34:51	0.003
203	2016/05/13 11:35:51	0
204	2016/05/13 11:36:51	0
205	2016/05/13 11:37:51	0
206	2016/05/13 11:38:51	0
207	2016/05/13 11:39:51	0
208	2016/05/13 11:40:51	0
209	2016/05/13 11:41:51	0.004
210	2016/05/13 11:42:51	0

211	2016/05/13 11:43:51	0
212	2016/05/13 11:44:51	0
213	2016/05/13 11:45:51	0
214	2016/05/13 11:46:51	0
215	2016/05/13 11:47:51	0
216	2016/05/13 11:48:51	0
217	2016/05/13 11:49:51	0.001
218	2016/05/13 11:50:51	0
219	2016/05/13 11:51:51	0
220	2016/05/13 11:52:51	0
221	2016/05/13 11:53:51	0
222	2016/05/13 11:54:51	0
223	2016/05/13 11:55:51	0
224	2016/05/13 11:56:51	0
225	2016/05/13 11:57:51	0.001
226	2016/05/13 11:58:51	0
227	2016/05/13 11:59:51	0
228	2016/05/13 12:00:51	0
229	2016/05/13 12:01:51	0
230	2016/05/13 12:02:51	0
231	2016/05/13 12:03:51	0
232	2016/05/13 12:04:51	0
233	2016/05/13 12:05:51	0
234	2016/05/13 12:06:51	0.001
235	2016/05/13 12:07:51	0
236	2016/05/13 12:08:51	0
237	2016/05/13 12:09:51	0
238	2016/05/13 12:10:51	0
239	2016/05/13 12:11:51	0
240	2016/05/13 12:12:51	0
241	2016/05/13 12:13:51	0
242	2016/05/13 12:14:51	0.004
243	2016/05/13 12:15:51	0.002
244	2016/05/13 12:16:51	0.002
245	2016/05/13 12:17:51	0.003
246	2016/05/13 12:18:51	0.005
247	2016/05/13 12:19:51	0.005
248	2016/05/13 12:20:51	0.007
249	2016/05/13 12:21:51	0.006
250	2016/05/13 12:22:51	0.007
251	2016/05/13 12:23:51	0.005
252	2016/05/13 12:24:51	0.005
253	2016/05/13 12:25:51	0.003
254	2016/05/13 12:26:51	0
255	2016/05/13 12:27:51	0
256	2016/05/13 12:28:51	0.008
257	2016/05/13 12:29:51	0.009
258	2016/05/13 12:30:51	0.01
259	2016/05/13 12:31:51	0.01
260	2016/05/13 12:32:51	0.012
261	2016/05/13 12:33:51	0.004
262	2016/05/13 12:34:51	0.004
263	2016/05/13 12:35:51	0.002
264	2016/05/13 12:36:51	0.004
265	2016/05/13 12:37:51	0.002
266	2016/05/13 12:38:51	0.01
267	2016/05/13 12:39:51	0.003
268	2016/05/13 12:40:51	0.005
269	2016/05/13 12:41:51	0.005
270	2016/05/13 12:42:51	0.011
271	2016/05/13 12:43:51	0.009
272	2016/05/13 12:44:51	0.01
273	2016/05/13 12:45:51	0.011

274	2016/05/13 12:46:51	0.011
275	2016/05/13 12:47:51	0.01
276	2016/05/13 12:48:51	0.009
277	2016/05/13 12:49:51	0.008
278	2016/05/13 12:50:51	0.014
279	2016/05/13 12:51:51	0.011
280	2016/05/13 12:52:51	0.007
281	2016/05/13 12:53:51	0.006
282	2016/05/13 12:54:51	0.008
283	2016/05/13 12:55:51	0.009
284	2016/05/13 12:56:51	0.011
285	2016/05/13 12:57:51	0.01
286	2016/05/13 12:58:51	0.009
287	2016/05/13 12:59:51	0.008
288	2016/05/13 13:00:51	0.011
289	2016/05/13 13:01:51	0.015
290	2016/05/13 13:02:51	0.013
291	2016/05/13 13:03:51	0.013
292	2016/05/13 13:04:51	0.01
293	2016/05/13 13:05:51	0.008
294	2016/05/13 13:06:51	0.008
295	2016/05/13 13:07:51	0.007
296	2016/05/13 13:08:51	0.007
297	2016/05/13 13:09:51	0.002
298	2016/05/13 13:10:51	0
299	2016/05/13 13:11:51	0
300	2016/05/13 13:12:51	0
301	2016/05/13 13:13:51	0
302	2016/05/13 13:14:51	0
303	2016/05/13 13:15:51	0
304	2016/05/13 13:16:51	0
305	2016/05/13 13:17:51	0
306	2016/05/13 13:18:51	0
307	2016/05/13 13:19:51	0.002
308	2016/05/13 13:20:51	0
309	2016/05/13 13:21:51	0.336
310	2016/05/13 13:22:51	0.968
311	2016/05/13 13:23:51	0.304
312	2016/05/13 13:24:51	0.005
313	2016/05/13 13:25:51	0.005
314	2016/05/13 13:26:51	0
315	2016/05/13 13:27:51	0.478
316	2016/05/13 13:28:51	0.783
317	2016/05/13 13:29:51	0.024
318	2016/05/13 13:30:51	0.218
319	2016/05/13 13:31:51	0.475
320	2016/05/13 13:32:51	0.114
321	2016/05/13 13:33:51	0.031
322	2016/05/13 13:34:51	0.141
323	2016/05/13 13:35:51	0.03
324	2016/05/13 13:36:51	0.039
325	2016/05/13 13:37:51	0.516
326	2016/05/13 13:38:51	0.788
327	2016/05/13 13:39:51	0.003
328	2016/05/13 13:40:51	1.054
329	2016/05/13 13:41:51	0.101
330	2016/05/13 13:42:51	0.101
331	2016/05/13 13:43:51	0.493
332	2016/05/13 13:44:51	0.039
333	2016/05/13 13:45:51	0.002
334	2016/05/13 13:46:51	0.002
335	2016/05/13 13:47:51	0.003
336	2016/05/13 13:48:51	0.003

337	2016/05/13 13:49:51	0.002
338	2016/05/13 13:50:51	0.002
339	2016/05/13 13:51:51	0.002
340	2016/05/13 13:52:51	0
341	2016/05/13 13:53:51	0
342	2016/05/13 13:54:51	0
343	2016/05/13 13:55:51	0.001
344	2016/05/13 13:56:51	0
345	2016/05/13 13:57:51	0
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347	2016/05/13 13:59:51	0
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349	2016/05/13 14:01:51	0
350	2016/05/13 14:02:51	0
351	2016/05/13 14:03:51	0
352	2016/05/13 14:04:51	0
353	2016/05/13 14:05:51	0
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355	2016/05/13 14:07:51	0
356	2016/05/13 14:08:51	0
357	2016/05/13 14:09:51	0
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360	2016/05/13 14:12:51	0
361	2016/05/13 14:13:51	0
362	2016/05/13 14:14:51	0
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366	2016/05/13 14:18:51	0
367	2016/05/13 14:19:51	0
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374	2016/05/13 14:26:51	0
375	2016/05/13 14:27:51	0
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378	2016/05/13 14:30:51	0
379	2016/05/13 14:31:51	0
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381	2016/05/13 14:33:51	0
382	2016/05/13 14:34:51	0
383	2016/05/13 14:35:51	0
384	2016/05/13 14:36:51	0
385	2016/05/13 14:37:51	0
386	2016/05/13 14:38:51	0
387	2016/05/13 14:39:51	0
388	2016/05/13 14:40:51	0
389	2016/05/13 14:41:51	0
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391	2016/05/13 14:43:51	0
392	2016/05/13 14:44:51	0
393	2016/05/13 14:45:51	0
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395	2016/05/13 14:47:51	0
396	2016/05/13 14:48:51	0
397	2016/05/13 14:49:51	0
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399	2016/05/13 14:51:51	0

400	2016/05/13 14:52:51	0
401	2016/05/13 14:53:51	0
402	2016/05/13 14:54:51	0
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404	2016/05/13 14:56:51	0
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407	2016/05/13 14:59:51	0
408	2016/05/13 15:00:51	0
409	2016/05/13 15:01:51	0
410	2016/05/13 15:02:51	0
411	2016/05/13 15:03:51	0
412	2016/05/13 15:04:51	0
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414	2016/05/13 15:06:51	0
415	2016/05/13 15:07:51	0
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419	2016/05/13 15:11:51	0
420	2016/05/13 15:12:51	0
421	2016/05/13 15:13:51	0
422	2016/05/13 15:14:51	0.005
423	2016/05/13 15:15:51	0.001
424	2016/05/13 15:16:51	0
425	2016/05/13 15:17:51	0
426	2016/05/13 15:18:51	0
427	2016/05/13 15:19:51	0
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430	2016/05/13 15:22:51	0
431	2016/05/13 15:23:51	0
432	2016/05/13 15:24:51	0
433	2016/05/13 15:25:51	0
434	2016/05/13 15:26:51	0
435	2016/05/13 15:27:51	0
436	2016/05/13 15:28:51	0
437	2016/05/13 15:29:51	0
438	2016/05/13 15:30:51	0
439	2016/05/13 15:31:51	0
440	2016/05/13 15:32:51	0
441	2016/05/13 15:33:51	0.001
442	2016/05/13 15:34:51	0
443	2016/05/13 15:35:51	0
444	2016/05/13 15:36:51	0
445	2016/05/13 15:37:51	0
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452	2016/05/13 15:44:51	0
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454	2016/05/13 15:46:51	0
455	2016/05/13 15:47:51	0
456	2016/05/13 15:48:51	0
457	2016/05/13 15:49:51	0
458	2016/05/13 15:50:51	0
459	2016/05/13 15:51:51	0
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461	2016/05/13 15:53:51	0
462	2016/05/13 15:54:51	0

463	2016/05/13 15:55:51	0
464	2016/05/13 15:56:51	0
465	2016/05/13 15:57:51	0
466	2016/05/13 15:58:51	0
467	2016/05/13 15:59:51	0
468	2016/05/13 16:00:51	0
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474	2016/05/13 16:06:51	0
475	2016/05/13 16:07:51	0
476	2016/05/13 16:08:51	0
477	2016/05/13 16:09:51	0
478	2016/05/13 16:10:51	0
479	2016/05/13 16:11:51	0
480	2016/05/13 16:12:51	0
481	2016/05/13 16:13:51	0
482	2016/05/13 16:14:51	0
483	2016/05/13 16:15:51	0
484	2016/05/13 16:16:51	0
485	2016/05/13 16:17:51	0
486	2016/05/13 16:18:51	0
487	2016/05/13 16:19:51	0
488	2016/05/13 16:20:51	0
489	2016/05/13 16:21:51	0
490	2016/05/13 16:22:51	0.002
491	2016/05/13 16:23:51	0
492	2016/05/13 16:24:51	0
493	2016/05/13 16:25:51	0
494	2016/05/13 16:26:51	0
495	2016/05/13 16:27:51	0
496	2016/05/13 16:28:51	0
497	2016/05/13 16:29:51	0
498	2016/05/13 16:30:51	0
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500	2016/05/13 16:32:51	0
501	2016/05/13 16:33:51	0
502	2016/05/13 16:34:51	0
503	2016/05/13 16:35:51	0
504	2016/05/13 16:36:51	0
505	2016/05/13 16:37:51	0
506	2016/05/13 16:38:51	0
507	2016/05/13 16:39:51	0
508	2016/05/13 16:40:51	0
509	2016/05/13 16:41:51	0
510	2016/05/13 16:42:51	0
511	2016/05/13 16:43:51	0
512	2016/05/13 16:44:51	0
513	2016/05/13 16:45:51	0
514	2016/05/13 16:46:51	0
Peak		1.054
Min		0
Average		0.015

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16/05/14 07:12

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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-909189
Unit Firmware Ver	V1.20
Running Mode	Hygiene Mode
Measure Type	Avg
Datalog Mode	Continuous
Datalog Type	Auto
Diagnostic Mode	No
Stop Reason	Power Down
Site ID	RAE00000
User ID	1
Begin	5/14/2016 7:12
End	5/14/2016 15:21
Sample Period(s)	60
Number of Records	489
Sensor	VOC(ppm)
Span	100
Span 2	N/A
Low Alarm	5
High Alarm	1000
Over Alarm	15000
STEL Alarm	100
TWA Alarm	50
Measurement Gas	Benzene
Calibration Time	5/14/2016 7:12
Peak	N/A
Min	N/A
Average	N/A

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Datalog

Index	Date/Time	VOC(ppm) (Avg)
1	2016/05/14 07:13:22	0
2	2016/05/14 07:14:22	0
3	2016/05/14 07:15:22	0
4	2016/05/14 07:16:22	0
5	2016/05/14 07:17:22	0
6	2016/05/14 07:18:22	0
7	2016/05/14 07:19:22	0
8	2016/05/14 07:20:22	0
9	2016/05/14 07:21:22	0
10	2016/05/14 07:22:22	0
11	2016/05/14 07:23:22	0
12	2016/05/14 07:24:22	0
13	2016/05/14 07:25:22	0
14	2016/05/14 07:26:22	0
15	2016/05/14 07:27:22	0
16	2016/05/14 07:28:22	0
17	2016/05/14 07:29:22	0
18	2016/05/14 07:30:22	0
19	2016/05/14 07:31:22	0
20	2016/05/14 07:32:22	0
21	2016/05/14 07:33:22	0

22	2016/05/14 07:34:22	0
23	2016/05/14 07:35:22	0
24	2016/05/14 07:36:22	0
25	2016/05/14 07:37:22	0
26	2016/05/14 07:38:22	0
27	2016/05/14 07:39:22	0
28	2016/05/14 07:40:22	0
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30	2016/05/14 07:42:22	0
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33	2016/05/14 07:45:22	0
34	2016/05/14 07:46:22	0
35	2016/05/14 07:47:22	0
36	2016/05/14 07:48:22	0
37	2016/05/14 07:49:22	0
38	2016/05/14 07:50:22	0
39	2016/05/14 07:51:22	0
40	2016/05/14 07:52:22	0
41	2016/05/14 07:53:22	0
42	2016/05/14 07:54:22	0
43	2016/05/14 07:55:22	0
44	2016/05/14 07:56:22	0
45	2016/05/14 07:57:22	0
46	2016/05/14 07:58:22	0
47	2016/05/14 07:59:22	0
48	2016/05/14 08:00:22	0
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53	2016/05/14 08:05:22	0
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55	2016/05/14 08:07:22	0
56	2016/05/14 08:08:22	0
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61	2016/05/14 08:13:22	0
62	2016/05/14 08:14:22	0
63	2016/05/14 08:15:22	0
64	2016/05/14 08:16:22	0
65	2016/05/14 08:17:22	0
66	2016/05/14 08:18:22	0
67	2016/05/14 08:19:22	0
68	2016/05/14 08:20:22	0
69	2016/05/14 08:21:22	0
70	2016/05/14 08:22:22	0
71	2016/05/14 08:23:22	0
72	2016/05/14 08:24:22	0
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74	2016/05/14 08:26:22	0
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78	2016/05/14 08:30:22	0
79	2016/05/14 08:31:22	0
80	2016/05/14 08:32:22	0
81	2016/05/14 08:33:22	0
82	2016/05/14 08:34:22	0
83	2016/05/14 08:35:22	0
84	2016/05/14 08:36:22	0.001

85	2016/05/14 08:37:22	0
86	2016/05/14 08:38:22	0
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88	2016/05/14 08:40:22	0
89	2016/05/14 08:41:22	0
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92	2016/05/14 08:44:22	0
93	2016/05/14 08:45:22	0
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110	2016/05/14 09:02:22	0
111	2016/05/14 09:03:22	0
112	2016/05/14 09:04:22	0
113	2016/05/14 09:05:22	0
114	2016/05/14 09:06:22	0
115	2016/05/14 09:07:22	0
116	2016/05/14 09:08:22	0
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126	2016/05/14 09:18:22	0
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130	2016/05/14 09:22:22	0
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140	2016/05/14 09:32:22	0
141	2016/05/14 09:33:22	0
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144	2016/05/14 09:36:22	0
145	2016/05/14 09:37:22	0
146	2016/05/14 09:38:22	0
147	2016/05/14 09:39:22	0

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156	2016/05/14 09:48:22	0
157	2016/05/14 09:49:22	0
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159	2016/05/14 09:51:22	0
160	2016/05/14 09:52:22	0
161	2016/05/14 09:53:22	0
162	2016/05/14 09:54:22	0
163	2016/05/14 09:55:22	0
164	2016/05/14 09:56:22	0
165	2016/05/14 09:57:22	0
166	2016/05/14 09:58:22	0
167	2016/05/14 09:59:22	0
168	2016/05/14 10:00:22	0
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171	2016/05/14 10:03:22	0
172	2016/05/14 10:04:22	0
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177	2016/05/14 10:09:22	0
178	2016/05/14 10:10:22	0
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204	2016/05/14 10:36:22	0
205	2016/05/14 10:37:22	0
206	2016/05/14 10:38:22	0
207	2016/05/14 10:39:22	0
208	2016/05/14 10:40:22	0
209	2016/05/14 10:41:22	0.011
210	2016/05/14 10:42:22	0

211	2016/05/14 10:43:22	0
212	2016/05/14 10:44:22	0
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214	2016/05/14 10:46:22	0
215	2016/05/14 10:47:22	0
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218	2016/05/14 10:50:22	0.021
219	2016/05/14 10:51:22	0.009
220	2016/05/14 10:52:22	0.009
221	2016/05/14 10:53:22	0.002
222	2016/05/14 10:54:22	0
223	2016/05/14 10:55:22	0.004
224	2016/05/14 10:56:22	0.001
225	2016/05/14 10:57:22	0
226	2016/05/14 10:58:22	0
227	2016/05/14 10:59:22	0
228	2016/05/14 11:00:22	0
229	2016/05/14 11:01:22	0
230	2016/05/14 11:02:22	0.002
231	2016/05/14 11:03:22	0
232	2016/05/14 11:04:22	0
233	2016/05/14 11:05:22	1.968
234	2016/05/14 11:06:22	1.19
235	2016/05/14 11:07:22	0.279
236	2016/05/14 11:08:22	0.208
237	2016/05/14 11:09:22	0.103
238	2016/05/14 11:10:22	0.022
239	2016/05/14 11:11:22	0.04
240	2016/05/14 11:12:22	0.025
241	2016/05/14 11:13:22	0.069
242	2016/05/14 11:14:22	0.027
243	2016/05/14 11:15:22	0.038
244	2016/05/14 11:16:22	0.023
245	2016/05/14 11:17:22	0.013
246	2016/05/14 11:18:22	0.007
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248	2016/05/14 11:20:22	0
249	2016/05/14 11:21:22	0.001
250	2016/05/14 11:22:22	0.005
251	2016/05/14 11:23:22	0.011
252	2016/05/14 11:24:22	0
253	2016/05/14 11:25:22	0
254	2016/05/14 11:26:22	0
255	2016/05/14 11:27:22	0
256	2016/05/14 11:28:22	0.006
257	2016/05/14 11:29:22	0
258	2016/05/14 11:30:22	0.007
259	2016/05/14 11:31:22	0
260	2016/05/14 11:32:22	0.002
261	2016/05/14 11:33:22	0
262	2016/05/14 11:34:22	0.003
263	2016/05/14 11:35:22	0
264	2016/05/14 11:36:22	0
265	2016/05/14 11:37:22	0.002
266	2016/05/14 11:38:22	0
267	2016/05/14 11:39:22	0
268	2016/05/14 11:40:22	0
269	2016/05/14 11:41:22	0
270	2016/05/14 11:42:22	0.006
271	2016/05/14 11:43:22	0
272	2016/05/14 11:44:22	0
273	2016/05/14 11:45:22	0.008

274	2016/05/14 11:46:22	0.002
275	2016/05/14 11:47:22	0.003
276	2016/05/14 11:48:22	0
277	2016/05/14 11:49:22	0.002
278	2016/05/14 11:50:22	0.001
279	2016/05/14 11:51:22	0
280	2016/05/14 11:52:22	0.015
281	2016/05/14 11:53:22	0.007
282	2016/05/14 11:54:22	0.009
283	2016/05/14 11:55:22	0.001
284	2016/05/14 11:56:22	0
285	2016/05/14 11:57:22	0.001
286	2016/05/14 11:58:22	0.024
287	2016/05/14 11:59:22	0
288	2016/05/14 12:00:22	0.014
289	2016/05/14 12:01:22	0.011
290	2016/05/14 12:02:22	0.018
291	2016/05/14 12:03:22	0.02
292	2016/05/14 12:04:22	0.02
293	2016/05/14 12:05:22	0.012
294	2016/05/14 12:06:22	0.008
295	2016/05/14 12:07:22	0.019
296	2016/05/14 12:08:22	0.001
297	2016/05/14 12:09:22	0.001
298	2016/05/14 12:10:22	0.027
299	2016/05/14 12:11:22	0.06
300	2016/05/14 12:12:22	0.013
301	2016/05/14 12:13:22	0.001
302	2016/05/14 12:14:22	0.001
303	2016/05/14 12:15:22	0
304	2016/05/14 12:16:22	0
305	2016/05/14 12:17:22	0.002
306	2016/05/14 12:18:22	0.003
307	2016/05/14 12:19:22	0.014
308	2016/05/14 12:20:22	0
309	2016/05/14 12:21:22	0.001
310	2016/05/14 12:22:22	0.001
311	2016/05/14 12:23:22	0.019
312	2016/05/14 12:24:22	0.032
313	2016/05/14 12:25:22	0.01
314	2016/05/14 12:26:22	0.008
315	2016/05/14 12:27:22	0.044
316	2016/05/14 12:28:22	0.008
317	2016/05/14 12:29:22	0.015
318	2016/05/14 12:30:22	0.012
319	2016/05/14 12:31:22	0.004
320	2016/05/14 12:32:22	0
321	2016/05/14 12:33:22	0
322	2016/05/14 12:34:22	0
323	2016/05/14 12:35:22	0.002
324	2016/05/14 12:36:22	0.003
325	2016/05/14 12:37:22	0.002
326	2016/05/14 12:38:22	0.036
327	2016/05/14 12:39:22	0.023
328	2016/05/14 12:40:22	0.005
329	2016/05/14 12:41:22	0.008
330	2016/05/14 12:42:22	0.005
331	2016/05/14 12:43:22	0
332	2016/05/14 12:44:22	0.042
333	2016/05/14 12:45:22	0.028
334	2016/05/14 12:46:22	0.02
335	2016/05/14 12:47:22	0.042
336	2016/05/14 12:48:22	0.077

337	2016/05/14 12:49:22	0.014
338	2016/05/14 12:50:22	0
339	2016/05/14 12:51:22	0.022
340	2016/05/14 12:52:22	0.005
341	2016/05/14 12:53:22	0.004
342	2016/05/14 12:54:22	0
343	2016/05/14 12:55:22	0.039
344	2016/05/14 12:56:22	0
345	2016/05/14 12:57:22	0.042
346	2016/05/14 12:58:22	0.009
347	2016/05/14 12:59:22	0.063
348	2016/05/14 13:00:22	0.08
349	2016/05/14 13:01:22	0.059
350	2016/05/14 13:02:22	0.044
351	2016/05/14 13:03:22	0.017
352	2016/05/14 13:04:22	0.003
353	2016/05/14 13:05:22	0.014
354	2016/05/14 13:06:22	0.007
355	2016/05/14 13:07:22	0.044
356	2016/05/14 13:08:22	0
357	2016/05/14 13:09:22	0.006
358	2016/05/14 13:10:22	0.017
359	2016/05/14 13:11:22	0.013
360	2016/05/14 13:12:22	0.05
361	2016/05/14 13:13:22	0.008
362	2016/05/14 13:14:22	0.002
363	2016/05/14 13:15:22	0.039
364	2016/05/14 13:16:22	0
365	2016/05/14 13:17:22	0
366	2016/05/14 13:18:22	0
367	2016/05/14 13:19:22	0.021
368	2016/05/14 13:20:22	0.008
369	2016/05/14 13:21:22	0.026
370	2016/05/14 13:22:22	0.022
371	2016/05/14 13:23:22	0.04
372	2016/05/14 13:24:22	0.039
373	2016/05/14 13:25:22	0.144
374	2016/05/14 13:26:22	0.041
375	2016/05/14 13:27:22	0.009
376	2016/05/14 13:28:22	0.022
377	2016/05/14 13:29:22	0.008
378	2016/05/14 13:30:22	0.002
379	2016/05/14 13:31:22	0.001
380	2016/05/14 13:32:22	0.008
381	2016/05/14 13:33:22	0.009
382	2016/05/14 13:34:22	0.001
383	2016/05/14 13:35:22	0
384	2016/05/14 13:36:22	0.048
385	2016/05/14 13:37:22	0.002
386	2016/05/14 13:38:22	0.009
387	2016/05/14 13:39:22	0.009
388	2016/05/14 13:40:22	0.001
389	2016/05/14 13:41:22	0
390	2016/05/14 13:42:22	0.01
391	2016/05/14 13:43:22	0.001
392	2016/05/14 13:44:22	0.001
393	2016/05/14 13:45:22	0.002
394	2016/05/14 13:46:22	0.021
395	2016/05/14 13:47:22	0.015
396	2016/05/14 13:48:22	0.001
397	2016/05/14 13:49:22	0.006
398	2016/05/14 13:50:22	0.034
399	2016/05/14 13:51:22	0.004

400	2016/05/14 13:52:22	0.069
401	2016/05/14 13:53:22	0.027
402	2016/05/14 13:54:22	0
403	2016/05/14 13:55:22	0.009
404	2016/05/14 13:56:22	0.02
405	2016/05/14 13:57:22	0.01
406	2016/05/14 13:58:22	0.046
407	2016/05/14 13:59:22	0.054
408	2016/05/14 14:00:22	0.006
409	2016/05/14 14:01:22	0.004
410	2016/05/14 14:02:22	0.008
411	2016/05/14 14:03:22	0.036
412	2016/05/14 14:04:22	0.058
413	2016/05/14 14:05:22	0.028
414	2016/05/14 14:06:22	0.002
415	2016/05/14 14:07:22	0.01
416	2016/05/14 14:08:22	0.039
417	2016/05/14 14:09:22	0.112
418	2016/05/14 14:10:22	0.038
419	2016/05/14 14:11:22	0.066
420	2016/05/14 14:12:22	0.066
421	2016/05/14 14:13:22	0.056
422	2016/05/14 14:14:22	0.051
423	2016/05/14 14:15:22	0.042
424	2016/05/14 14:16:22	0.038
425	2016/05/14 14:17:22	0.018
426	2016/05/14 14:18:22	0.029
427	2016/05/14 14:19:22	0.013
428	2016/05/14 14:20:22	0
429	2016/05/14 14:21:22	0.014
430	2016/05/14 14:22:22	0.03
431	2016/05/14 14:23:22	0.006
432	2016/05/14 14:24:22	0
433	2016/05/14 14:25:22	0.009
434	2016/05/14 14:26:22	0.003
435	2016/05/14 14:27:22	0.007
436	2016/05/14 14:28:22	0.003
437	2016/05/14 14:29:22	0.005
438	2016/05/14 14:30:22	0.01
439	2016/05/14 14:31:22	0.001
440	2016/05/14 14:32:22	0.001
441	2016/05/14 14:33:22	0.001
442	2016/05/14 14:34:22	0.006
443	2016/05/14 14:35:22	0.01
444	2016/05/14 14:36:22	0
445	2016/05/14 14:37:22	0.005
446	2016/05/14 14:38:22	0.002
447	2016/05/14 14:39:22	0.017
448	2016/05/14 14:40:22	0
449	2016/05/14 14:41:22	0
450	2016/05/14 14:42:22	0
451	2016/05/14 14:43:22	0.004
452	2016/05/14 14:44:22	0.008
453	2016/05/14 14:45:22	0.002
454	2016/05/14 14:46:22	0.013
455	2016/05/14 14:47:22	0
456	2016/05/14 14:48:22	0.001
457	2016/05/14 14:49:22	0
458	2016/05/14 14:50:22	0
459	2016/05/14 14:51:22	0
460	2016/05/14 14:52:22	0
461	2016/05/14 14:53:22	0.001
462	2016/05/14 14:54:22	0

	463	2016/05/14 14:55:22	0
	464	2016/05/14 14:56:22	0
	465	2016/05/14 14:57:22	0
	466	2016/05/14 14:58:22	0.008
	467	2016/05/14 14:59:22	0.002
	468	2016/05/14 15:00:22	0
	469	2016/05/14 15:01:22	0
	470	2016/05/14 15:02:22	0.001
	471	2016/05/14 15:03:22	0
	472	2016/05/14 15:04:22	0
	473	2016/05/14 15:05:22	0
	474	2016/05/14 15:06:22	0
	475	2016/05/14 15:07:22	0
	476	2016/05/14 15:08:22	0.007
	477	2016/05/14 15:09:22	0
	478	2016/05/14 15:10:22	0
	479	2016/05/14 15:11:22	0
	480	2016/05/14 15:12:22	0
	481	2016/05/14 15:13:22	0
	482	2016/05/14 15:14:22	0.014
	483	2016/05/14 15:15:22	0.021
	484	2016/05/14 15:16:22	0
	485	2016/05/14 15:17:22	0.001
	486	2016/05/14 15:18:22	0.03
	487	2016/05/14 15:19:22	0.006
	488	2016/05/14 15:20:22	0.025
	489	2016/05/14 15:21:22	0.002
Peak			1.968
Min			0
Average			0.015

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16/05/15 07:01

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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-909189
Unit Firmware Ver	V1.20
Running Mode	Hygiene Mode
Measure Type	Avg
Datalog Mode	Continuous
Datalog Type	Auto
Diagnostic Mode	No
Stop Reason	Power Down
Site ID	RAE00000
User ID	1
Begin	5/15/2016 7:01
End	5/15/2016 14:05
Sample Period(s)	60
Number of Records	424
Sensor	VOC(ppm)
Span	100
Span 2	N/A
Low Alarm	5
High Alarm	1000
Over Alarm	15000
STEL Alarm	100
TWA Alarm	50
Measurement Gas	Benzene
Calibration Time	5/15/2016 7:01
Peak	N/A
Min	N/A
Average	N/A

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Datalog

Index	Date/Time	VOC(ppm) (Avg)
1	2016/05/15 07:02:07	0
2	2016/05/15 07:03:07	0
3	2016/05/15 07:04:07	0
4	2016/05/15 07:05:07	0
5	2016/05/15 07:06:07	0
6	2016/05/15 07:07:07	0
7	2016/05/15 07:08:07	0
8	2016/05/15 07:09:07	0
9	2016/05/15 07:10:07	0
10	2016/05/15 07:11:07	0
11	2016/05/15 07:12:07	0
12	2016/05/15 07:13:07	0
13	2016/05/15 07:14:07	0
14	2016/05/15 07:15:07	0
15	2016/05/15 07:16:07	0
16	2016/05/15 07:17:07	0
17	2016/05/15 07:18:07	0
18	2016/05/15 07:19:07	0
19	2016/05/15 07:20:07	0
20	2016/05/15 07:21:07	0
21	2016/05/15 07:22:07	0

22	2016/05/15 07:23:07	0
23	2016/05/15 07:24:07	0.121
24	2016/05/15 07:25:07	0.017
25	2016/05/15 07:26:07	0
26	2016/05/15 07:27:07	0
27	2016/05/15 07:28:07	0
28	2016/05/15 07:29:07	0
29	2016/05/15 07:30:07	0
30	2016/05/15 07:31:07	0
31	2016/05/15 07:32:07	0
32	2016/05/15 07:33:07	0
33	2016/05/15 07:34:07	0
34	2016/05/15 07:35:07	0
35	2016/05/15 07:36:07	0
36	2016/05/15 07:37:07	0
37	2016/05/15 07:38:07	0
38	2016/05/15 07:39:07	0
39	2016/05/15 07:40:07	0
40	2016/05/15 07:41:07	0
41	2016/05/15 07:42:07	0
42	2016/05/15 07:43:07	0
43	2016/05/15 07:44:07	0
44	2016/05/15 07:45:07	0
45	2016/05/15 07:46:07	0.003
46	2016/05/15 07:47:07	0
47	2016/05/15 07:48:07	0.02
48	2016/05/15 07:49:07	0.001
49	2016/05/15 07:50:07	0.002
50	2016/05/15 07:51:07	0.009
51	2016/05/15 07:52:07	0.011
52	2016/05/15 07:53:07	0
53	2016/05/15 07:54:07	0.002
54	2016/05/15 07:55:07	0.004
55	2016/05/15 07:56:07	0.003
56	2016/05/15 07:57:07	0
57	2016/05/15 07:58:07	0.114
58	2016/05/15 07:59:07	0.551
59	2016/05/15 08:00:07	0.231
60	2016/05/15 08:01:07	0.35
61	2016/05/15 08:02:07	0.052
62	2016/05/15 08:03:07	0.002
63	2016/05/15 08:04:07	0.045
64	2016/05/15 08:05:07	0
65	2016/05/15 08:06:07	0
66	2016/05/15 08:07:07	0
67	2016/05/15 08:08:07	0.009
68	2016/05/15 08:09:07	0.059
69	2016/05/15 08:10:07	0.018
70	2016/05/15 08:11:07	0
71	2016/05/15 08:12:07	0.001
72	2016/05/15 08:13:07	0.003
73	2016/05/15 08:14:07	0.036
74	2016/05/15 08:15:07	0
75	2016/05/15 08:16:07	0
76	2016/05/15 08:17:07	0
77	2016/05/15 08:18:07	0
78	2016/05/15 08:19:07	0.034
79	2016/05/15 08:20:07	0
80	2016/05/15 08:21:07	0.021
81	2016/05/15 08:22:07	0
82	2016/05/15 08:23:07	0
83	2016/05/15 08:24:07	0.001
84	2016/05/15 08:25:07	0

85	2016/05/15 08:26:07	0.001
86	2016/05/15 08:27:07	0.011
87	2016/05/15 08:28:07	0.008
88	2016/05/15 08:29:07	0.006
89	2016/05/15 08:30:07	0
90	2016/05/15 08:31:07	0
91	2016/05/15 08:32:07	0.022
92	2016/05/15 08:33:07	0.052
93	2016/05/15 08:34:07	0.04
94	2016/05/15 08:35:07	0.024
95	2016/05/15 08:36:07	0.01
96	2016/05/15 08:37:07	0.02
97	2016/05/15 08:38:07	0.019
98	2016/05/15 08:39:07	0.009
99	2016/05/15 08:40:07	0.034
100	2016/05/15 08:41:07	0.017
101	2016/05/15 08:42:07	0.047
102	2016/05/15 08:43:07	0.011
103	2016/05/15 08:44:07	0.059
104	2016/05/15 08:45:07	0.01
105	2016/05/15 08:46:07	0.037
106	2016/05/15 08:47:07	0.008
107	2016/05/15 08:48:07	0.026
108	2016/05/15 08:49:07	0.001
109	2016/05/15 08:50:07	0.008
110	2016/05/15 08:51:07	0.012
111	2016/05/15 08:52:07	0.076
112	2016/05/15 08:53:07	0.025
113	2016/05/15 08:54:07	0
114	2016/05/15 08:55:07	0.001
115	2016/05/15 08:56:07	0
116	2016/05/15 08:57:07	0.002
117	2016/05/15 08:58:07	0.02
118	2016/05/15 08:59:07	0.022
119	2016/05/15 09:00:07	0
120	2016/05/15 09:01:07	0.018
121	2016/05/15 09:02:07	0.027
122	2016/05/15 09:03:07	0
123	2016/05/15 09:04:07	0
124	2016/05/15 09:05:07	0
125	2016/05/15 09:06:07	0
126	2016/05/15 09:07:07	0
127	2016/05/15 09:08:07	0
128	2016/05/15 09:09:07	0
129	2016/05/15 09:10:07	0
130	2016/05/15 09:11:07	0.013
131	2016/05/15 09:12:07	0.01
132	2016/05/15 09:13:07	0.064
133	2016/05/15 09:14:07	0.006
134	2016/05/15 09:15:07	0.014
135	2016/05/15 09:16:07	0.01
136	2016/05/15 09:17:07	0.001
137	2016/05/15 09:18:07	0
138	2016/05/15 09:19:07	0
139	2016/05/15 09:20:07	0
140	2016/05/15 09:21:07	0.031
141	2016/05/15 09:22:07	0.001
142	2016/05/15 09:23:07	0.003
143	2016/05/15 09:24:07	0.034
144	2016/05/15 09:25:07	0.011
145	2016/05/15 09:26:07	0.042
146	2016/05/15 09:27:07	0.002
147	2016/05/15 09:28:07	0.016

148	2016/05/15 09:29:07	0.005
149	2016/05/15 09:30:07	0.01
150	2016/05/15 09:31:07	0.001
151	2016/05/15 09:32:07	0
152	2016/05/15 09:33:07	0.002
153	2016/05/15 09:34:07	0
154	2016/05/15 09:35:07	0
155	2016/05/15 09:36:07	0
156	2016/05/15 09:37:07	0
157	2016/05/15 09:38:07	0
158	2016/05/15 09:39:07	0
159	2016/05/15 09:40:07	0
160	2016/05/15 09:41:07	0
161	2016/05/15 09:42:07	0
162	2016/05/15 09:43:07	0
163	2016/05/15 09:44:07	0
164	2016/05/15 09:45:07	0
165	2016/05/15 09:46:07	0
166	2016/05/15 09:47:07	0
167	2016/05/15 09:48:07	0
168	2016/05/15 09:49:07	0
169	2016/05/15 09:50:07	0
170	2016/05/15 09:51:07	0
171	2016/05/15 09:52:07	0
172	2016/05/15 09:53:07	0
173	2016/05/15 09:54:07	0
174	2016/05/15 09:55:07	0
175	2016/05/15 09:56:07	0
176	2016/05/15 09:57:07	0
177	2016/05/15 09:58:07	0
178	2016/05/15 09:59:07	0
179	2016/05/15 10:00:07	0
180	2016/05/15 10:01:07	0
181	2016/05/15 10:02:07	0
182	2016/05/15 10:03:07	0
183	2016/05/15 10:04:07	0
184	2016/05/15 10:05:07	0
185	2016/05/15 10:06:07	0
186	2016/05/15 10:07:07	0
187	2016/05/15 10:08:07	0
188	2016/05/15 10:09:07	0
189	2016/05/15 10:10:07	0
190	2016/05/15 10:11:07	0
191	2016/05/15 10:12:07	0
192	2016/05/15 10:13:07	0
193	2016/05/15 10:14:07	0
194	2016/05/15 10:15:07	0
195	2016/05/15 10:16:07	0
196	2016/05/15 10:17:07	0
197	2016/05/15 10:18:07	0
198	2016/05/15 10:19:07	0
199	2016/05/15 10:20:07	0
200	2016/05/15 10:21:07	0
201	2016/05/15 10:22:07	0
202	2016/05/15 10:23:07	0
203	2016/05/15 10:24:07	0
204	2016/05/15 10:25:07	0
205	2016/05/15 10:26:07	0.022
206	2016/05/15 10:27:07	0.004
207	2016/05/15 10:28:07	0.015
208	2016/05/15 10:29:07	0.001
209	2016/05/15 10:30:07	0.033
210	2016/05/15 10:31:07	0.009

211	2016/05/15 10:32:07	0.059
212	2016/05/15 10:33:07	0.127
213	2016/05/15 10:34:07	0.028
214	2016/05/15 10:35:07	0.094
215	2016/05/15 10:36:07	0.069
216	2016/05/15 10:37:07	0.117
217	2016/05/15 10:38:07	0.072
218	2016/05/15 10:39:07	0.134
219	2016/05/15 10:40:07	0.09
220	2016/05/15 10:41:07	0.04
221	2016/05/15 10:42:07	0.07
222	2016/05/15 10:43:07	0.117
223	2016/05/15 10:44:07	0.007
224	2016/05/15 10:45:07	0.02
225	2016/05/15 10:46:07	0.052
226	2016/05/15 10:47:07	0
227	2016/05/15 10:48:07	0
228	2016/05/15 10:49:07	0
229	2016/05/15 10:50:07	0
230	2016/05/15 10:51:07	0
231	2016/05/15 10:52:07	0
232	2016/05/15 10:53:07	0
233	2016/05/15 10:54:07	0
234	2016/05/15 10:55:07	0
235	2016/05/15 10:56:07	0
236	2016/05/15 10:57:07	0
237	2016/05/15 10:58:07	0
238	2016/05/15 10:59:07	0
239	2016/05/15 11:00:07	0.003
240	2016/05/15 11:01:07	0
241	2016/05/15 11:02:07	0
242	2016/05/15 11:03:07	0
243	2016/05/15 11:04:07	0
244	2016/05/15 11:05:07	0
245	2016/05/15 11:06:07	0
246	2016/05/15 11:07:07	0
247	2016/05/15 11:08:07	0.001
248	2016/05/15 11:09:07	0.002
249	2016/05/15 11:10:07	0.012
250	2016/05/15 11:11:07	0
251	2016/05/15 11:12:07	0
252	2016/05/15 11:13:07	0
253	2016/05/15 11:14:07	0
254	2016/05/15 11:15:07	0
255	2016/05/15 11:16:07	0
256	2016/05/15 11:17:07	0
257	2016/05/15 11:18:07	0
258	2016/05/15 11:19:07	0
259	2016/05/15 11:20:07	0
260	2016/05/15 11:21:07	0
261	2016/05/15 11:22:07	0
262	2016/05/15 11:23:07	0
263	2016/05/15 11:24:07	0
264	2016/05/15 11:25:07	0
265	2016/05/15 11:26:07	0
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361	2016/05/15 13:02:07	0
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363	2016/05/15 13:04:07	0
364	2016/05/15 13:05:07	0
365	2016/05/15 13:06:07	0
366	2016/05/15 13:07:07	0
367	2016/05/15 13:08:07	0.01
368	2016/05/15 13:09:07	0.012
369	2016/05/15 13:10:07	0.056
370	2016/05/15 13:11:07	0.015
371	2016/05/15 13:12:07	0.009
372	2016/05/15 13:13:07	0
373	2016/05/15 13:14:07	0.012
374	2016/05/15 13:15:07	0.009
375	2016/05/15 13:16:07	0.004
376	2016/05/15 13:17:07	0.002
377	2016/05/15 13:18:07	0.008
378	2016/05/15 13:19:07	0.015
379	2016/05/15 13:20:07	0.036
380	2016/05/15 13:21:07	0.01
381	2016/05/15 13:22:07	0.011
382	2016/05/15 13:23:07	0
383	2016/05/15 13:24:07	0
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388	2016/05/15 13:29:07	0
389	2016/05/15 13:30:07	0
390	2016/05/15 13:31:07	0
391	2016/05/15 13:32:07	0
392	2016/05/15 13:33:07	0.013
393	2016/05/15 13:34:07	0.022
394	2016/05/15 13:35:07	0.074
395	2016/05/15 13:36:07	0.052
396	2016/05/15 13:37:07	0.078
397	2016/05/15 13:38:07	0.16
398	2016/05/15 13:39:07	0.204
399	2016/05/15 13:40:07	0.017

	400	2016/05/15 13:41:07	0
	401	2016/05/15 13:42:07	0.006
	402	2016/05/15 13:43:07	0.16
	403	2016/05/15 13:44:07	0.1
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	405	2016/05/15 13:46:07	0
	406	2016/05/15 13:47:07	0
	407	2016/05/15 13:48:07	0.05
	408	2016/05/15 13:49:07	0.041
	409	2016/05/15 13:50:07	0.065
	410	2016/05/15 13:51:07	0.039
	411	2016/05/15 13:52:07	0.168
	412	2016/05/15 13:53:07	0.003
	413	2016/05/15 13:54:07	0.015
	414	2016/05/15 13:55:07	0.026
	415	2016/05/15 13:56:07	0
	416	2016/05/15 13:57:07	0
	417	2016/05/15 13:58:07	0.011
	418	2016/05/15 13:59:07	0.03
	419	2016/05/15 14:00:07	0.04
	420	2016/05/15 14:01:07	0.001
	421	2016/05/15 14:02:07	0.025
	422	2016/05/15 14:03:07	0.029
	423	2016/05/15 14:04:07	0.018
	424	2016/05/15 14:05:07	0
Peak			0.551
Min			0
Average			0.013

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16/05/16 08:28

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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-909189
Unit Firmware Ver	V1.20

Running Mode	Hygiene Mode
Measure Type	Avg
Datalog Mode	Continuous
Datalog Type	Auto
Diagnostic Mode	No
Stop Reason	Power Down

Site ID	RAE00000
User ID	1

Begin	5/16/2016 8:28
End	5/16/2016 17:26
Sample Period(s)	60
Number of Records	538

Sensor	VOC(ppm)
Span	100
Span 2	N/A
Low Alarm	5
High Alarm	1000
Over Alarm	15000
STEL Alarm	100
TWA Alarm	50
Measurement Gas	Benzene
Calibration Time	5/16/2016 8:27
Peak	N/A
Min	N/A
Average	N/A

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Datalog

Index	Date/Time	VOC(ppm) (Avg)
1	2016/05/16 08:29:03	0
2	2016/05/16 08:30:03	0
3	2016/05/16 08:31:03	0
4	2016/05/16 08:32:03	0
5	2016/05/16 08:33:03	0
6	2016/05/16 08:34:03	0
7	2016/05/16 08:35:03	0
8	2016/05/16 08:36:03	0
9	2016/05/16 08:37:03	0
10	2016/05/16 08:38:03	0
11	2016/05/16 08:39:03	0
12	2016/05/16 08:40:03	0
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14	2016/05/16 08:42:03	0
15	2016/05/16 08:43:03	0
16	2016/05/16 08:44:03	0
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18	2016/05/16 08:46:03	0
19	2016/05/16 08:47:03	0
20	2016/05/16 08:48:03	0
21	2016/05/16 08:49:03	0

22	2016/05/16 08:50:03	0
23	2016/05/16 08:51:03	0
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26	2016/05/16 08:54:03	0
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37	2016/05/16 09:05:03	0
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39	2016/05/16 09:07:03	0
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323	2016/05/16 13:51:03	0
324	2016/05/16 13:52:03	0
325	2016/05/16 13:53:03	0
326	2016/05/16 13:54:03	0
327	2016/05/16 13:55:03	0
328	2016/05/16 13:56:03	0
329	2016/05/16 13:57:03	0
330	2016/05/16 13:58:03	0
331	2016/05/16 13:59:03	0
332	2016/05/16 14:00:03	0
333	2016/05/16 14:01:03	0
334	2016/05/16 14:02:03	0
335	2016/05/16 14:03:03	0
336	2016/05/16 14:04:03	0

337	2016/05/16 14:05:03	0
338	2016/05/16 14:06:03	0
339	2016/05/16 14:07:03	0
340	2016/05/16 14:08:03	0
341	2016/05/16 14:09:03	0
342	2016/05/16 14:10:03	0
343	2016/05/16 14:11:03	0.002
344	2016/05/16 14:12:03	0
345	2016/05/16 14:13:03	0
346	2016/05/16 14:14:03	0
347	2016/05/16 14:15:03	0
348	2016/05/16 14:16:03	0
349	2016/05/16 14:17:03	0
350	2016/05/16 14:18:03	0
351	2016/05/16 14:19:03	0
352	2016/05/16 14:20:03	0
353	2016/05/16 14:21:03	0
354	2016/05/16 14:22:03	0
355	2016/05/16 14:23:03	0
356	2016/05/16 14:24:03	0
357	2016/05/16 14:25:03	0
358	2016/05/16 14:26:03	0
359	2016/05/16 14:27:03	0
360	2016/05/16 14:28:03	0
361	2016/05/16 14:29:03	0
362	2016/05/16 14:30:03	0
363	2016/05/16 14:31:03	0
364	2016/05/16 14:32:03	0
365	2016/05/16 14:33:03	0
366	2016/05/16 14:34:03	0
367	2016/05/16 14:35:03	0
368	2016/05/16 14:36:03	0
369	2016/05/16 14:37:03	0
370	2016/05/16 14:38:03	0
371	2016/05/16 14:39:03	0
372	2016/05/16 14:40:03	0
373	2016/05/16 14:41:03	0
374	2016/05/16 14:42:03	0
375	2016/05/16 14:43:03	0
376	2016/05/16 14:44:03	0
377	2016/05/16 14:45:03	0
378	2016/05/16 14:46:03	0
379	2016/05/16 14:47:03	0
380	2016/05/16 14:48:03	0
381	2016/05/16 14:49:03	0
382	2016/05/16 14:50:03	0
383	2016/05/16 14:51:03	0.001
384	2016/05/16 14:52:03	0
385	2016/05/16 14:53:03	0
386	2016/05/16 14:54:03	0
387	2016/05/16 14:55:03	0
388	2016/05/16 14:56:03	0
389	2016/05/16 14:57:03	0
390	2016/05/16 14:58:03	0
391	2016/05/16 14:59:03	0
392	2016/05/16 15:00:03	0
393	2016/05/16 15:01:03	0
394	2016/05/16 15:02:03	0
395	2016/05/16 15:03:03	0
396	2016/05/16 15:04:03	0.012
397	2016/05/16 15:05:03	0.008
398	2016/05/16 15:06:03	0.011
399	2016/05/16 15:07:03	0.026

400	2016/05/16 15:08:03	0.011
401	2016/05/16 15:09:03	0.001
402	2016/05/16 15:10:03	0.012
403	2016/05/16 15:11:03	0.018
404	2016/05/16 15:12:03	0.004
405	2016/05/16 15:13:03	0
406	2016/05/16 15:14:03	0.001
407	2016/05/16 15:15:03	0.081
408	2016/05/16 15:16:03	0.06
409	2016/05/16 15:17:03	0.12
410	2016/05/16 15:18:03	0.012
411	2016/05/16 15:19:03	0.011
412	2016/05/16 15:20:03	0
413	2016/05/16 15:21:03	0.003
414	2016/05/16 15:22:03	0
415	2016/05/16 15:23:03	0
416	2016/05/16 15:24:03	0
417	2016/05/16 15:25:03	0
418	2016/05/16 15:26:03	0.002
419	2016/05/16 15:27:03	0
420	2016/05/16 15:28:03	0
421	2016/05/16 15:29:03	0
422	2016/05/16 15:30:03	0
423	2016/05/16 15:31:03	0.006
424	2016/05/16 15:32:03	0
425	2016/05/16 15:33:03	0
426	2016/05/16 15:34:03	0.002
427	2016/05/16 15:35:03	0
428	2016/05/16 15:36:03	0
429	2016/05/16 15:37:03	0
430	2016/05/16 15:38:03	0
431	2016/05/16 15:39:03	0
432	2016/05/16 15:40:03	0
433	2016/05/16 15:41:03	0
434	2016/05/16 15:42:03	0
435	2016/05/16 15:43:03	0
436	2016/05/16 15:44:03	0
437	2016/05/16 15:45:03	0
438	2016/05/16 15:46:03	0.001
439	2016/05/16 15:47:03	0
440	2016/05/16 15:48:03	0
441	2016/05/16 15:49:03	0
442	2016/05/16 15:50:03	0
443	2016/05/16 15:51:03	0
444	2016/05/16 15:52:03	0
445	2016/05/16 15:53:03	0
446	2016/05/16 15:54:03	0
447	2016/05/16 15:55:03	0
448	2016/05/16 15:56:03	0.002
449	2016/05/16 15:57:03	0
450	2016/05/16 15:58:03	0
451	2016/05/16 15:59:03	0.001
452	2016/05/16 16:00:03	0
453	2016/05/16 16:01:03	0
454	2016/05/16 16:02:03	0
455	2016/05/16 16:03:03	0
456	2016/05/16 16:04:03	0
457	2016/05/16 16:05:03	0.001
458	2016/05/16 16:06:03	0
459	2016/05/16 16:07:03	0
460	2016/05/16 16:08:03	0
461	2016/05/16 16:09:03	0.001
462	2016/05/16 16:10:03	0

463	2016/05/16 16:11:03	0
464	2016/05/16 16:12:03	0
465	2016/05/16 16:13:03	0
466	2016/05/16 16:14:03	0
467	2016/05/16 16:15:03	0.001
468	2016/05/16 16:16:03	0
469	2016/05/16 16:17:03	0.003
470	2016/05/16 16:18:03	0.001
471	2016/05/16 16:19:03	0
472	2016/05/16 16:20:03	0
473	2016/05/16 16:21:03	0
474	2016/05/16 16:22:03	0
475	2016/05/16 16:23:03	0
476	2016/05/16 16:24:03	0
477	2016/05/16 16:25:03	0
478	2016/05/16 16:26:03	0
479	2016/05/16 16:27:03	0
480	2016/05/16 16:28:03	0
481	2016/05/16 16:29:03	0
482	2016/05/16 16:30:03	0
483	2016/05/16 16:31:03	0
484	2016/05/16 16:32:03	0
485	2016/05/16 16:33:03	0
486	2016/05/16 16:34:03	0
487	2016/05/16 16:35:03	0
488	2016/05/16 16:36:03	0
489	2016/05/16 16:37:03	0
490	2016/05/16 16:38:03	0
491	2016/05/16 16:39:03	0
492	2016/05/16 16:40:03	0
493	2016/05/16 16:41:03	0
494	2016/05/16 16:42:03	0
495	2016/05/16 16:43:03	0
496	2016/05/16 16:44:03	0
497	2016/05/16 16:45:03	0
498	2016/05/16 16:46:03	0
499	2016/05/16 16:47:03	0
500	2016/05/16 16:48:03	0
501	2016/05/16 16:49:03	0
502	2016/05/16 16:50:03	0
503	2016/05/16 16:51:03	0
504	2016/05/16 16:52:03	0
505	2016/05/16 16:53:03	0
506	2016/05/16 16:54:03	0
507	2016/05/16 16:55:03	0
508	2016/05/16 16:56:03	0
509	2016/05/16 16:57:03	0
510	2016/05/16 16:58:03	0
511	2016/05/16 16:59:03	0
512	2016/05/16 17:00:03	0
513	2016/05/16 17:01:03	0
514	2016/05/16 17:02:03	0
515	2016/05/16 17:03:03	0
516	2016/05/16 17:04:03	0
517	2016/05/16 17:05:03	0
518	2016/05/16 17:06:03	0
519	2016/05/16 17:07:03	0
520	2016/05/16 17:08:03	0
521	2016/05/16 17:09:03	0
522	2016/05/16 17:10:03	0
523	2016/05/16 17:11:03	0
524	2016/05/16 17:12:03	0
525	2016/05/16 17:13:03	0

	526	2016/05/16 17:14:03	0
	527	2016/05/16 17:15:03	0
	528	2016/05/16 17:16:03	0
	529	2016/05/16 17:17:03	0
	530	2016/05/16 17:18:03	0
	531	2016/05/16 17:19:03	0
	532	2016/05/16 17:20:03	0
	533	2016/05/16 17:21:03	0
	534	2016/05/16 17:22:03	0
	535	2016/05/16 17:23:03	0
	536	2016/05/16 17:24:03	0
	537	2016/05/16 17:25:03	0
	538	2016/05/16 17:26:03	0
Peak			0.12
Min			0
Average			0.001

APPENDIX F

LABORATORY ANALYTICAL REPORTS

Quality Control Checklist
for Review of Laboratory Report

Job No.: 12315-35 | Site: POO Berth 25, UST Removal

Laboratory: Curtis and Tompkins, Ltd. | Laboratory Report No: 276905

Report Date: 05/19/2016 | BASELINE Review By: JM

	Yes	No	NA
GENERAL QUESTIONS **(Describe "no" responses below in "comments" section. Contact the laboratory, as required, for further explanation or action on responses; document discussion in comments section.)**			
1. Is the laboratory report format consistent and legible throughout the report?	X		
1b. Are the sample and reported dates shown in the laboratory report correct?	X		
2a. Does the lab report include the original chain-of-custody form?	X		
2b. Were all samples appropriately analyzed as requested on the chain-of-custody form?	X		
3. Was the lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel? (Some lab reports have signature spaces for each page). (This requirement also applies to any analyses subcontracted out by the laboratory)	X		
4a. Are preparation methods, cleanup methods (if applicable), and laboratory methods indicated for all analyses?	X		
4b. If additional analytes were requested as part of the reporting of the data for an analytical method, were these included in the lab report?			X
5. Are the units in the lab report provided for each analysis consistent throughout the report?	X		
6. Are the detection limits (DL) appropriate based on the intended use of the data? (e.g., DL below applicable MCLs for water quality issues?)	X		
7a. Are detection limits appropriate based on the analysis performed? (i.e., not elevated due to dilution effects)	X		
7b. If no, is an explanation provided by the laboratory?			X
8a. Were the samples analyzed within the appropriate holding time? (generally 2 weeks for volatiles, and up to 6 months for total metals)	X		
8b. If no, was it flagged in the report?			X
9. If samples were composited prior to analysis, does the lab report indicate which samples were composited for each analysis?			X
10a. Do the chromatograms confirm quantitative laboratory results? (petroleum hydrocarbons)	X		
10b. Is a standard chromatogram(s) included in the laboratory report?	X		
10c. Do the chromatograms confirm laboratory notes, if present (e.g., sample exhibits lighter hydrocarbon than standard)	X		
11. Are the results consistent with previous analytical results from the site? *(If no, contact the lab and request review/reanalysis of data, as appropriate)*	X		
12a. REVISED LAB REPORTS ONLY. Is the revised lab report or revised pages to a			

	Yes	No	NA
lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel?			X
12b. REVISED LAB REPORTS ONLY. Does the case narrative indicate the date of revision and provide an explanation for the revision?			X
12c. REVISED LAB REPORTS ONLY. Does the revised lab report adequately address the problem(s), which triggered the need for a revision?			X
12d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as data reported in the original report, except where the report was revised to correct incorrectly reported data?			X
QA/QC Questions Field/Laboratory Quality Control - Groundwater Analyses			
13. Are field blanks reported as ND? (groundwater samples) *A field blank is a sample of DI water, which is prepared in the field using the same collection and handling procedures as the other samples collected, and used to demonstrate that the sampling procedure has not contaminated the sample.*		X	
14. Are trip blanks reported as ND? (groundwater samples/volatile analyses) *A trip blank is a sample of contaminant-free matrix placed in an appropriate container by the lab and transported with the field samples collected. Provides information regarding positive interference introduced during sample transport, storage, preservation, and analysis. The sample is NOT opened in the field.*			X
15. Are duplicate sample results consistent with the original sample? (groundwater samples) *Field duplicates consist of two independent samples collected at the same sampling location during a single sampling event. Used to evaluate precision of the analytical data and sampling technique. (Differences between the duplicate and sample results may also be attributed to environmental variability).*			X
Batch Quality Control (Samples are batched together by matrix [soil, water] and analyses requested. A batch generally consists of 20 or fewer samples of the same matrix type, and is prepared using the same reagents, standards, procedures, and time frame as the samples. QC samples are run with each batch to assess performance of the entire measurement process.)			
16 Do the sample batch numbers and corresponding laboratory QA/QC batch numbers match?	X		
17a. Are method blanks (MB) for the analytical method(s) below the laboratory reporting limits? *Used to assess lab contamination and prevent false positive results. MBs should be ND.*	X		
17b. If no, is an explanation provided in the case narrative to validate the data?			X
17c. Are analytes which may be considered laboratory contaminants reported below the laboratory reporting limit? *Common lab contaminants include acetone, methylene chloride, diethylhexyl phthalate, and di-n-octyl phthalate.*	X		
17d. If no, was the laboratory contacted to determine whether reported analyte could be a potential laboratory contaminant and was an explanation included in the case narrative?			X

18. Are laboratory control samples (LCS) and LCS duplicate (LCSD) [a.k.a., Blank Spike (BS) and BS duplicates (BSD)] within laboratory reporting limits? Limits should be provided on the report. *LCS is a reagent blank spike with a representative selection of target analyte(s) and prepared in the same manner as the samples analyzed. The LCS should be spiked with the same analytes as the matrix spike (below). The LCS is free from interferences from the sample matrix and demonstrates the ability of the lab instruments to recover the target analytes. Accuracy (recovery information) is generally reported as % spike recovery; precision (reproducibility of results) between the LCS and LCSD is generally reported as the relative percent difference (RPD). LCS/LCSD can be run in addition to or in lieu of, matrix QC data.*	X		
19a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. *The lab selects a sample from the batch and analyzes a spike and a spike duplicate of that sample. Matrix QC data is used to obtain precision and accuracy information and is reported in the same manner as LCS/LCSD. If the MS/MSD fails, the results may still be considered valid if the MB and either the LCS/LCSD or BS/BSD is within the lab's limits (failure is probably due to matrix interference).*	X		
19b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			X
Sample Quality Control			
20a. Are the surrogate spikes reported within the lab's acceptable recovery limits? *A surrogate is a non-target analyte, which is similar in chemical structure to the analyte(s) being analyzed for, and which is not commonly found in environmental samples. A known concentration of the surrogate is spike into the sample or QA sample prior to extraction or sample preparation. Results are usually reported as % recovery of the spike. Failure to meet lab's limits for primary and secondary surrogates results in rebatching and reanalysis of the sample; failure of only the primary or the secondary surrogate may be acceptable under certain circumstances. Failure generally is due to coelution with the sample matrix.*	X		
20b. If no, was the secondary surrogate reported within the lab's acceptable recovery limits?			X

Comments:

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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 276905
ANALYTICAL REPORT

Baseline Environmental	Project : 12315-35
5900 Hollis Street	Location : Port of Oakland, Berth 25-26
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
UST-CF-04R;GW	276905-001
UST-CF-04R;W-8.5	276905-002
UST-CF-04R;D-7.0	276905-003
UST-CF-04R;E-8.5	276905-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Mikelle Chong Date: 05/19/2016

Mikelle Chong
Project Manager
mikelle.chong@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**276905**
Client:	**Baseline Environmental**
Project:	**12315-35**
Location:	**Port of Oakland, Berth 25-26**
Request Date:	**05/17/16**
Samples Received:	**05/17/16**

This data package contains sample and QC results for three soil samples and one water sample, requested for the above referenced project on 05/17/16. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
UST-CF-04R;D-7.0 (lab # 276905-003) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:
No analytical problems were encountered.

BASELINE ENVIRONMENTAL CONSULTING

276905

CHAIN OF CUSTODY RECORD

5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

Turn-Around-Time 24 hrs.
Laboratory Curtis and Tompkins
BASELINE Contact Person Jim McCarty

Project Number 12315-35
Project Name: Port of Oakland, Berth 25-26
Samplers: (Signature)

Sample ID	Date	Time	Media	Containers Type and Preservative: No.	16-oz 8-oz Glass Jar	40 ml VOA - MeOH	40 ml VOA - UPBW	40 ml VOA HCL	1 Liter Amber	Ice	VOC's including MTBE (EPA 8260B)	TPH,d & TPH,mo (EPA 8015B)*					Remarks/ Composite *NO silica gel cleanup
UST-CF-04R; GW	5-16-16	15:30	water	8				6	2	X	X	X					
UST-CF-04R; W-8.5	5-16-16	16:45	soil	4	1	1	2			↓	↓	↓					
UST-CF-04R; D-7.0	5-16-16	17:35	soil	4	1	1	2										
UST-CF-04R; E-8.5	5-16-16	19:00	soil	4	1	1	2										

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
	5/16/16 7:30	Pat Hamilton	5/17/16 7:30 am	

Received at laboratory with intact custody seal: Yes No (NA)

Samples conditions Upon Arrival: Intact (On Ice) Cold

Comments:

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

Login # 276905 Date Received 5/17/16 Number of coolers 1
Client Baseline Project Port of Oakland, Berth 25-26

Date Opened 5/17 By (print) SC (sign)
Date Logged in + By (print) + (sign) +

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☒ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.4°

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☐ 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? 5/17/16 C 1025
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? (pH strip lot#) 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

Curtis & Tompkins, Ltd.

Detections Summary for 276905

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

Client : Baseline Environmental
Project : 12315-35
Location : Port of Oakland, Berth 25-26

Client Sample ID : UST-CF-04R;GW Laboratory Sample ID : 276905-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	190	Y	47	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
cis-1,2-Dichloroethene	0.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	1.3		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Tetrachloroethene	12		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : UST-CF-04R;W-8.5 Laboratory Sample ID : 276905-002

No Detections

Client Sample ID : UST-CF-04R;D-7.0 Laboratory Sample ID : 276905-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.9	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	34		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550B

Client Sample ID : UST-CF-04R;E-8.5 Laboratory Sample ID : 276905-004

No Detections

Y = Sample exhibits chromatographic pattern which does not resemble standard

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	12315-35	Analysis:	EPA 8015B
Field ID:	UST-CF-04R;GW	Sampled:	05/16/16
Matrix:	Water	Received:	05/17/16
Units:	ug/L	Prepared:	05/17/16
Diln Fac:	1.000	Analyzed:	05/18/16
Batch#:	235204		

Type: SAMPLE Lab ID: 276905-001

Analyte	Result	RL
Diesel C10-C24	190 Y	47
Motor Oil C24-C36	ND	280

Surrogate	%REC	Limits
o-Terphenyl	102	67-136

Type: BLANK Lab ID: QC836008

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	12315-35	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	235204
Units:	ug/L	Prepared:	05/17/16
Diln Fac:	1.000	Analyzed:	05/18/16

Type: BS Lab ID: QC836009

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,241	90	60-121

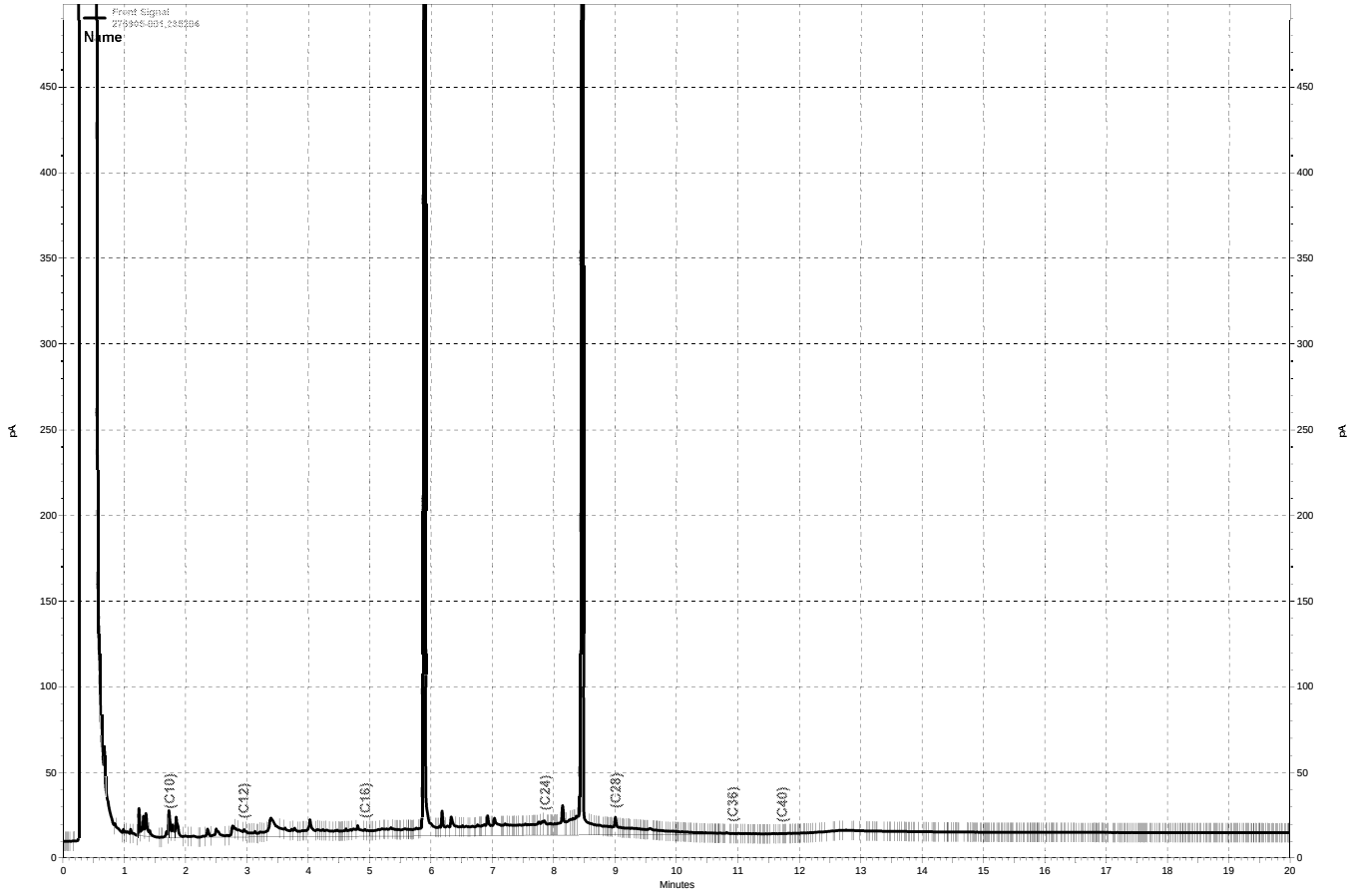
Surrogate	%REC	Limits
o-Terphenyl	108	67-136

Type: BSD Lab ID: QC836010

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,547	102	60-121	13	32

Surrogate	%REC	Limits
o-Terphenyl	120	67-136

RPD= Relative Percent Difference



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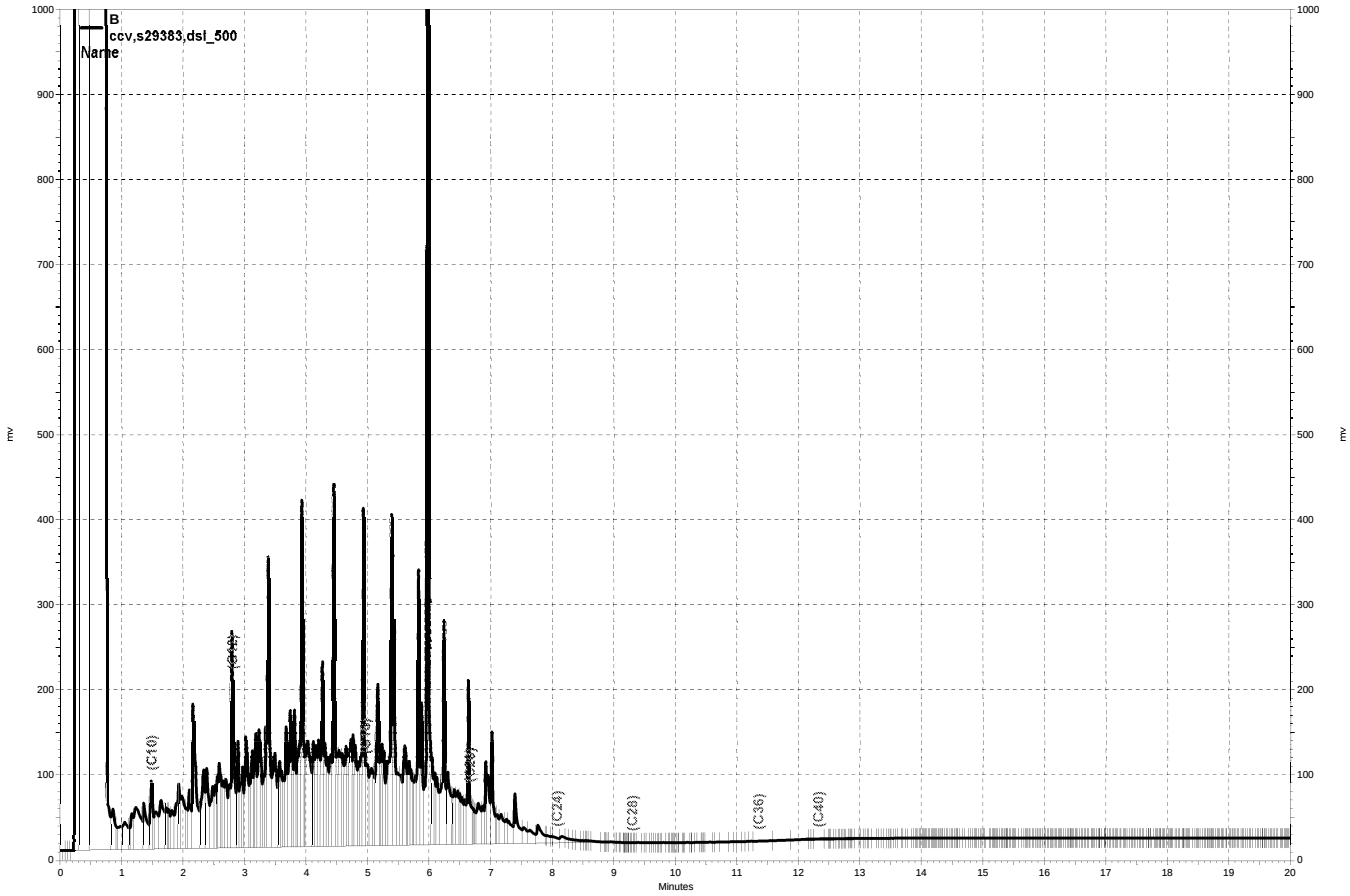

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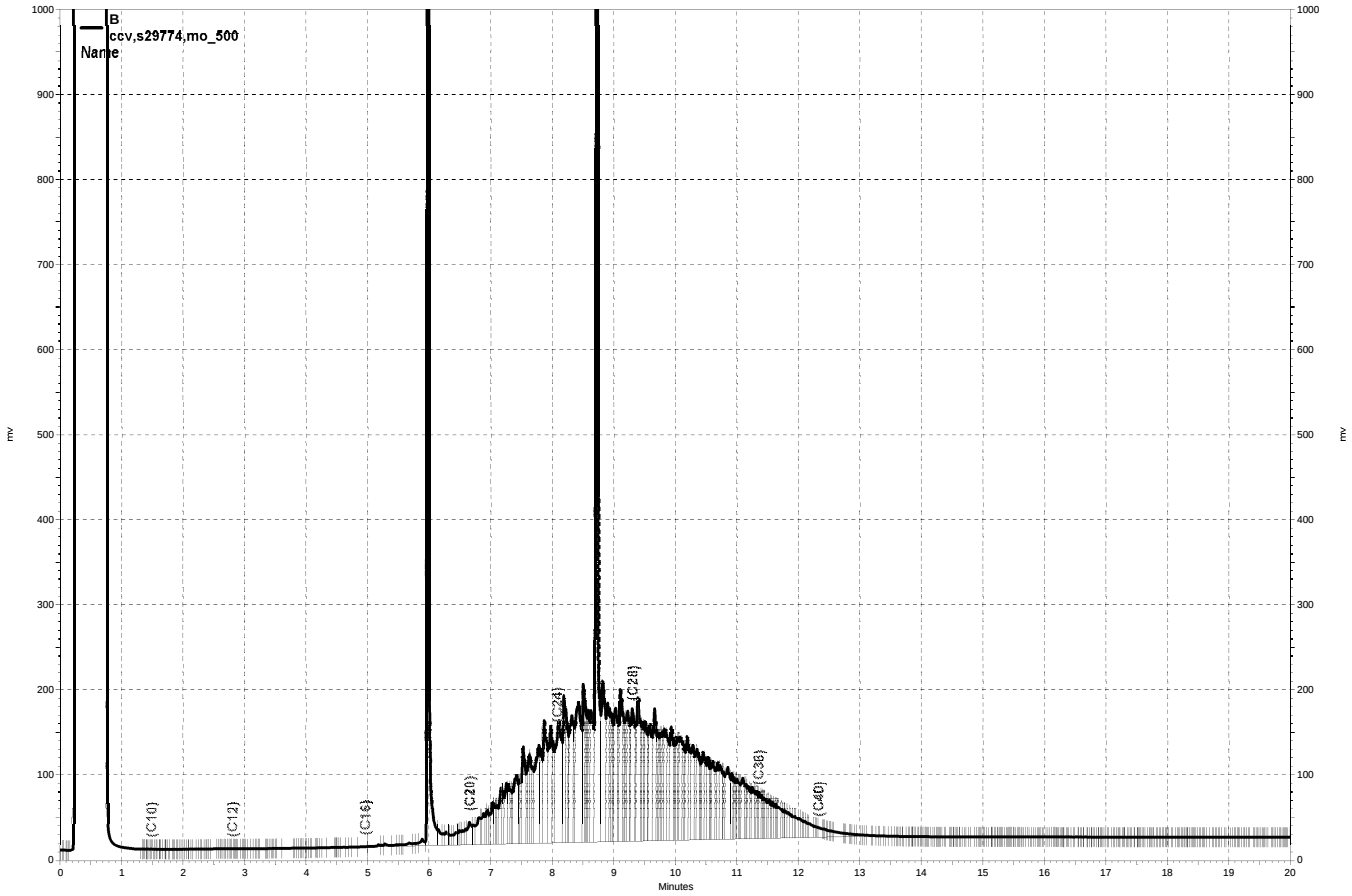

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Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/16/16
Units:	mg/Kg	Received:	05/17/16
Basis:	as received	Prepared:	05/17/16
Batch#:	235188		

Field ID: UST-CF-04R;W-8.5 Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/18/16
Lab ID: 276905-002

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	99	59-140

Field ID: UST-CF-04R;D-7.0 Diln Fac: 2.000
Type: SAMPLE Analyzed: 05/18/16
Lab ID: 276905-003

Analyte	Result	RL
Diesel C10-C24	6.9 Y	2.0
Motor Oil C24-C36	34	10

Surrogate	%REC	Limits
o-Terphenyl	91	59-140

Field ID: UST-CF-04R;E-8.5 Diln Fac: 1.000
Type: SAMPLE Analyzed: 05/18/16
Lab ID: 276905-004

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	109	59-140

Type: BLANK Diln Fac: 1.000
Lab ID: QC835935 Analyzed: 05/17/16

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	108	59-140

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC835936	Batch#:	235188
Matrix:	Soil	Prepared:	05/17/16
Units:	mg/Kg	Analyzed:	05/17/16

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.58	51.12	103	58-137

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	235188
MSS Lab ID:	276839-001	Sampled:	05/11/16
Matrix:	Soil	Received:	05/13/16
Units:	mg/Kg	Prepared:	05/17/16
Basis:	as received	Analyzed:	05/18/16
Diln Fac:	5.000		

Type: MS Lab ID: QC835937

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	7.251	50.16	58.46	102	46-154

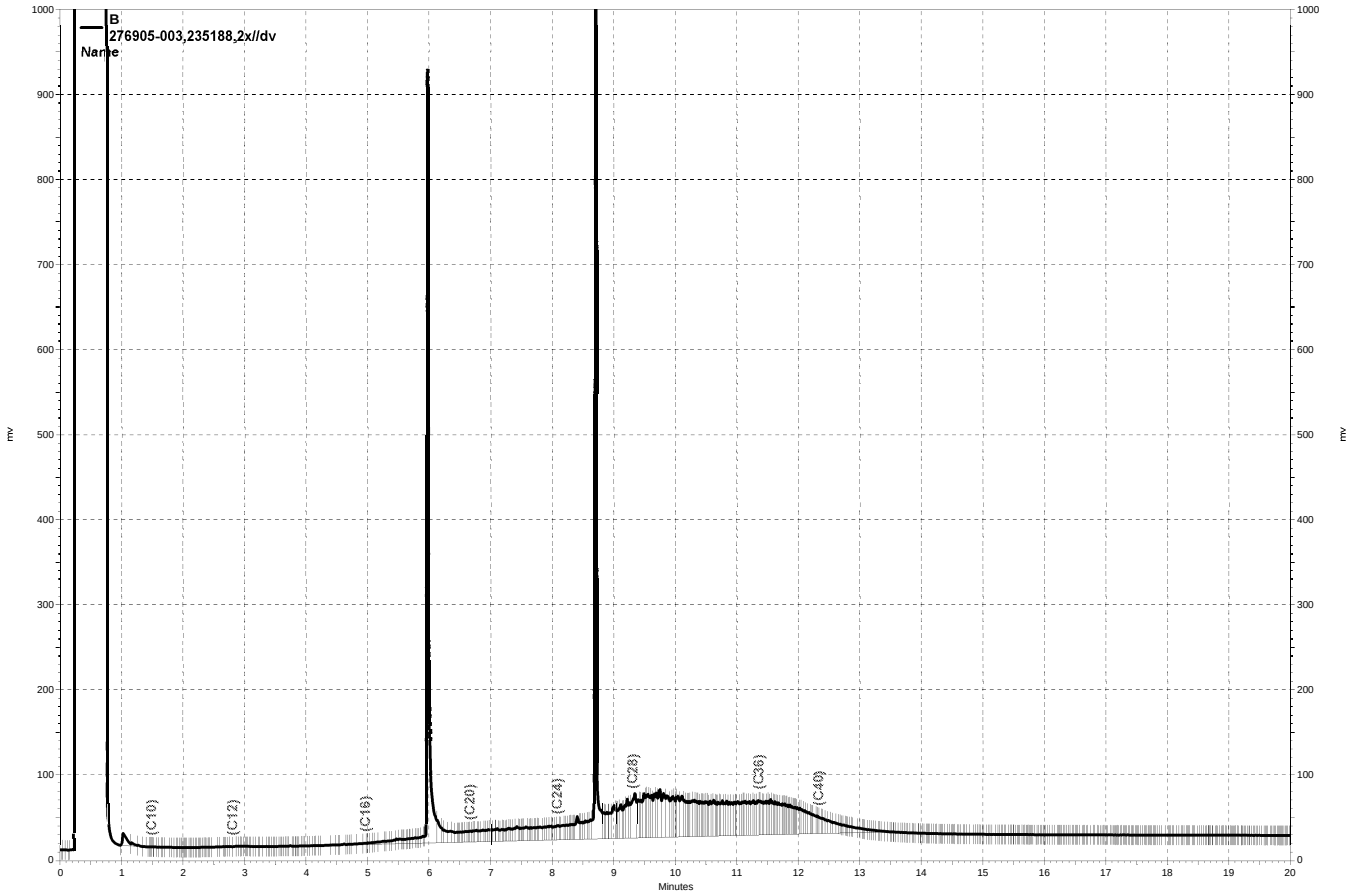
Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Type: MSD Lab ID: QC835938

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.01	63.45	112	46-154	8	50

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

RPD= Relative Percent Difference



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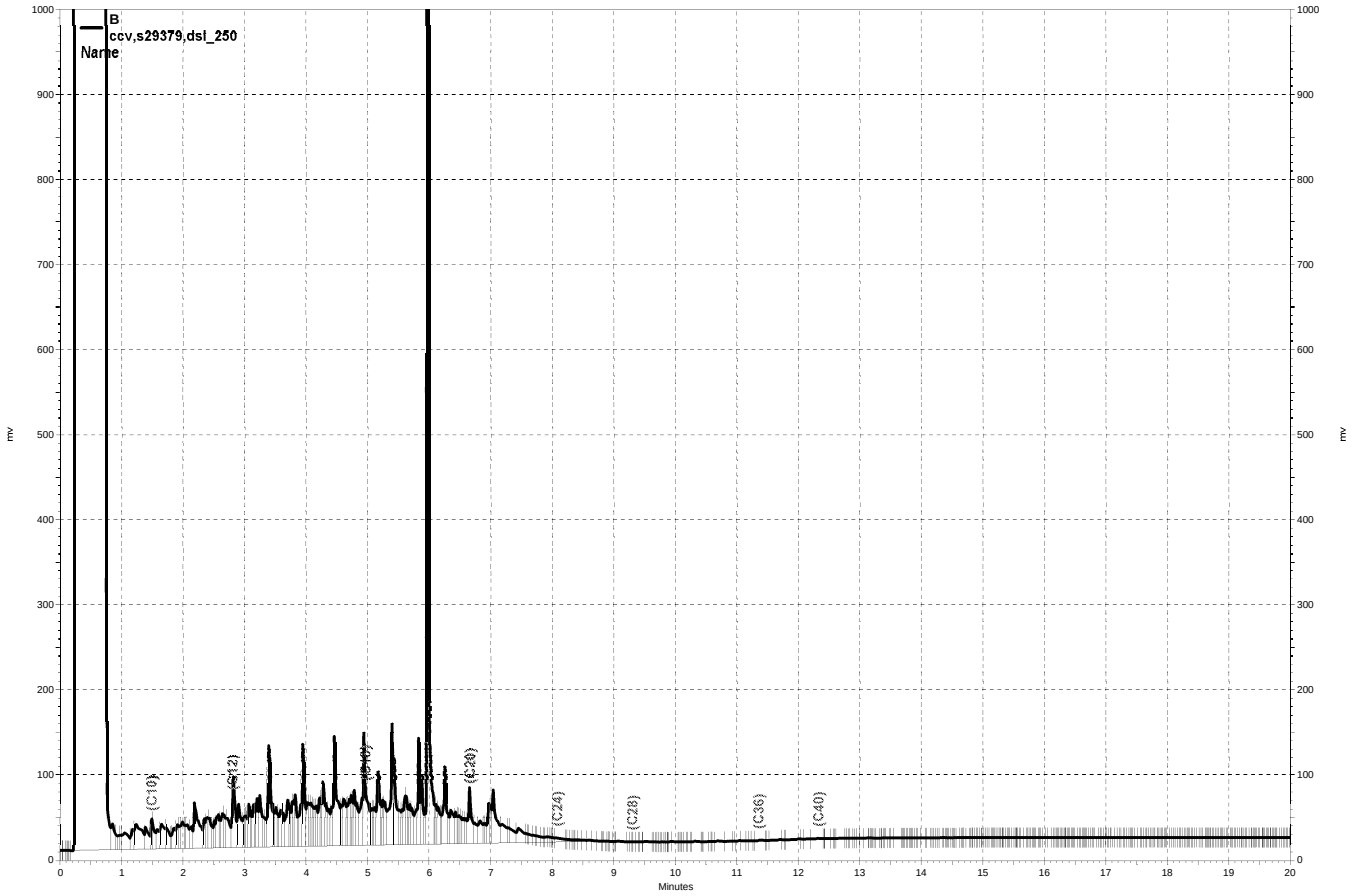

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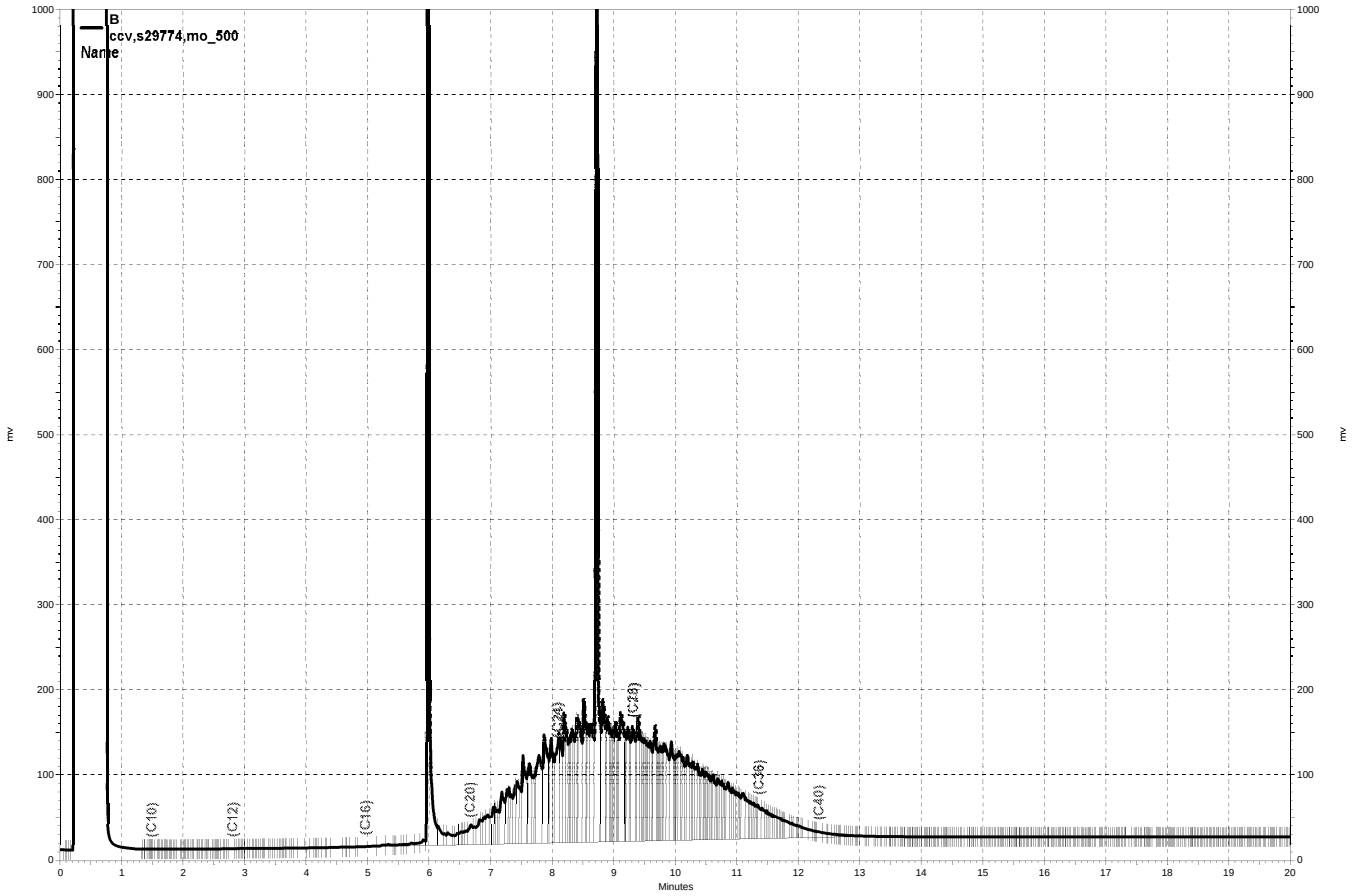

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;GW	Batch#:	235198
Lab ID:	276905-001	Sampled:	05/16/16
Matrix:	Water	Received:	05/17/16
Units:	ug/L	Analyzed:	05/17/16
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	0.8	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	1.3	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	12	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;GW	Batch#:	235198
Lab ID:	276905-001	Sampled:	05/16/16
Matrix:	Water	Received:	05/17/16
Units:	ug/L	Analyzed:	05/17/16
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	235198
Units:	ug/L	Analyzed:	05/17/16
Diln Fac:	1.000		

Type: BS Lab ID: QC835982

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	10.20	82	66-135
Benzene	12.50	10.89	87	80-123
Trichloroethene	12.50	10.64	85	80-123
Toluene	12.50	11.28	90	80-121
Chlorobenzene	12.50	10.93	87	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	105	80-120

Type: BSD Lab ID: QC835983

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	9.943	80	66-135	3	24
Benzene	12.50	11.22	90	80-123	3	20
Trichloroethene	12.50	10.69	85	80-123	0	20
Toluene	12.50	11.39	91	80-121	1	20
Chlorobenzene	12.50	11.57	93	80-123	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	107	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835984	Batch#:	235198
Matrix:	Water	Analyzed:	05/17/16
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835984	Batch#:	235198
Matrix:	Water	Analyzed:	05/17/16
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;W-8.5	Diln Fac:	0.8361
Lab ID:	276905-002	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Freon 12	ND	8.4
Chloromethane	ND	8.4
Vinyl Chloride	ND	8.4
Bromomethane	ND	8.4
Chloroethane	ND	8.4
Trichlorofluoromethane	ND	4.2
Acetone	ND	17
Freon 113	ND	4.2
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	42
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	8.4
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	8.4
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	8.4
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;W-8.5	Diln Fac:	0.8361
Lab ID:	276905-002	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	ND	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	4.2
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	4.2
Naphthalene	ND	4.2
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-134
1,2-Dichloroethane-d4	115	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	102	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;D-7.0	Diln Fac:	0.8562
Lab ID:	276905-003	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Freon 12	ND	8.6
Chloromethane	ND	8.6
Vinyl Chloride	ND	8.6
Bromomethane	ND	8.6
Chloroethane	ND	8.6
Trichlorofluoromethane	ND	4.3
Acetone	ND	17
Freon 113	ND	4.3
1,1-Dichloroethene	ND	4.3
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.3
MTBE	ND	4.3
trans-1,2-Dichloroethene	ND	4.3
Vinyl Acetate	ND	43
1,1-Dichloroethane	ND	4.3
2-Butanone	ND	8.6
cis-1,2-Dichloroethene	ND	4.3
2,2-Dichloropropane	ND	4.3
Chloroform	ND	4.3
Bromochloromethane	ND	4.3
1,1,1-Trichloroethane	ND	4.3
1,1-Dichloropropene	ND	4.3
Carbon Tetrachloride	ND	4.3
1,2-Dichloroethane	ND	4.3
Benzene	ND	4.3
Trichloroethene	ND	4.3
1,2-Dichloropropane	ND	4.3
Bromodichloromethane	ND	4.3
Dibromomethane	ND	4.3
4-Methyl-2-Pentanone	ND	8.6
cis-1,3-Dichloropropene	ND	4.3
Toluene	ND	4.3
trans-1,3-Dichloropropene	ND	4.3
1,1,2-Trichloroethane	ND	4.3
2-Hexanone	ND	8.6
1,3-Dichloropropane	ND	4.3
Tetrachloroethene	ND	4.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;D-7.0	Diln Fac:	0.8562
Lab ID:	276905-003	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Dibromochloromethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Chlorobenzene	ND	4.3
1,1,1,2-Tetrachloroethane	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
Styrene	ND	4.3
Bromoform	ND	4.3
Isopropylbenzene	ND	4.3
1,1,2,2-Tetrachloroethane	ND	4.3
1,2,3-Trichloropropane	ND	4.3
Propylbenzene	ND	4.3
Bromobenzene	ND	4.3
1,3,5-Trimethylbenzene	ND	4.3
2-Chlorotoluene	ND	4.3
4-Chlorotoluene	ND	4.3
tert-Butylbenzene	ND	4.3
1,2,4-Trimethylbenzene	ND	4.3
sec-Butylbenzene	ND	4.3
para-Isopropyl Toluene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
n-Butylbenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3
1,2-Dibromo-3-Chloropropane	ND	4.3
1,2,4-Trichlorobenzene	ND	4.3
Hexachlorobutadiene	ND	4.3
Naphthalene	ND	4.3
1,2,3-Trichlorobenzene	ND	4.3

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	112	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	99	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;E-8.5	Diln Fac:	0.8711
Lab ID:	276905-004	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.4
Acetone	ND	17
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	UST-CF-04R;E-8.5	Diln Fac:	0.8711
Lab ID:	276905-004	Batch#:	235192
Matrix:	Soil	Sampled:	05/16/16
Units:	ug/Kg	Received:	05/17/16
Basis:	as received	Analyzed:	05/17/16

Analyte	Result	RL
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	114	78-134
1,2-Dichloroethane-d4	118	80-138
Toluene-d8	101	80-120
Bromofluorobenzene	102	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835956	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835956	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-134
1,2-Dichloroethane-d4	104	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	101	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC836024	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	21.84	87	70-134
Benzene	25.00	24.16	97	80-123
Trichloroethene	25.00	23.69	95	80-128
Toluene	25.00	24.88	100	80-120
Chlorobenzene	25.00	24.71	99	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	104	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	102	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276905	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	235192
MSS Lab ID:	276928-003	Sampled:	05/17/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Type: MS Diln Fac: 0.9634
Lab ID: QC836025

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4400	48.17	47.85	99	56-133
Benzene	<0.4363	48.17	48.70	101	57-120
Trichloroethene	<0.4191	48.17	68.49	142	49-145
Toluene	<0.3169	48.17	44.65	93	51-120
Chlorobenzene	<0.3953	48.17	40.17	83	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	116	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	102	78-123

Type: MSD Diln Fac: 0.9823
Lab ID: QC836026

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	49.12	46.89	95	56-133	4	46
Benzene	49.12	46.95	96	57-120	6	44
Trichloroethene	49.12	67.76	138	49-145	3	46
Toluene	49.12	41.65	85	51-120	9	47
Chlorobenzene	49.12	36.83	75	47-120	11	50

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	117	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	103	78-123

RPD= Relative Percent Difference

Quality Control Checklist
for Review of Laboratory Report

Job No.: 12315-35 | Site: POO Berth 25, UST Removal

Laboratory: Curtis and Tompkins, Ltd. | Laboratory Report No: 276906

Report Date: 05/18/2016 | BASELINE Review By: JM

	Yes	No	NA
GENERAL QUESTIONS **(Describe "no" responses below in "comments" section. Contact the laboratory, as required, for further explanation or action on responses; document discussion in comments section.)**			
1. Is the laboratory report format consistent and legible throughout the report?	X		
1b. Are the sample and reported dates shown in the laboratory report correct?	X		
2a. Does the lab report include the original chain-of-custody form?	X		
2b. Were all samples appropriately analyzed as requested on the chain-of-custody form?	X		
3. Was the lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel? (Some lab reports have signature spaces for each page). (This requirement also applies to any analyses subcontracted out by the laboratory)	X		
4a. Are preparation methods, cleanup methods (if applicable), and laboratory methods indicated for all analyses?	X		
4b. If additional analytes were requested as part of the reporting of the data for an analytical method, were these included in the lab report?			X
5. Are the units in the lab report provided for each analysis consistent throughout the report?	X		
6. Are the detection limits (DL) appropriate based on the intended use of the data? (e.g., DL below applicable MCLs for water quality issues?)	X		
7a. Are detection limits appropriate based on the analysis performed? (i.e., not elevated due to dilution effects)	X		
7b. If no, is an explanation provided by the laboratory?			X
8a. Were the samples analyzed within the appropriate holding time? (generally 2 weeks for volatiles, and up to 6 months for total metals)	X		
8b. If no, was it flagged in the report?			X
9. If samples were composited prior to analysis, does the lab report indicate which samples were composited for each analysis?			X
10a. Do the chromatograms confirm quantitative laboratory results? (petroleum hydrocarbons)	X		
10b. Is a standard chromatogram(s) included in the laboratory report?	X		
10c. Do the chromatograms confirm laboratory notes, if present (e.g., sample exhibits lighter hydrocarbon than standard)	X		
11. Are the results consistent with previous analytical results from the site? *(If no, contact the lab and request review/reanalysis of data, as appropriate)*	X		
12a. REVISED LAB REPORTS ONLY. Is the revised lab report or revised pages to a			

	Yes	No	NA
lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel?			X
12b. REVISED LAB REPORTS ONLY. Does the case narrative indicate the date of revision and provide an explanation for the revision?			X
12c. REVISED LAB REPORTS ONLY. Does the revised lab report adequately address the problem(s), which triggered the need for a revision?			X
12d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as data reported in the original report, except where the report was revised to correct incorrectly reported data?			X
QA/QC Questions Field/Laboratory Quality Control - Groundwater Analyses			
13. Are field blanks reported as ND? (groundwater samples) *A field blank is a sample of DI water, which is prepared in the field using the same collection and handling procedures as the other samples collected, and used to demonstrate that the sampling procedure has not contaminated the sample.*		X	
14. Are trip blanks reported as ND? (groundwater samples/volatile analyses) *A trip blank is a sample of contaminant-free matrix placed in an appropriate container by the lab and transported with the field samples collected. Provides information regarding positive interference introduced during sample transport, storage, preservation, and analysis. The sample is NOT opened in the field.*			X
15. Are duplicate sample results consistent with the original sample? (groundwater samples) *Field duplicates consist of two independent samples collected at the same sampling location during a single sampling event. Used to evaluate precision of the analytical data and sampling technique. (Differences between the duplicate and sample results may also be attributed to environmental variability).*			X
Batch Quality Control (Samples are batched together by matrix [soil, water] and analyses requested. A batch generally consists of 20 or fewer samples of the same matrix type, and is prepared using the same reagents, standards, procedures, and time frame as the samples. QC samples are run with each batch to assess performance of the entire measurement process.)			
16 Do the sample batch numbers and corresponding laboratory QA/QC batch numbers match?	X		
17a. Are method blanks (MB) for the analytical method(s) below the laboratory reporting limits? *Used to assess lab contamination and prevent false positive results. MBs should be ND.*	X		
17b. If no, is an explanation provided in the case narrative to validate the data?			X
17c. Are analytes which may be considered laboratory contaminants reported below the laboratory reporting limit? *Common lab contaminants include acetone, methylene chloride, diethylhexyl phthalate, and di-n-octyl phthalate.*	X		
17d. If no, was the laboratory contacted to determine whether reported analyte could be a potential laboratory contaminant and was an explanation included in the case narrative?			X

18. Are laboratory control samples (LCS) and LCS duplicate (LCSD) [a.k.a., Blank Spike (BS) and BS duplicates (BSD)] within laboratory reporting limits? Limits should be provided on the report. *LCS is a reagent blank spike with a representative selection of target analyte(s) and prepared in the same manner as the samples analyzed. The LCS should be spiked with the same analytes as the matrix spike (below). The LCS is free from interferences from the sample matrix and demonstrates the ability of the lab instruments to recover the target analytes. Accuracy (recovery information) is generally reported as % spike recovery; precision (reproducibility of results) between the LCS and LCSD is generally reported as the relative percent difference (RPD). LCS/LCSD can be run in addition to or in lieu of, matrix QC data.*	X		
19a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. *The lab selects a sample from the batch and analyzes a spike and a spike duplicate of that sample. Matrix QC data is used to obtain precision and accuracy information and is reported in the same manner as LCS/LCSD. If the MS/MSD fails, the results may still be considered valid if the MB and either the LCS/LCSD or BS/BSD is within the lab's limits (failure is probably due to matrix interference).*	X		
19b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			X
Sample Quality Control			
20a. Are the surrogate spikes reported within the lab's acceptable recovery limits? *A surrogate is a non-target analyte, which is similar in chemical structure to the analyte(s) being analyzed for, and which is not commonly found in environmental samples. A known concentration of the surrogate is spike into the sample or QA sample prior to extraction or sample preparation. Results are usually reported as % recovery of the spike. Failure to meet lab's limits for primary and secondary surrogates results in rebatching and reanalysis of the sample; failure of only the primary or the secondary surrogate may be acceptable under certain circumstances. Failure generally is due to coelution with the sample matrix.*	X		
20b. If no, was the secondary surrogate reported within the lab's acceptable recovery limits?			X

Comments:

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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 276906
ANALYTICAL REPORT

Baseline Environmental	Project : 12315-35
5900 Hollis Street	Location : Port of Oakland, Berth 25-26
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
O/W-SEPARATOR-1	276906-001
O/W-SEPARATOR-2	276906-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Mikelle Chong Date: 05/18/2016

Mikelle Chong
Project Manager
mikelle.chong@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**276906**
Client:	**Baseline Environmental**
Project:	**12315-35**
Location:	**Port of Oakland, Berth 25-26**
Request Date:	**05/17/16**
Samples Received:	**05/17/16**

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 05/17/16. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

O/W-SEPARATOR-1 (lab # 276906-001) and O/W-SEPARATOR-2 (lab # 276906-002) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

BASELINE ENVIRONMENTAL CONSULTING

276906

CHAIN OF CUSTODY RECORD

5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

Turn-Around-Time 24-hr
Laboratory Curtis and Tompkins
BASELINE Contact Person Jim McCarty

Project Number 12315-35
Project Name: Port of Oakland, Berth 25-26
Samplers: (Signature)

Sample ID	Date	Time	Media	Containers Type and Preservative: No.	8-oz Glass Jar	40 ml VOA - MeOH	40 ml VOA - UPBW	40 ml VOA HCL	1 Liter Amber	Ice	VOC's including MTBE (EPA 8260B)	TPH,d & TPH,mo (EPA 8015B)					Remarks/ Composite
O/W-Separator-1	5/15/16	11:20			1	1	2			X	X	X					At 4.5' bgs
O/W-Separator-2	5/15/16	11:22			1	1	2			X	X	X					At 4.5' bgs

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
	5/16/16 7:30		5/16/16 7:30	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
	5/17/16 7:30	Pat Hongsly	5/17/16 7:30 AM	

Received at laboratory with intact custody seal: Yes No (Na)

Samples conditions Upon Arrival: Intact (On Ice) Cold

Comments:

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 276906 Date Received 5/17/16 Number of coolers 1
Client Baseline Project Port of Oakland, Berth 25-26

Date Opened 5/17 By (print) SL (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☒ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.4°

☐ Temperature blank(s) included? ☐ Thermometer# ☒ 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? 5/17/16 @ 1030
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? (pH strip lot#) 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

Curtis & Tompkins, Ltd.

Detections Summary for 276906

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

Client : Baseline Environmental
Project : 12315-35
Location : Port of Oakland, Berth 25-26

Client Sample ID : O/W-SEPARATOR-1 Laboratory Sample ID : 276906-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	18	Y	10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	230		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550B
Tetrachloroethene	4.1		3.5	ug/Kg	As Recd	0.6925	EPA 8260B	EPA 5035

Client Sample ID : O/W-SEPARATOR-2 Laboratory Sample ID : 276906-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	91	Y	10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	170		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550B
Tetrachloroethene	8.0		4.0	ug/Kg	As Recd	0.8026	EPA 8260B	EPA 5035

Y = Sample exhibits chromatographic pattern which does not resemble standard

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/15/16
Units:	mg/Kg	Received:	05/17/16
Basis:	as received	Prepared:	05/17/16
Batch#:	235188		

Field ID: O/W-SEPARATOR-1 Diln Fac: 10.00
Type: SAMPLE Analyzed: 05/18/16
Lab ID: 276906-001

Analyte	Result	RL
Diesel C10-C24	18 Y	10
Motor Oil C24-C36	230	50

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Field ID: O/W-SEPARATOR-2 Diln Fac: 10.00
Type: SAMPLE Analyzed: 05/18/16
Lab ID: 276906-002

Analyte	Result	RL
Diesel C10-C24	91 Y	10
Motor Oil C24-C36	170	50

Surrogate	%REC	Limits
o-Terphenyl	DO	59-140

Type: BLANK Diln Fac: 1.000
Lab ID: QC835935 Analyzed: 05/17/16

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	108	59-140

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC835936	Batch#:	235188
Matrix:	Soil	Prepared:	05/17/16
Units:	mg/Kg	Analyzed:	05/17/16

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.58	51.12	103	58-137

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 3550B
Project#:	12315-35	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	235188
MSS Lab ID:	276839-001	Sampled:	05/11/16
Matrix:	Soil	Received:	05/13/16
Units:	mg/Kg	Prepared:	05/17/16
Basis:	as received	Analyzed:	05/18/16
Diln Fac:	5.000		

Type: MS Lab ID: QC835937

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	7.251	50.16	58.46	102	46-154

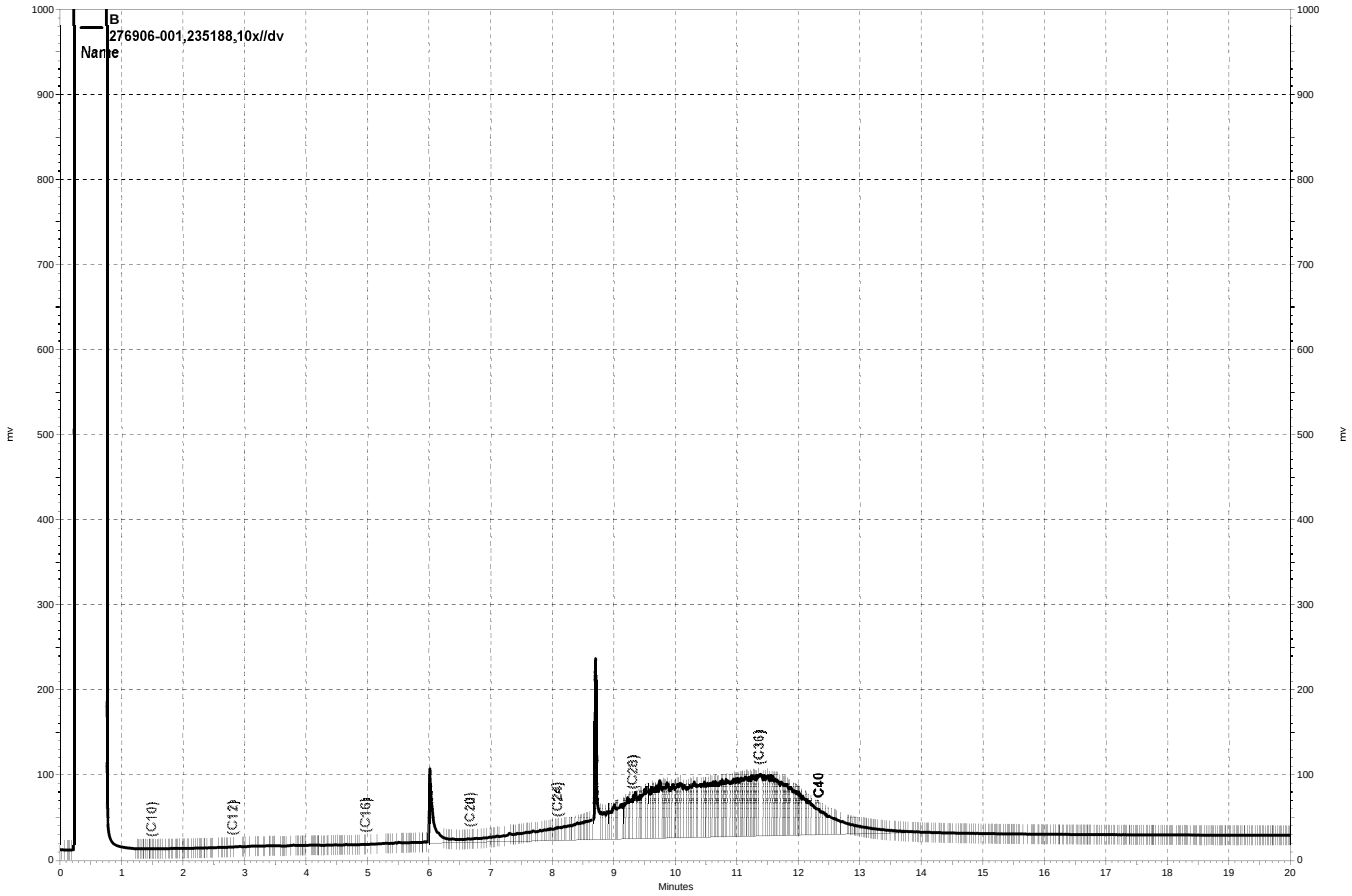
Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Type: MSD Lab ID: QC835938

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.01	63.45	112	46-154	8	50

Surrogate	%REC	Limits
o-Terphenyl	102	59-140

RPD= Relative Percent Difference



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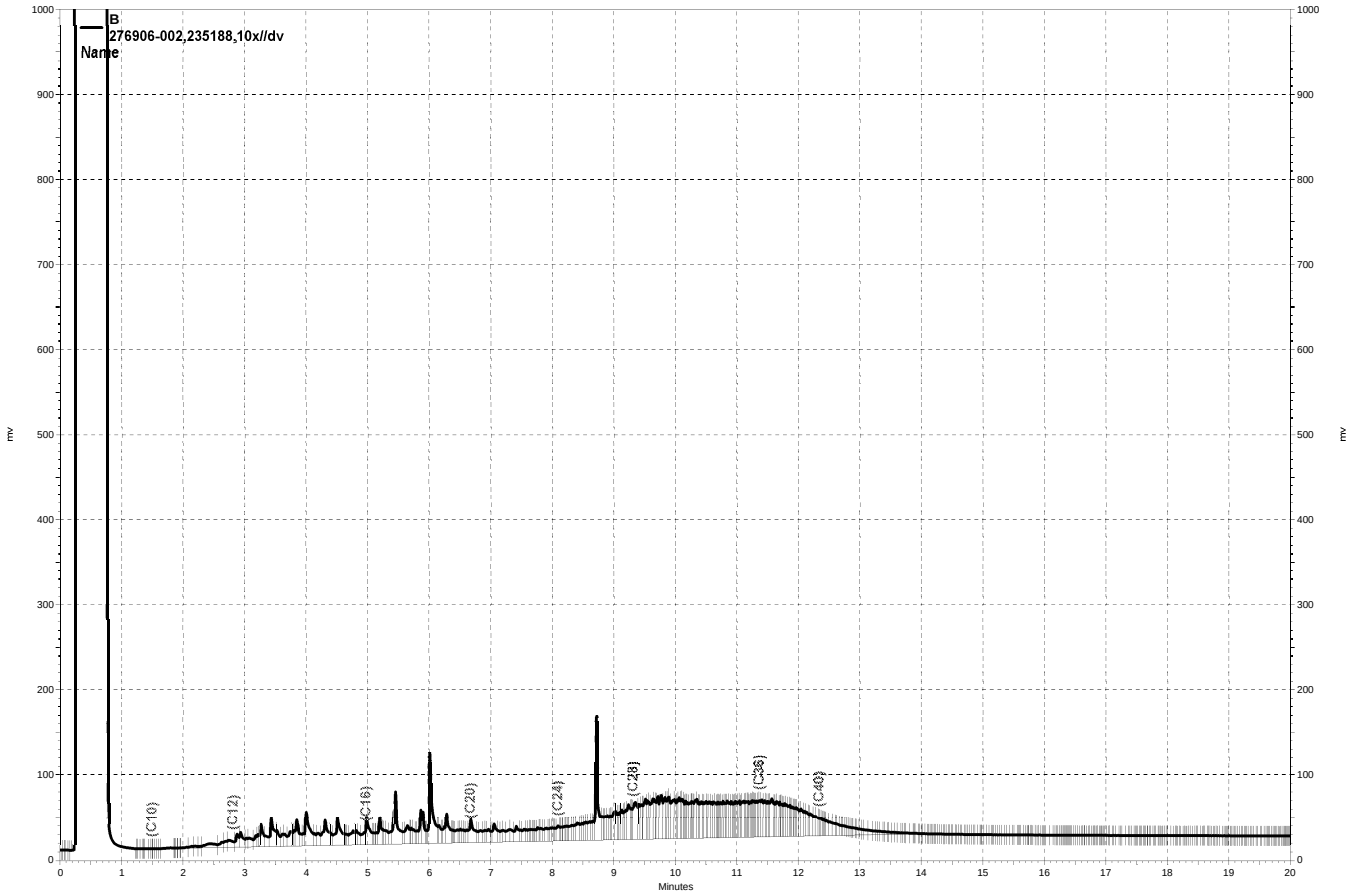

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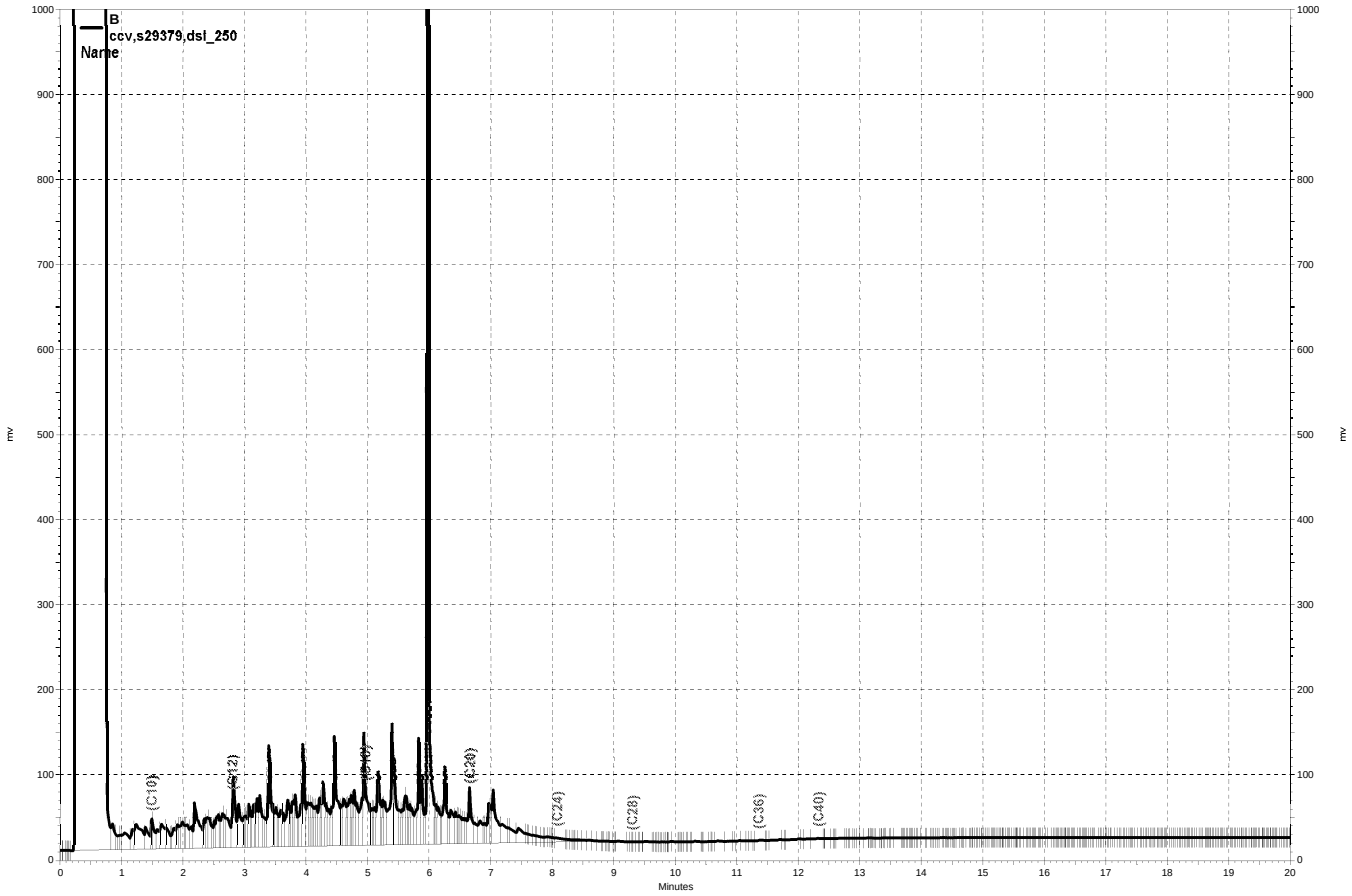

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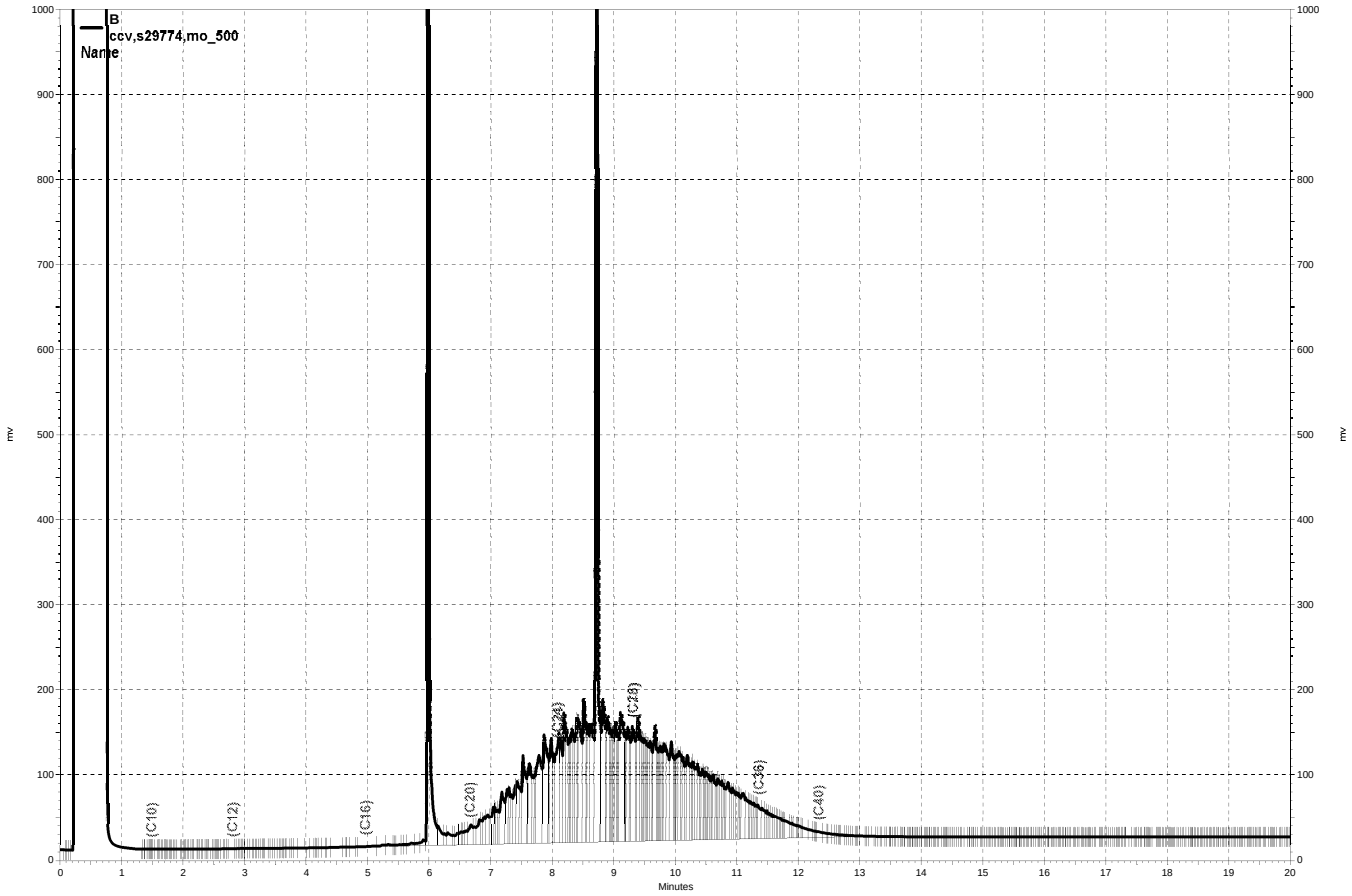

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	O/W-SEPARATOR-1	Batch#:	235192
Lab ID:	276906-001	Sampled:	05/15/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Analyte	Result	RL	Diln Fac
Freon 12	ND	6.9	0.6925
Chloromethane	ND	6.9	0.6925
Vinyl Chloride	ND	6.9	0.6925
Bromomethane	ND	6.9	0.6925
Chloroethane	ND	6.9	0.6925
Trichlorofluoromethane	ND	3.5	0.6925
Acetone	ND	900	45.05
Freon 113	ND	3.5	0.6925
1,1-Dichloroethene	ND	3.5	0.6925
Methylene Chloride	ND	14	0.6925
Carbon Disulfide	ND	3.5	0.6925
MTBE	ND	3.5	0.6925
trans-1,2-Dichloroethene	ND	3.5	0.6925
Vinyl Acetate	ND	35	0.6925
1,1-Dichloroethane	ND	3.5	0.6925
2-Butanone	ND	6.9	0.6925
cis-1,2-Dichloroethene	ND	3.5	0.6925
2,2-Dichloropropane	ND	3.5	0.6925
Chloroform	ND	3.5	0.6925
Bromochloromethane	ND	3.5	0.6925
1,1,1-Trichloroethane	ND	3.5	0.6925
1,1-Dichloropropene	ND	3.5	0.6925
Carbon Tetrachloride	ND	3.5	0.6925
1,2-Dichloroethane	ND	3.5	0.6925
Benzene	ND	3.5	0.6925
Trichloroethene	ND	3.5	0.6925
1,2-Dichloropropane	ND	3.5	0.6925
Bromodichloromethane	ND	3.5	0.6925
Dibromomethane	ND	3.5	0.6925
4-Methyl-2-Pentanone	ND	6.9	0.6925
cis-1,3-Dichloropropene	ND	3.5	0.6925
Toluene	ND	3.5	0.6925
trans-1,3-Dichloropropene	ND	3.5	0.6925
1,1,2-Trichloroethane	ND	3.5	0.6925
2-Hexanone	ND	6.9	0.6925
1,3-Dichloropropane	ND	3.5	0.6925
Tetrachloroethene	4.1	3.5	0.6925

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	O/W-SEPARATOR-1	Batch#:	235192
Lab ID:	276906-001	Sampled:	05/15/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Analyte	Result	RL	Diln Fac
Dibromochloromethane	ND	3.5	0.6925
1,2-Dibromoethane	ND	3.5	0.6925
Chlorobenzene	ND	3.5	0.6925
1,1,1,2-Tetrachloroethane	ND	3.5	0.6925
Ethylbenzene	ND	3.5	0.6925
m,p-Xylenes	ND	3.5	0.6925
o-Xylene	ND	3.5	0.6925
Styrene	ND	3.5	0.6925
Bromoform	ND	3.5	0.6925
Isopropylbenzene	ND	3.5	0.6925
1,1,2,2-Tetrachloroethane	ND	3.5	0.6925
1,2,3-Trichloropropane	ND	3.5	0.6925
Propylbenzene	ND	3.5	0.6925
Bromobenzene	ND	3.5	0.6925
1,3,5-Trimethylbenzene	ND	3.5	0.6925
2-Chlorotoluene	ND	3.5	0.6925
4-Chlorotoluene	ND	3.5	0.6925
tert-Butylbenzene	ND	3.5	0.6925
1,2,4-Trimethylbenzene	ND	3.5	0.6925
sec-Butylbenzene	ND	3.5	0.6925
para-Isopropyl Toluene	ND	3.5	0.6925
1,3-Dichlorobenzene	ND	3.5	0.6925
1,4-Dichlorobenzene	ND	3.5	0.6925
n-Butylbenzene	ND	3.5	0.6925
1,2-Dichlorobenzene	ND	3.5	0.6925
1,2-Dibromo-3-Chloropropane	ND	3.5	0.6925
1,2,4-Trichlorobenzene	ND	3.5	0.6925
Hexachlorobutadiene	ND	3.5	0.6925
Naphthalene	ND	3.5	0.6925
1,2,3-Trichlorobenzene	ND	3.5	0.6925

Surrogate	%REC	Limits	Diln Fac
Dibromofluoromethane	109	78-134	0.6925
1,2-Dichloroethane-d4	114	80-138	0.6925
Toluene-d8	103	80-120	0.6925
Bromofluorobenzene	107	78-123	0.6925

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	O/W-SEPARATOR-2	Batch#:	235192
Lab ID:	276906-002	Sampled:	05/15/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Analyte	Result	RL	Diln Fac
Freon 12	ND	8.0	0.8026
Chloromethane	ND	8.0	0.8026
Vinyl Chloride	ND	8.0	0.8026
Bromomethane	ND	8.0	0.8026
Chloroethane	ND	8.0	0.8026
Trichlorofluoromethane	ND	4.0	0.8026
Acetone	ND	870	43.41
Freon 113	ND	4.0	0.8026
1,1-Dichloroethene	ND	4.0	0.8026
Methylene Chloride	ND	16	0.8026
Carbon Disulfide	ND	4.0	0.8026
MTBE	ND	4.0	0.8026
trans-1,2-Dichloroethene	ND	4.0	0.8026
Vinyl Acetate	ND	40	0.8026
1,1-Dichloroethane	ND	4.0	0.8026
2-Butanone	ND	8.0	0.8026
cis-1,2-Dichloroethene	ND	4.0	0.8026
2,2-Dichloropropane	ND	4.0	0.8026
Chloroform	ND	4.0	0.8026
Bromochloromethane	ND	4.0	0.8026
1,1,1-Trichloroethane	ND	4.0	0.8026
1,1-Dichloropropene	ND	4.0	0.8026
Carbon Tetrachloride	ND	4.0	0.8026
1,2-Dichloroethane	ND	4.0	0.8026
Benzene	ND	4.0	0.8026
Trichloroethene	ND	4.0	0.8026
1,2-Dichloropropane	ND	4.0	0.8026
Bromodichloromethane	ND	4.0	0.8026
Dibromomethane	ND	4.0	0.8026
4-Methyl-2-Pentanone	ND	8.0	0.8026
cis-1,3-Dichloropropene	ND	4.0	0.8026
Toluene	ND	4.0	0.8026
trans-1,3-Dichloropropene	ND	4.0	0.8026
1,1,2-Trichloroethane	ND	4.0	0.8026
2-Hexanone	ND	8.0	0.8026
1,3-Dichloropropane	ND	4.0	0.8026
Tetrachloroethene	8.0	4.0	0.8026

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	O/W-SEPARATOR-2	Batch#:	235192
Lab ID:	276906-002	Sampled:	05/15/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Analyte	Result	RL	Diln Fac
Dibromochloromethane	ND	4.0	0.8026
1,2-Dibromoethane	ND	4.0	0.8026
Chlorobenzene	ND	4.0	0.8026
1,1,1,2-Tetrachloroethane	ND	4.0	0.8026
Ethylbenzene	ND	4.0	0.8026
m,p-Xylenes	ND	4.0	0.8026
o-Xylene	ND	4.0	0.8026
Styrene	ND	4.0	0.8026
Bromoform	ND	4.0	0.8026
Isopropylbenzene	ND	4.0	0.8026
1,1,2,2-Tetrachloroethane	ND	4.0	0.8026
1,2,3-Trichloropropane	ND	4.0	0.8026
Propylbenzene	ND	4.0	0.8026
Bromobenzene	ND	4.0	0.8026
1,3,5-Trimethylbenzene	ND	4.0	0.8026
2-Chlorotoluene	ND	4.0	0.8026
4-Chlorotoluene	ND	4.0	0.8026
tert-Butylbenzene	ND	4.0	0.8026
1,2,4-Trimethylbenzene	ND	4.0	0.8026
sec-Butylbenzene	ND	4.0	0.8026
para-Isopropyl Toluene	ND	4.0	0.8026
1,3-Dichlorobenzene	ND	4.0	0.8026
1,4-Dichlorobenzene	ND	4.0	0.8026
n-Butylbenzene	ND	4.0	0.8026
1,2-Dichlorobenzene	ND	4.0	0.8026
1,2-Dibromo-3-Chloropropane	ND	4.0	0.8026
1,2,4-Trichlorobenzene	ND	4.0	0.8026
Hexachlorobutadiene	ND	4.0	0.8026
Naphthalene	ND	4.0	0.8026
1,2,3-Trichlorobenzene	ND	4.0	0.8026

Surrogate	%REC	Limits	Diln Fac
Dibromofluoromethane	92	78-134	0.8026
1,2-Dichloroethane-d4	113	80-138	0.8026
Toluene-d8	104	80-120	0.8026
Bromofluorobenzene	108	78-123	0.8026

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835956	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC835956	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-134
1,2-Dichloroethane-d4	104	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	101	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5035
Project#:	12315-35	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC836024	Batch#:	235192
Matrix:	Soil	Analyzed:	05/17/16
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	21.84	87	70-134
Benzene	25.00	24.16	97	80-123
Trichloroethene	25.00	23.69	95	80-128
Toluene	25.00	24.88	100	80-120
Chlorobenzene	25.00	24.71	99	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	104	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	102	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276906	Location:	Port of Oakland, Berth 25-26
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	12315-35	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	235192
MSS Lab ID:	276928-003	Sampled:	05/17/16
Matrix:	Soil	Received:	05/17/16
Units:	ug/Kg	Analyzed:	05/17/16
Basis:	as received		

Type: MS Diln Fac: 0.9634
Lab ID: QC836025

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4400	48.17	47.85	99	56-133
Benzene	<0.4363	48.17	48.70	101	57-120
Trichloroethene	<0.4191	48.17	68.49	142	49-145
Toluene	<0.3169	48.17	44.65	93	51-120
Chlorobenzene	<0.3953	48.17	40.17	83	47-120

Surrogate	%REC	Limits
Dibromofluoromethane	112	78-134
1,2-Dichloroethane-d4	116	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	102	78-123

Type: MSD Diln Fac: 0.9823
Lab ID: QC836026

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	49.12	46.89	95	56-133	4	46
Benzene	49.12	46.95	96	57-120	6	44
Trichloroethene	49.12	67.76	138	49-145	3	46
Toluene	49.12	41.65	85	51-120	9	47
Chlorobenzene	49.12	36.83	75	47-120	11	50

Surrogate	%REC	Limits
Dibromofluoromethane	113	78-134
1,2-Dichloroethane-d4	117	80-138
Toluene-d8	102	80-120
Bromofluorobenzene	103	78-123

RPD= Relative Percent Difference

APPENDIX G

ACDEH AND DTSC BACKFILL APPROVAL

BASELINE ENVIRONMENTAL CONSULTING

James McCarty <jim@baseline-env.com>

RE: UST Removal - Berth 25, Port of Oakland

1 message

Price, Thomas@DTSC <Thomas.Price@dtsc.ca.gov> Mon, May 23, 2016 at 1:16 PM
To: James McCarty <jim@baseline-env.com>
Cc: "steven.plunkett@acgov.org" <steven.plunkett@acgov.org>, John Prall <JPrall@portoakland.com>, Yane Nordhav <yane@baseline-env.com>

John,

The Department of Toxic Substances Control has reviewed the email from Baseline Environmental Consulting (Baseline) email reports dated 5/19/16 and 5/21/16 which documented removal of an Underground Storage Tank (UST), dispenser and an Oil/Water Separator at the Port of Oakland Berths 25 and 26. The email report included laboratory reports which showed testing results for hydrocarbons and volatile organic compounds and a map which showed sampling locations for soil and groundwater. The report also proposed to backfill the excavation; DTSC concurs that the excavation can be backfilled.

Since the Alameda County Department of Environmental Health (ACDEH) is also providing oversight for this project, their approval should also be received prior to backfilling.

A report documenting the activities should be prepared and submitted for approval.

Thank you,

Tom Price

Environmental Scientist

Dept. of Toxic Substances Control

700 Heinz Ave.

Berkeley, CA 94710

(510) 540-3811

BASELINE ENVIRONMENTAL CONSULTING

James McCarty <jim@baseline-env.com>

RE: UST Removal - Berth 25, Port of Oakland

1 message

Plunkett, Steven, Env. Health <steven.plunkett@acgov.org> Mon, May 23, 2016 at 1:30 PM
To: "Price, Thomas@DTSC" <Thomas.Price@dtsc.ca.gov>, James McCarty <jim@baseline-env.com>
Cc: John Prall <JPrall@portoakland.com>, Yane Nordhav <yane@baseline-env.com>

John,

ACDEH agrees with a the recommendations put forth by DTSC, as such, please proceed with backfilling the excavation. Moreover, prior to providing an opinion as to the disposition of the UST removal, and potential no further action, a UST tank closure report is required. ACDEH looks forward to receiving the tank closure report within 60 days.

Thank you for your cooperation and attention to this matter.

Best Regards,

Steven Plunkett

Hazardous Materials Specialist

Alameda County Environmental Health

1131 Harbor Bay Parkway

Alameda, CA 94502-6577

Phone: (510) 383-1767

Mobile: (510) 589-5197

Fax: (510) 337-9335

Email: mailto:steven.plunkett@acgov.org