



December 31, 2015

Trent Moore
Managing Member
1244 2nd Avenue LLC
2655 Van Ness Avenue, Suite 2
San Francisco, California 94109

Re: **Site Assessment Report**
1244 2nd Avenue
Oakland, California 94606

Dear Mr. Moore:

On behalf of 1244 2nd Avenue LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Site Assessment Report* for the subject property. The subsurface investigation work involved sampling of site soil and groundwater to characterize potential impact associated with recent removal of a 1,000-gallon heating oil underground storage tank (UST).

Our conclusions and recommendations pertaining to the investigation results are presented herein. If you have any questions or comments, please call me at (510) 435-8664 or email briddell@pangeaenv.com.

Sincerely,
Pangea Environmental Services, Inc.

A handwritten signature in blue ink that reads "Bob Clark-Riddell". The signature is written in a cursive, flowing style.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Site Assessment Report*

PANGEA Environmental Services, Inc.

1710 Franklin Street, Suite 200, Oakland, CA 94612 Telephone 510.836.3700 Facsimile 510.836.3709 www.pangeaenv.com



SITE ASSESSMENT REPORT

1244 2ND Avenue
Oakland, CA

December 31, 2015

Prepared for:

1244 2nd Avenue LLC
2655 Van Ness Avenue, Suite 2
San Francisco, California 94109

Prepared by:

Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:




Patrick Groff
Staff Geologist


Bob Clark-Riddell, P.E.
Principal Engineer

INTRODUCTION

On behalf of 1244 2nd Avenue LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Site Assessment Report* for the subject property. The subsurface investigation work involved sampling of site soil and groundwater to characterize potential impact associated with recent removal of a 1,000-gallon heating oil underground storage tank (UST).

SITE BACKGROUND

The subject site is occupied by a mixed use residential/commercial structure located on the southeast side of 2nd Avenue in Oakland, California. A 1,000-gallon UST used to store heating oil was located beneath the sidewalk on International Boulevard on the southeast side of the site structure. The UST dimensions were four feet in diameter by ten feet in length. The top of the UST was approximately eight feet below surface grade. The UST was removed by L&W Construction of Petaluma, California on December 8, 2015. During the UST removal, L&W also removed approximately 50 tons of impacted soil and 2,800 gallons of groundwater for secondary source removal. The site and former UST location are shown on Figure 1. UST and secondary source removal activities were reported by L&W.

SITE INVESTIGATION PROCEDURES

The site assessment work scope involved sampling of site soil and groundwater. Soil and groundwater investigation data are summarized on Figures 1 and 2, respectively.

Pre-Drilling Activities

Prior to drilling, a boring permit was obtained from the Alameda County Public Works Agency. The drilling permit is included in Appendix A. A comprehensive site safety plan was prepared to protect site workers and the plan was kept onsite during all field activities. The proposed drilling locations were marked and Underground Service Alert (USA) was notified at least 48 hours before the proposed field activities.

Underground Utility Location

To identify nearby underground utilities that could act as preferential pathway for hydrocarbon migration, Pangea reviewed USA markings and obtained sanitary sewer and storm drain maps from the City of Oakland. The only utility identified nearby the UST was a shallow AT&T communication line about 2 feet from the site structure running parallel to the building and street. The sanitary sewer and storm drain conduits are located in the middle of 2nd Avenue and eastward, as shown on Figure 2. The sanitary sewer and storm drain conduits slope to the north toward Lake Merritt. Sanitary sewer and storm drain maps from the City of Oakland are included in Appendix B.

Soil and Groundwater Sampling Procedures

On December 23, 2015, Pangea coordinated the drilling of six soil borings (B-1 through B-6) at the site near and downgradient of the removed UST. Boring locations are shown on Figures 1 and 2. Borings B-1, B-3, and B-6 were located approximately 2 feet from the curb within the parking lane. . Boring B-5 was located in the

sidewalk adjacent the site structure, downgradient of the removed UST. Borings B-2 and B-4 were located in planter boxes downgradient of the site.

Pangea retained Confluence Environmental, Inc (Confluence) of Sacramento, California, to hand auger the borings and to concrete core boring location B-5. The borings were hand augered in general accordance with the Standard Operating Procedures in Appendix C. The borings were hand augered to a depth between 7 and 9 ft bgs. A water sample was collected from each of these borings, and each was then filled with grout.

Select soil samples were collected from borings for laboratory analysis in stainless steel tubes, and capped with Teflon tape and plastic end caps. Soil samples were collected at approximately 3.5 to 4 ft bgs for borings B-1 to B-6. Samples were also collected at approximately 7 ft bgs for B-5 and 8 ft bgs for B-6. Temporary PVC piping and well screen was installed within borings B-1 to B-6 to first encountered groundwater. Groundwater samples were then decanted into appropriate containers. Boring logs are included in Appendix D. All samples were shipped under chain of custody to McCampbell Analytical, Inc., of Pittsburg, California, a California-certified laboratory.

To assess soil within the tank cavity, soil samples were collected from the southeastern sidewall at 5 ft bgs and from the excavation floor at 12 ft bgs. A grab water sample was also collected from the tank cavity: groundwater was present at approximately 5 ft bgs.

The drilling was observed in the field by Pangea engineer Erik Lervaag and supervised by Bob Clark-Riddell, a California Registered Professional Civil Engineer (P.E.). Soil characteristics such as color, texture, and relative water content were noted in the field using the USCS classification system and entered onto a field boring log. Field screening of soil samples for potential hydrocarbons and volatile organic compounds included visual and olfactory observations.

Soil and Groundwater Sample Analyses

Select soil and groundwater samples were analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015Bm.
- Total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015B.
- Volatile Organic Compounds (VOCs) by EPA Method 8260 (full list). The 8260 method quantifies benzene, toluene, ethylbenzene, and xylenes (BTEX); methyl-tert butyl ether (MTBE) and other gasoline oxygenates; naphthalene (a compound in diesel fuel); and chlorinated hydrocarbons.

The groundwater sample from the UST tank pit was submitted for fuel fingerprint analysis by EPA Method 8015B.

INVESTIGATION RESULTS

Field observations and analytical results are described below. Soil and groundwater investigation data are summarized on Figures 1 and 2, respectively. Analytical results for soil and groundwater are summarized on Tables 1 and 2, respectively. The laboratory analytical reports are included in Appendix E.

Field Observations

Based on soil logging during hand augering of borings B-1 to B-6, soil consisted primarily of light brown clay. Groundwater was encountered between approximately 4 and 7 ft bgs in site borings. No hydrocarbon odor or staining was observed during augering activity. Boring logs are included in Appendix C.

Fuel Fingerprint Analysis

For the groundwater sample from the UST tank pit submitted for fuel fingerprint analysis by EPA Method 8015B, the laboratory reported that the ‘sample contains significant aged diesel pattern between C10 and C23.’ The chromatogram is included in Appendix E.

Soil Analytical Results

Soil analytical results are summarized on Figure 1 and Table 1. No TPHg or VOCs (including BTEX, MTBE, and naphthalene) were detected in soil above reporting limits. The only TPHd and TPHmo concentrations detected were 38 and 63 mg/kg, respectively, in the tank pit bottom sample from 12 ft bgs. These TPHd and TPHmo concentrations are *below* final Environmental Screening Levels (ESLs) established by the San Francisco Bay - Regional Water Quality Control Board’s (RWQCB) of 110 and 500 mg/kg, respectively. Soil analytical results are also below media-specific criteria of the *Low Threat UST Closure Policy* (LTCP) adopted by the State Water Board in 2012.

Grab Groundwater Analytical Results

Groundwater analytical results are summarized on Figure 2 and Table 2. As shown on Table 2, no VOCs, BTEX, MTBE, or TPHg were detected above reporting limits for groundwater in these borings. TPHd and TPHmo concentrations were detected at maximum concentrations of 2200 and 1700 µg/L, respectively. These concentrations slightly exceed the commercial ESL of 640 µg/L, protective of aquatic habitat. This ESL is applicable given the site proximity to nearby surface water, shallow site groundwater, and nearby storm drain conduits. Given the laboratory fuel fingerprint analysis, the hydrocarbon concentrations reported as TPHmo may represent the heavier range of TPHd-range hydrocarbons. Since the groundwater plume is likely <100 ft in length, site groundwater likely satisfies groundwater-specific criteria of the LTCP.

CONCLUSIONS AND RECOMMENDATIONS

Based on the above information, Pangea offers the following conclusions and recommendations regarding environmental issues at the site:

- The only reported petroleum hydrocarbons were quantified as TPHd and TPHmo. The laboratory fuel fingerprint analysis characterized the sample chromatogram as ‘significant aged diesel pattern between C10 and C23.’ Therefore, the hydrocarbons quantified as TPHmo may represent the heavier range of TPHd hydrocarbons.
- No TPHg, BTEX, MTBE or other VOCs were reported in soil site soil or groundwater.
- The TPHd and TPHmo impact in soil was below the final environmental screening levels (ESLs) for commercial site use.
- The limited TPHd and TPHmo impact detected in groundwater only slightly exceeded the applicable ESL (aquatic habitat) at two locations, adjacent and approximately 25 from the removed UST. The aquatic habitat ESL is applicable given the proximity to surface water and sewer/storm drain conduits, and the lack of anticipated groundwater use as a drinking water resource in the site vicinity. The observed impact will attenuate with time given the removal of the UST and secondary source material. Since the groundwater plume is likely <100 ft in length, site groundwater likely satisfies groundwater-specific criteria of the *Low Threat UST Closure Policy* adopted by the State Water Resources Control Board.
- The site assessment data also apparently satisfies media-specific criteria of the *Low Threat UST Closure Policy* adopted by the State Water Resources Control Board.
- Based on the above information, Pangea recommends no further action for this case.

ATTACHMENTS

Figure 1 – Soil Analytical Data

Figure 2 – Groundwater Analytical Data and Conduit Map

Table 1 – Soil Analytical Data

Table 2 – Groundwater Analytical Data

Appendix A – Drilling Permit

Appendix B – City of Oakland Sewer and Storm Drain Maps

Appendix C – Standard Operating Procedures

Appendix D – Boring Logs

Appendix E – Laboratory Analytical Reports

International Boulevard

2nd Avenue

1244 2nd Avenue

Residence

UST Excavation

LEGEND

- B-1 ● Boring Location
- ✕ Soil Sample Location
- ▭ UST Excavation
- 3' Sample depth
- TPHg
TPHd
TPHmo
VOCs Concentrations in milligrams/kilogram
- NA Not Analyzed
- ND Not Detected

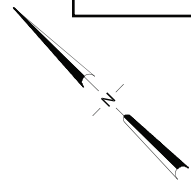
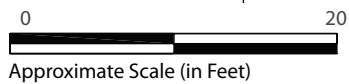
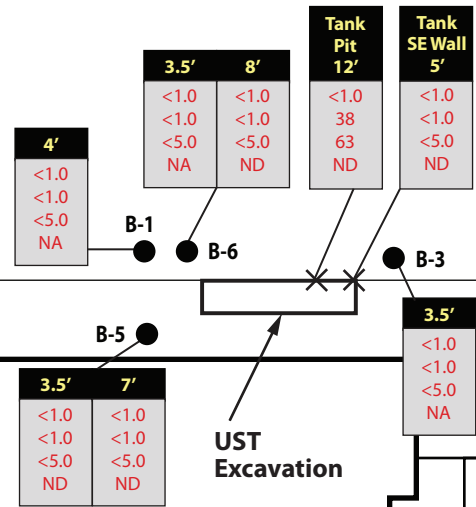
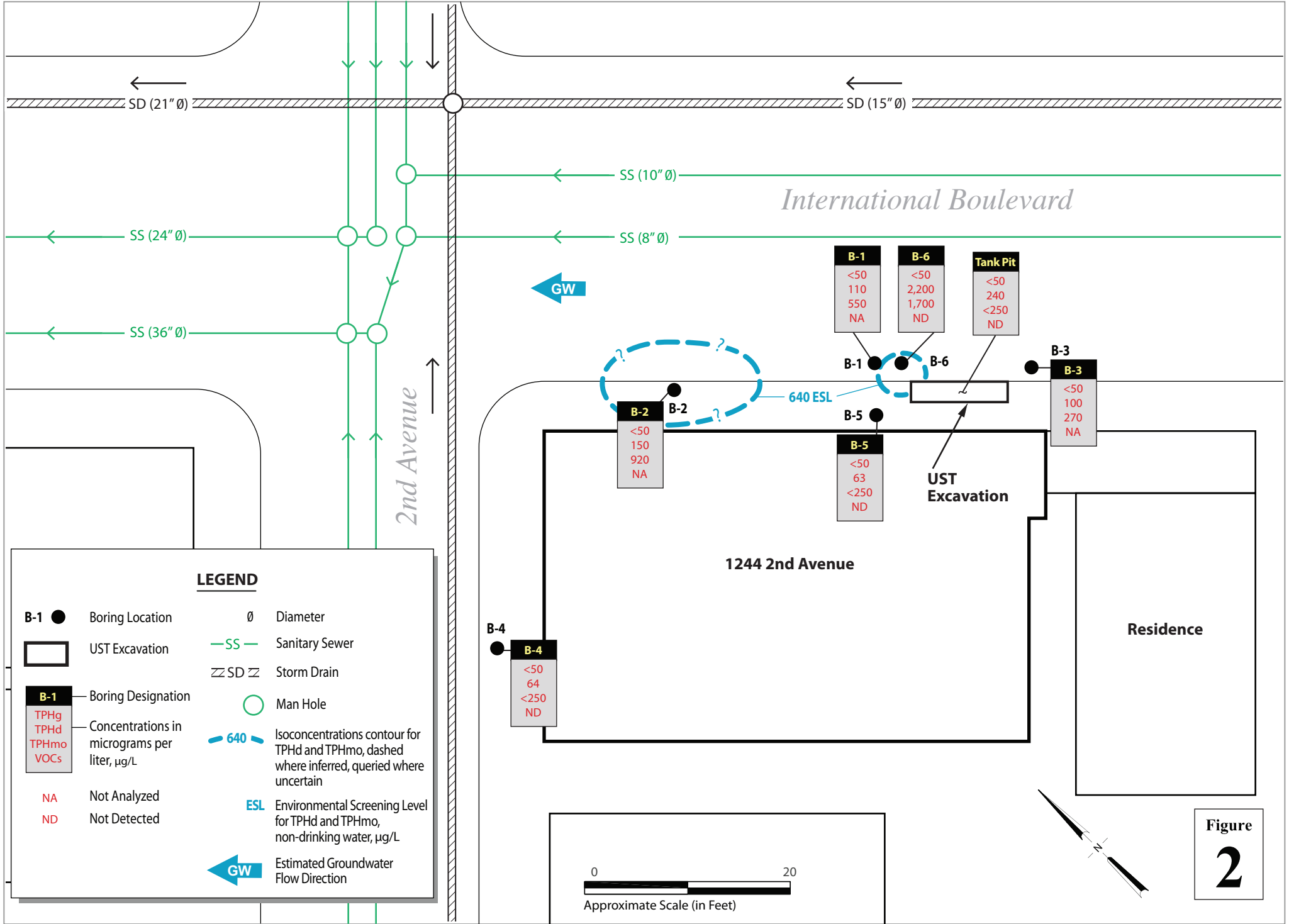


Figure
1





1244 2nd Avenue
Oakland, California



Groundwater Analytical Data
and Conduit Map

Figure
2

Table 1. Soil Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/Well ID	Date Sampled	Sample Depth (feet bgs)	mg/Kg								Other VOCs	Notes
			TPHg	TPHd	TPHmo	Benzene	Ethylbenzene	Toluene	Xylenes	MTBE		
Comm ESL for shallow soil (final, DW) ¹ :			500	110	500	0.044	3.3	2.9	2.3	0.023	varies	
Comm ESL for shallow soil (ceiling value) ² :			500	110	500	870	400	650	420	500	varies	
Comm ESL for shallow soil (ecotox flora/fauna) ² :			---	---	---	25	---	---	---	---	varies	
Comm ESL for shallow soil (gw protection) ² :			3,800	3,600	---	1.2	4.7	9.3	11	8.4	varies	
Comm ESL for shallow soil (human health) ³ :			4,000	1,100	100,000	3.7	24	4,900	2,600	190	varies	

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B-1	12/23/2015	4.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
B-2	12/23/2015	4.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
B-3	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
B-4	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
B-5-3.5	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	ND
B-5-7	12/23/2015	7.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	ND
B-6-3.5	12/23/2015	3.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
B-6-8	12/23/2015	8.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	ND
Tank Pit 12'	12/23/2015	12	<1.0	38	63	<0.0050	<0.0050	<0.0050	<0.015	<0.050	--
Tank SE Wall 5'	12/23/2015	5.0	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.015	<0.050	ND

ABBREVIATIONS AND NOTES:

mg/kg = milligrams per kilogram.

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015M.

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015.

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015.

VOCs = Volatile organic compounds by EPA Method 8260 (full list).

DW = Drinking water resource.

-- = Not analyzed.

< = Not detected at or above indicated detection limit.

ND = Not detected at various detection limits.

e2 = diesel range compounds are significant; no recognizable pattern (lab note). For fuel fingerprint on tank pit water, lab noted 'significant aged diesel pattern between C10 and C23.'

e7 = oil range compounds are significant (lab note).

ESL = Environmental Screening Levels for shallow soil, established by the SFBRWQCB, Interim Final - December 2013.

1 = Table A-2 of ESLs for shallow soil, commercial/industrial site use, groundwater is current or potential drinking water resource.

2 = Table B-2 of ESLs for shallow soil, commercial/industrial site use, groundwater is NOT current or potential drinking water resource.

3 = Table K-2 of ESLs for direct exposure soil screening level for commercial/industrial worker exposure scenario.

Bold = Concentration above final ESL for commercial/industrial worker exposure scenario.

Table 2. Groundwater Analytical Data - 1244 2nd Avenue, Oakland, CA

Boring/Well ID	Date Sampled	Sample Depth (ft bgs)	TPHg	TPHd	TPHmo	BTEX	MTBE	VOCs	Notes
			←————— μg/L —————→						
Final ESL for groundwater, dw ¹ :			100	100	100	varies	5	varies	
Final ESL for groundwater, non-dw²:			500	640	640	varies	1,800	varies	
ESL for aquatic habitat goal ³ :			500	640	640	varies	8,000	varies	
ESL for potential vapor intrusion, commercial ⁴ :			---	---	---	varies	9,900	varies	
ESL for groundwater ceiling value, non-dw ² :			5,000	2,500	2,500	varies	1,800	varies	

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B-1	12/23/2015	4.5-8.5	<50	110	550	ND	<5.0	--	
B-2	12/23/2015	5.0-7.0	<50	150	920	ND	<5.0	--	
B-3	12/23/2015	4.0-7.5	<50	100	270	ND	<5.0	--	
B-4	12/23/2015	5.0-8.5	<50	64	<250	ND	<5.0	ND	
B-5	12/23/2015	5.0-7.5	<50	63	<250	ND	<5.0	ND	
B-6	12/23/2015	4.0-8.5	<50	2,200	1,700	ND	<5.0	ND	
Tank Pit	12/23/2015	5.0-12	<50	240	<250	ND	<5.0	ND	

ABBREVIATIONS AND NOTES:

μg/L = micrograms per liter.

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015M.

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015.

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method 8015.

VOCs = Volatile organic compounds by EPA Method 8260.

DW = Drinking water resource.

ESL = Environmental Screening Levels for groundwater, established by the SFBRWQCB, Interim Final - December 2013.

Bold = Concentration above Final ESL for sites where groundwater is Not a current or potential drinking water resource.

-- = Not analyzed.

< = Not detected at or above indicated detection limit.

ND = Not detected at various detection limits.

e2 = diesel range compounds are significant; no recognizable pattern (lab note).

e7 = oil range compounds are significant (lab note).

1 = Table F-1a of ESLs; Final ESL where groundwater is a current or potential source of drinking water.

2 = Table F-1b of ESLs; Final ESL where groundwater is NOT a current or potential source of drinking water.

3 = Table F-4a of ESLs: Summary of Selected Aquatic Habitat Goals.

4 = Table E-1 of ESLs: Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion, Commercial/Industrial land use, fine-coarse soil mix.

APPENDIX A

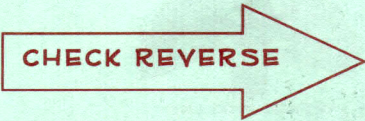
Drilling Permit

Permits for which no major operation has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration of final. Applications for which no permit is issued within 180 days shall expire by limitation. No refund more than 180 days after expiration of final.



CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612



Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1502527 OPW - Excavation

Filed Date: 11/4/2015

Job Site: 1244 2ND AVE

Schedule Inspection by calling: 510-238-3444

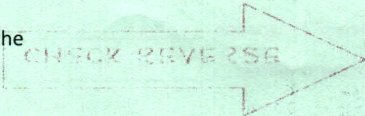
Parcel No: 020 012700100

For SL; X; and CGS permits see SPECIAL NOTE below

District:

Project Description: Remove UG storage tank in SIDEWALK AREA ONLY on International Blvd.
Please coordinate tank removal with Ms. Sheryl Skillern, MS - Supervising HazMat Inspector.
Soils report and related permits will be handled through her and/or Alameda County Department of Health.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum \$5,800.00 fine for non-compliance.

JOB SITE



FIRE MARSHAL review required. 3rd FLOOR.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Related Permits:

	<u>Name</u>	<u>Applicant</u>	<u>Address</u>	<u>Phone</u>	<u>License #</u>
Owner:	1244 2ND AVE LLC		2655 VAN NESS AVE #2 SAN FRANCISCO, CA	415-254-4638	
Contractor:	LINDSAY & WILSON CONSTRUCTION SERVICES INC	X	5200 REDWOOD HIGHWAY SOUTH PETALUMA, CA	(707) 766-9511	
Contractor:	LINDSAY & WILSON CONSTRUCTION SERVICES INC		5200 REDWOOD HIGHWAY SOUTH PETALUMA, CA	(707) 766-9511	507442

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Date Street Last Resurfaced:
Worker's Compensation Company Name:
Worker's Compensation Policy #:
Special Paving Detail Required:
Tree Removal Involved:
Holiday Restriction (Nov 1 - Jan 1):
Limited Operation Area (7AM-9AM) And (4PM-6PM):

Key Dates

Approximate Start Date:
Approximate End Date:

TOTAL FEES TO BE PAID AT FILING: \$434.91

Application Fee	\$70.00	Excavation - Private Party Type	\$309.00	Records Management Fee	\$36.01
Technology Enhancement Fee	\$19.90				

Plans Checked By _____ Date _____ Permit Issued By *[Signature]* Date *11-4*

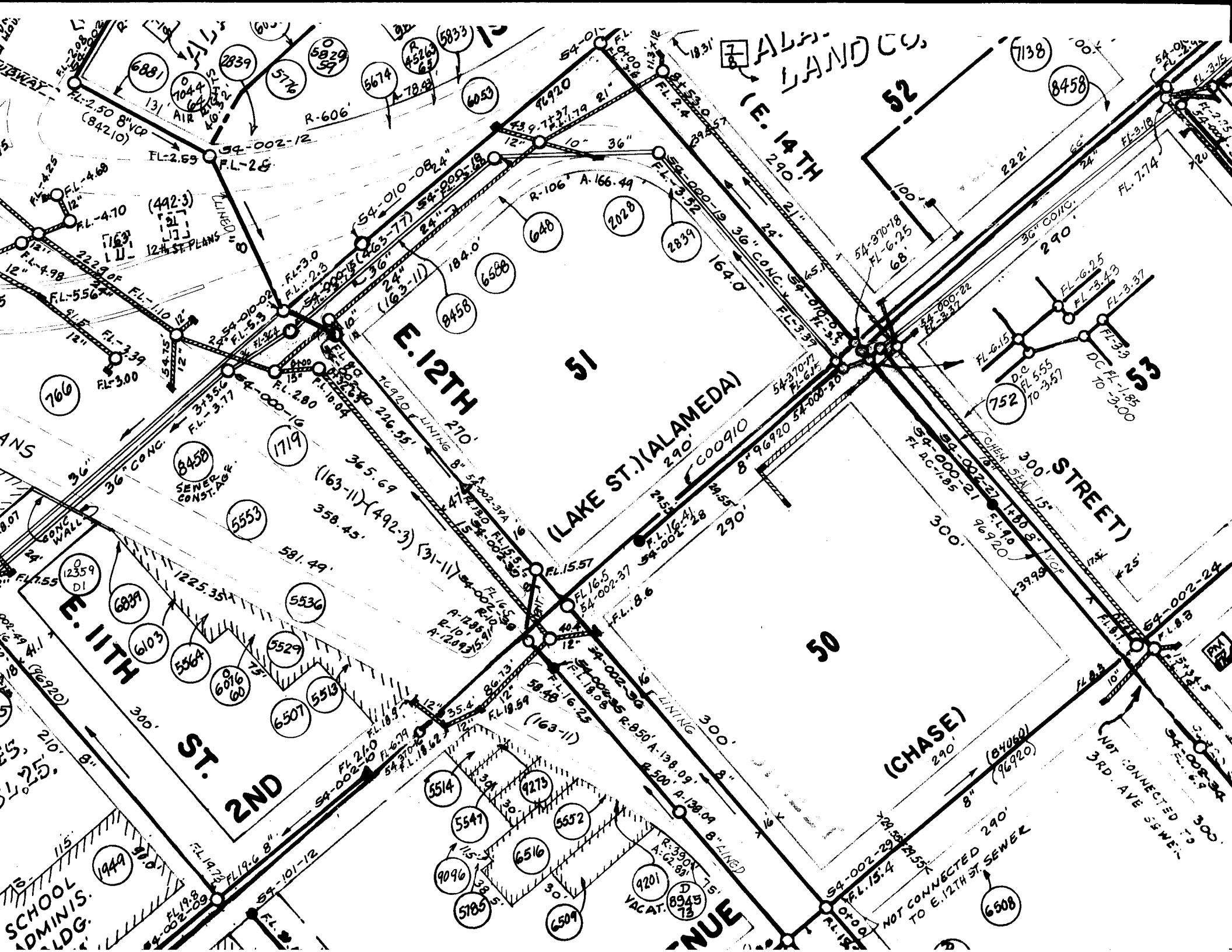
SPECIAL NOTE

- For SL; X; and CGS permits Call PWA INSPECTION prior to start: 510-238-3651 or visit 4th FLOOR.
- SL and X permits valid 90 days; CGS permits valid 30 days

ADDRESS:
DIST:

APPENDIX B

City of Oakland Sewer and Storm Drain Maps



ALAMEDA COUNTY
(E. 14TH ST.)

E. 12TH ST.

(LAKE ST.) (ALAMEDA)

300 STREET

E. 11TH ST.

ST. 2ND

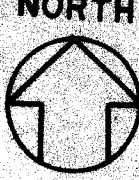
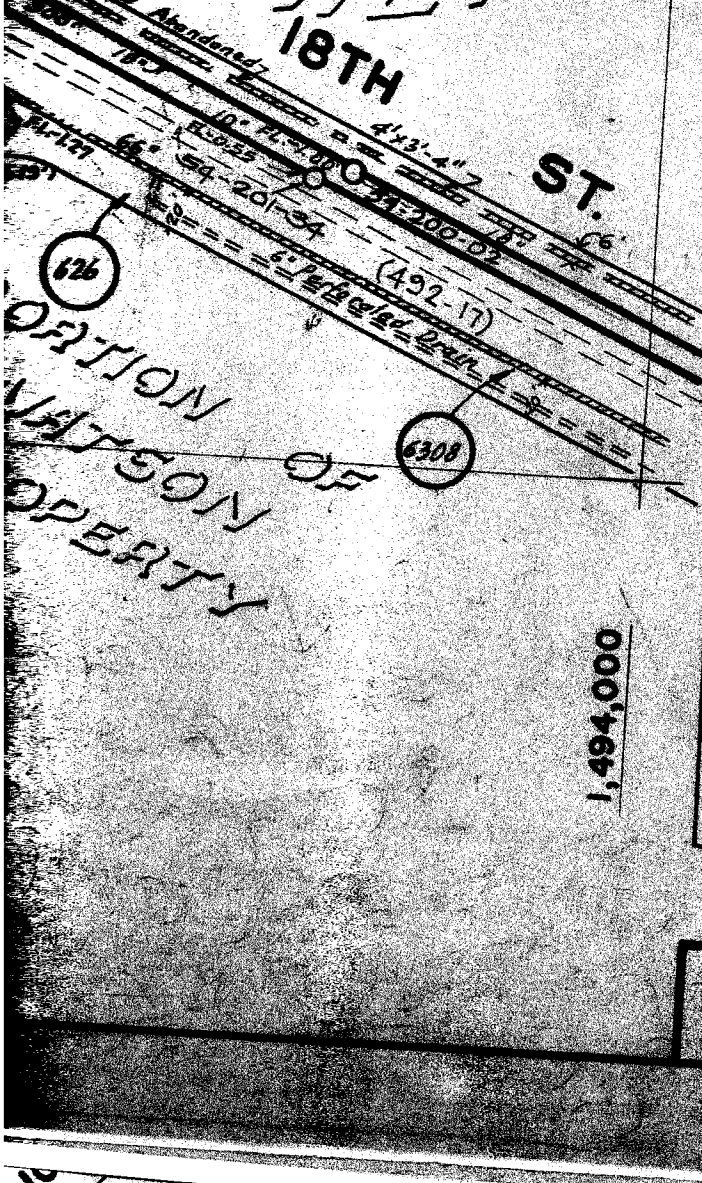
(CHASE)

SCHOOL ADMINIS. BLDG.

NOT CONNECTED TO E. 12TH ST SEWER

NOT CONNECTED TO 3RD AVE SEWER

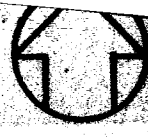
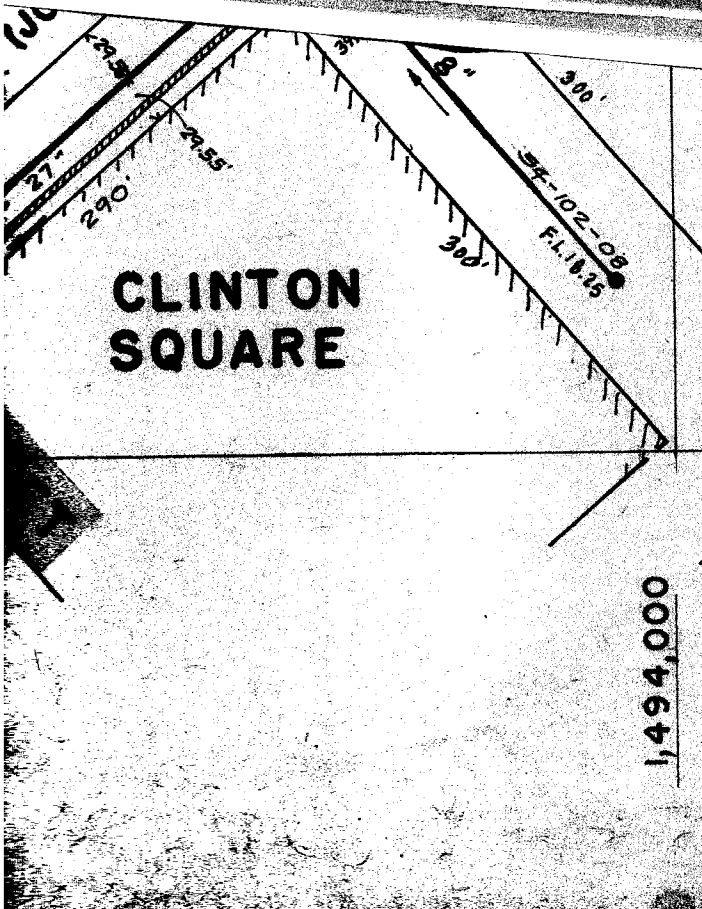
MANUE



LEGEND

- Vitrified Sanitary
- Concrete Sanitary
- Vitrified Combined
- Concrete Combined
- Brick Combined
- Vit. or Con. Storm
- Manhole
- M.H. Inlet Top
- Catch Basin
- Lamp Hole
- Stand Pipe
- Inlet
- Clean Out
- Flow Monitor
- Deed Reference
- Map Reference

1491 B478



LEGEND

- SANITARY SEWER
- STORM CONDUIT
- FLOW MONITOR
- MANHOLE
- LAMP HOLE
- CLEAN OUT
- INLET
- DEED REFERENCE
- MAP REFERENCE

DIVISION
 1491 B478
 54-102-08
 FL. 1025

APPENDIX C

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR HAND-AUGER SOIL BORINGS

This document describes Pangea Environmental Services' standard field methods for drilling and sampling soil borings using a hand-auger. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality, and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG), Certified Engineering Geologist (CEG), or Professional Engineer. The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Hand-auger borings are typically drilled using a hand-held bucket auger to remove soil to the desired sampling depth. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the augered hole. The vertical location of each soil sample is determined using a tape measure. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Augering and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

The borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

APPENDIX D

Boring Logs



DAILY LOG

Date: 12-23-15	Site Address: 1244 2 nd Ave, Oakland
Task/Purpose: Soil/GW Sampling	Project Name:
Log Notes By: E. Lervaag	Project Number:

NOTES

0700 arrive on-site next Confluence, Safety meeting.

- Start hand augering 6 locations (See Map), collect one shallow (3-5') and one deep (6-10') soil sample and water sample from each location.

- Collected samples from 6 locations with no issues (see data ~~notes~~ sheets) except:
- hit abandoned buried gas line at B-3. moved two feet ~~NE~~^{East} to new location.

- opened pit covering
- approx 6 feet of standing water in pit
- DTW \approx 4.0 feet bgs
- DTBottom of pit \approx 10' bgs

* Samples collected from Tank B at Bottom approx.
- 12' below grade and.
- NE sidewall approx 5.5' below grade
- water from pit.

* * ~~Sample IDs~~ Sample IDs
① Tank pit Bottom - 12'
② NE sidewall - 5.5'
③ Tank Pit - W

- Cleaned up work area

1315 off-site to office



Pangea Environmental Services, Inc.
 1710 Franklin Street, Suite 200
 Oakland, CA 94612
 Telephone: 510-836-3700
 Fax: 510-836-3709

BORING NUMBER _____

B-1

PAGE 1 OF 1

CLIENT _____	PROJECT NAME _____
PROJECT NUMBER _____	PROJECT LOCATION <u>1244 2nd Ave, Oakland</u>
DATE STARTED <u>12.23-15</u> COMPLETED <u>12.23-15</u>	GROUND ELEVATION _____ HOLE SIZE <u>2.75</u>
DRILLING CONTRACTOR <u>Confluence</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger</u>	AT TIME OF DRILLING _____
LOGGED BY <u>E. Lervag</u> CHECKED BY _____	AT END OF DRILLING _____
NOTES _____	AFTER DRILLING _____

DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
					Asphalt Hand Auger to 8' light brown clay with sand similar to 8' bgs	concrete stained to match
5	B-1-4'				wet @ ~ 4.5' bgs	← grout to 1' bgs
	ec					
	B-1-8'				Boring terminated @ 8.5' bgs	
10						
					Water Sample B-1-W collected then hole grouted	
15						
20						

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BORING NUMBER B-2
 PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd AVE
 DATE STARTED 12-23-15 COMPLETED 12-23-15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING ---
 LOGGED BY E. Lervaaq CHECKED BY _____ AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
5	B-2-4'				Landscape Area Hand Auger to Light brown clay with trace sand soft, NO odor similar to 7' bgs wet @ \approx 5' bgs NO odor	native soil Grout to 1' bgs
6.5	B-2-6.5'				- Boring terminated 7.0' bgs	
10						
15					Water Sample B-2-W collected then hole grouted	
20						



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 Oakland, CA 94612
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 Fax: 510-836-3709

BORING NUMBER B-3
 PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd Ave, Oakland
 DATE STARTED 12.23.15 COMPLETED 12.23.15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING ---
 LOGGED BY E. Lervag CHECKED BY _____ AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0					4" Asphalt 6" concrete Hand Auger to Brown sand to NO odor	
5	<u>B-3-3'</u>				line Hit unmarked buried <u>line</u> at 4' bgs Approx 1" diameter GAS? move 2' east to core <u>move 2' east</u>	
10					PGE rep showed up to mark out utilities (Late!) confirmed it is abandoned gas line.	
15						
20						

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BORING NUMBER _____

B-3
 second attempt

PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd Ave, Oakland
 DATE STARTED 12.23.15 COMPLETED 12.23.15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING ---
 LOGGED BY E. Lervag CHECKED BY _____ AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
5	B-3-3.5'				Asphalt Hand Auger to 7.5' bgs light brown clay with trace sand. Similar to 7.5 bgs water \approx 4.0 ft bgs	Concrete stained to match Grout to 1' bgs
10	B-3-7'				Boring terminated 7.5' bgs water sample B-3-W collected then hole grouted	
15						
20						

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BORING NUMBER B-4
 PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd Ave
 DATE STARTED 12-23-15 COMPLETED 12-23-15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING _____
 LOGGED BY E. Lervaag CHECKED BY _____ AT END OF DRILLING _____
 NOTES _____ AFTER DRILLING _____

DEPTH (ft. bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
5	B-4-3.5'				Landscape Area Hand Auger to 8' bgs Light brown clay w/ Trace Sand to 6.5' bgs, No odor Wet ~ 5' bgs	Native soil Grout to 1' bgs
10	B-4-8'				6.5' - Dark gray sandy clay, No odor wet - Boring terminated 8.5' bgs	
15					Water Sample B-4-W collected then hole grouted	
20						

BH COPY BLANK (2).GPJ GINT US.GDT 4/24/09



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 Oakland, CA 94612
 Telephone: 510-836-3700
 Fax: 510-836-3709

BORING NUMBER B-5
 PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd Ave, Oakland
 DATE STARTED 12-23-15 COMPLETED 12-23-15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING _____
 LOGGED BY B. Lervag CHECKED BY _____ AT END OF DRILLING _____
 NOTES _____ AFTER DRILLING _____

DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
					4" Concrete sidewalk - clay/gravel/sand mix	concrete to match
					red brick rubble 2' - 2.5' bgs Light brown clay w/ trace sand No odor	GROUT to 1' bgs
	B-5-3.5'				Similar to 7.5 bgs wet 2.5' bgs	
5						
					Boring terminated 7.5' bgs	
10						
					Water Sample B-5-W collected then hole grouted	
15						
20						



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 Oakland, CA 94612
 Telephone: 510-836-3700
 Fax: 510-836-3709

BORING NUMBER B-6
 PAGE 1 OF 1

CLIENT _____ PROJECT NAME _____
 PROJECT NUMBER _____ PROJECT LOCATION 1244 2nd Ave, Oakland
 DATE STARTED 12.23.15 COMPLETED 12.23.15 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR Confluence GROUND WATER LEVELS:
 DRILLING METHOD Hand Auger AT TIME OF DRILLING ---
 LOGGED BY E. Lervaag CHECKED BY _____ AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

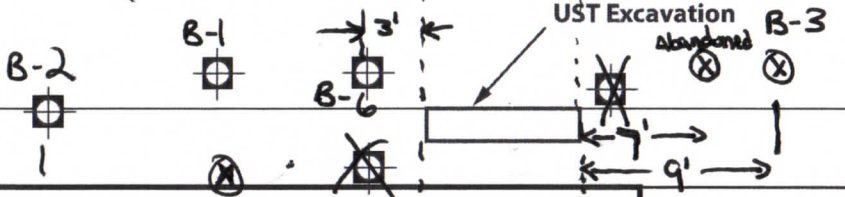
DEPTH (ft bgs)	SAMPLE TYPE NUMBER	PID (ppm)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	BORING DIAGRAM
0						
5	B-6-3.5'				Asphalt Hand Auger to 8.5' bgs light brown clay with sand similar to 8.5' bgs water ≈ 4.0' bgs	concrete stained to match grout to 1' bgs
10	B-6-8'				Boring terminated @ 8.5' bgs Water Sample B-6-W collected then hole grouted	
15						
20						

International Boulevard

B-1, B-6, B-3 are all 2 ft from curb in parking lane.

2nd Avenue

B-4



UST Excavation Abandoned

Residence

1244 2nd Avenue

LEGEND

⊕ Proposed Boring Location

□ UST Excavation

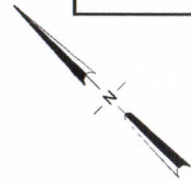
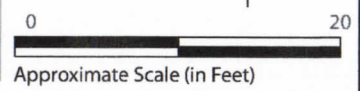


Figure 1

1244 2nd Avenue
Oakland, California



Proposed Soil Boring

APPENDIX E

Laboratory Analytical Results



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1512A03

Report Created for: Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200
Oakland, CA 94612

Project Contact: Bob Clark-Riddell

Project P.O.:

Project Name: 1244 2nd Ave, Oakland, CA

Project Received: 12/23/2015

Analytical Report reviewed & approved for release on 12/28/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Pangea Environmental Svcs., Inc.
Project: 1244 2nd Ave, Oakland, CA
WorkOrder: 1512A03

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

b1	aqueous sample that contains greater than ~1 vol. % sediment
e2	diesel range compounds are significant; no recognizable pattern



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-W	1512A03-003B	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/24/2015 12:10
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/24/2015 12:10
Benzene	ND	0.50	1	12/24/2015 12:10
Bromobenzene	ND	0.50	1	12/24/2015 12:10
Bromochloromethane	ND	0.50	1	12/24/2015 12:10
Bromodichloromethane	ND	0.50	1	12/24/2015 12:10
Bromoform	ND	0.50	1	12/24/2015 12:10
Bromomethane	ND	0.50	1	12/24/2015 12:10
2-Butanone (MEK)	ND	2.0	1	12/24/2015 12:10
t-Butyl alcohol (TBA)	ND	2.0	1	12/24/2015 12:10
n-Butyl benzene	ND	0.50	1	12/24/2015 12:10
sec-Butyl benzene	ND	0.50	1	12/24/2015 12:10
tert-Butyl benzene	ND	0.50	1	12/24/2015 12:10
Carbon Disulfide	ND	0.50	1	12/24/2015 12:10
Carbon Tetrachloride	ND	0.50	1	12/24/2015 12:10
Chlorobenzene	ND	0.50	1	12/24/2015 12:10
Chloroethane	ND	0.50	1	12/24/2015 12:10
Chloroform	ND	0.50	1	12/24/2015 12:10
Chloromethane	ND	0.50	1	12/24/2015 12:10
2-Chlorotoluene	ND	0.50	1	12/24/2015 12:10
4-Chlorotoluene	ND	0.50	1	12/24/2015 12:10
Dibromochloromethane	ND	0.50	1	12/24/2015 12:10
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/24/2015 12:10
1,2-Dibromoethane (EDB)	ND	0.50	1	12/24/2015 12:10
Dibromomethane	ND	0.50	1	12/24/2015 12:10
1,2-Dichlorobenzene	ND	0.50	1	12/24/2015 12:10
1,3-Dichlorobenzene	ND	0.50	1	12/24/2015 12:10
1,4-Dichlorobenzene	ND	0.50	1	12/24/2015 12:10
Dichlorodifluoromethane	ND	0.50	1	12/24/2015 12:10
1,1-Dichloroethane	ND	0.50	1	12/24/2015 12:10
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/24/2015 12:10
1,1-Dichloroethene	ND	0.50	1	12/24/2015 12:10
cis-1,2-Dichloroethene	ND	0.50	1	12/24/2015 12:10
trans-1,2-Dichloroethene	ND	0.50	1	12/24/2015 12:10
1,2-Dichloropropane	ND	0.50	1	12/24/2015 12:10
1,3-Dichloropropane	ND	0.50	1	12/24/2015 12:10
2,2-Dichloropropane	ND	0.50	1	12/24/2015 12:10

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-W	1512A03-003B	Water	12/23/2015	GC16	114625
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	12/24/2015 12:10	
cis-1,3-Dichloropropene	ND	0.50	1	12/24/2015 12:10	
trans-1,3-Dichloropropene	ND	0.50	1	12/24/2015 12:10	
Diisopropyl ether (DIPE)	ND	0.50	1	12/24/2015 12:10	
Ethylbenzene	ND	0.50	1	12/24/2015 12:10	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/24/2015 12:10	
Freon 113	ND	0.50	1	12/24/2015 12:10	
Hexachlorobutadiene	ND	0.50	1	12/24/2015 12:10	
Hexachloroethane	ND	0.50	1	12/24/2015 12:10	
2-Hexanone	ND	0.50	1	12/24/2015 12:10	
Isopropylbenzene	ND	0.50	1	12/24/2015 12:10	
4-Isopropyl toluene	ND	0.50	1	12/24/2015 12:10	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/24/2015 12:10	
Methylene chloride	ND	0.50	1	12/24/2015 12:10	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/24/2015 12:10	
Naphthalene	ND	0.50	1	12/24/2015 12:10	
n-Propyl benzene	ND	0.50	1	12/24/2015 12:10	
Styrene	ND	0.50	1	12/24/2015 12:10	
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/24/2015 12:10	
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/24/2015 12:10	
Tetrachloroethene	ND	0.50	1	12/24/2015 12:10	
Toluene	ND	0.50	1	12/24/2015 12:10	
1,2,3-Trichlorobenzene	ND	0.50	1	12/24/2015 12:10	
1,2,4-Trichlorobenzene	ND	0.50	1	12/24/2015 12:10	
1,1,1-Trichloroethane	ND	0.50	1	12/24/2015 12:10	
1,1,2-Trichloroethane	ND	0.50	1	12/24/2015 12:10	
Trichloroethene	ND	0.50	1	12/24/2015 12:10	
Trichlorofluoromethane	ND	0.50	1	12/24/2015 12:10	
1,2,3-Trichloropropane	ND	0.50	1	12/24/2015 12:10	
1,2,4-Trimethylbenzene	ND	0.50	1	12/24/2015 12:10	
1,3,5-Trimethylbenzene	ND	0.50	1	12/24/2015 12:10	
Vinyl Chloride	ND	0.50	1	12/24/2015 12:10	
Xylenes, Total	ND	0.50	1	12/24/2015 12:10	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-W	1512A03-003B	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	86	70-130		12/24/2015 12:10
Toluene-d8	78	70-130		12/24/2015 12:10
4-BFB	78	70-130		12/24/2015 12:10

Analyst(s): KBO

Analytical Comments: b1



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-3.5'	1512A03-001A	Soil	12/23/2015	GC19	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 13:16
MTBE	---	0.050	1	12/24/2015 13:16
Benzene	---	0.0050	1	12/24/2015 13:16
Toluene	---	0.0050	1	12/24/2015 13:16
Ethylbenzene	---	0.0050	1	12/24/2015 13:16
Xylenes	---	0.015	1	12/24/2015 13:16

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	112	70-130	12/24/2015 13:16

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-W	1512A03-003A	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 13:11
MTBE	---	5.0	1	12/24/2015 13:11
Benzene	---	0.50	1	12/24/2015 13:11
Toluene	---	0.50	1	12/24/2015 13:11
Ethylbenzene	---	0.50	1	12/24/2015 13:11
Xylenes	---	1.5	1	12/24/2015 13:11

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	86	70-130	12/24/2015 13:11

Analyst(s): IA

Analytical Comments: b1



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-3.5'	1512A03-001A	Soil	12/23/2015	GC39B	114598

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/24/2015 22:19
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/24/2015 22:19

Surrogates	REC (%)	Limits	
C9	98	70-130	12/24/2015 22:19

Analyst(s): TK



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 18:57
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-W	1512A03-003A	Water	12/23/2015	GC39B	114647

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	64	50	1	12/24/2015 20:22
TPH-Motor Oil (C18-C36)	ND	250	1	12/24/2015 20:22

Surrogates	REC (%)	Limits	Date Analyzed
C9	112	70-130	12/24/2015 20:22

Analyst(s): TK

Analytical Comments: e2,b1



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	8.15	0.50	10	-	81	54-140
Benzene	ND	8.15	0.50	10	-	82	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	28.6	2.0	40	-	72	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	8.60	0.50	10	-	86	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	8.04	0.50	10	-	80	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	7.88	0.50	10	-	79	66-125
1,1-Dichloroethene	ND	8.06	0.50	10	-	81	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	8.60	0.50	10	-	86	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	8.47	0.50	10	-	85	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	7.80	0.50	10	-	78	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	8.25	0.50	10	-	83	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	8.47	0.50	10	-	85	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client:	Pangea Environmental Svcs., Inc.	WorkOrder:	1512A03
Date Prepared:	12/23/15	BatchID:	114625
Date Analyzed:	12/23/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	1244 2nd Ave, Oakland, CA	Sample ID:	MB/LCS-114625 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	19.5	21.0		25	78	84	70-130
Toluene-d8	21.6	21.9		25	87	88	70-130
4-BFB	2.55	1.78		2.5	102	71	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	8.85	9.34	10	ND	89	93	69-139	5.41	20
Benzene	8.50	8.80	10	ND	85	88	69-141	3.47	20
t-Butyl alcohol (TBA)	33.4	35.4	40	ND	84	89	41-152	5.83	20
Chlorobenzene	8.92	9.20	10	ND	89	92	77-120	3.08	20
1,2-Dibromoethane (EDB)	8.70	9.31	10	ND	87	93	76-135	6.86	20
1,2-Dichloroethane (1,2-DCA)	8.60	8.88	10	ND	86	89	73-139	3.21	20
1,1-Dichloroethene	8.41	8.85	10	ND	84	88	59-140	5.04	20
Diisopropyl ether (DIPE)	9.18	9.22	10	ND	92	92	72-140	0	20
Ethyl tert-butyl ether (ETBE)	9.09	9.36	10	ND	91	94	71-140	2.99	20
Methyl-t-butyl ether (MTBE)	8.59	9.14	10	ND	86	91	73-139	6.22	20
Toluene	8.54	8.82	10	ND	85	88	71-128	3.29	20
Trichloroethene	8.72	9.02	10	ND	87	90	64-132	3.50	20
Surrogate Recovery									
Dibromofluoromethane	21.3	21.6	25		85	86	70-130	1.42	20
Toluene-d8	21.9	22.1	25		87	88	70-130	0.978	20
4-BFB	1.86	1.92	2.5		74	77	70-130	3.23	20



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC3
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
BatchID: 114623
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-114623
 1512975-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.645	0.40	0.60	-	107	70-130
MTBE	ND	0.0985	0.050	0.10	-	98	70-130
Benzene	ND	0.117	0.0050	0.10	-	117	70-130
Toluene	ND	0.121	0.0050	0.10	-	121	70-130
Ethylbenzene	ND	0.120	0.0050	0.10	-	120	70-130
Xylenes	ND	0.359	0.015	0.30	-	120	70-130

Surrogate Recovery

2-Fluorotoluene	0.106	0.113		0.10	106	113	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.555	0.573	0.60	ND	92	95	70-130	3.21	20
MTBE	0.0708	0.0732	0.10	ND	71	73	70-130	3.38	20
Benzene	0.0934	0.0928	0.10	ND	91	91	70-130	0	20
Toluene	0.0966	0.0961	0.10	ND	97	96	70-130	0.467	20
Ethylbenzene	0.101	0.101	0.10	ND	101	101	70-130	0	20
Xylenes	0.326	0.323	0.30	ND	109	108	70-130	0.827	20

Surrogate Recovery

2-Fluorotoluene	0.111	0.110	0.10		111	109	70-130	1.48	20
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Quality Control Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1512A03
Date Prepared: 12/23/15	BatchID: 114620
Date Analyzed: 12/23/15	Extraction Method: SW5030B
Instrument: GC3	Analytical Method: SW8021B/8015Bm
Matrix: Water	Unit: µg/L
Project: 1244 2nd Ave, Oakland, CA	Sample ID: MB/LCS-114620 1512934-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	60.8	40	60	-	101	70-130
MTBE	ND	10.3	5.0	10	-	103	70-130
Benzene	ND	10.6	0.50	10	-	106	70-130
Toluene	ND	10.7	0.50	10	-	107	70-130
Ethylbenzene	ND	10.9	0.50	10	-	109	70-130
Xylenes	ND	32.6	1.5	30	-	109	70-130

Surrogate Recovery

aaa-TFT	8.97	9.14		10	90	91	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		6200	NR	NR	-	NR	
MTBE	NR	NR		ND<100	NR	NR	-	NR	
Benzene	NR	NR		18	NR	NR	-	NR	
Toluene	NR	NR		780	NR	NR	-	NR	
Ethylbenzene	NR	NR		410	NR	NR	-	NR	
Xylenes	NR	NR		2400	NR	NR	-	NR	

Surrogate Recovery

aaa-TFT	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/22/15
Date Analyzed: 12/23/15
Instrument: GC9b
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A03
BatchID: 114598
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-114598
 1512938-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	36.2	1.0	40	-	90	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.3	24.2		25	93	97	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	43.7	42.6	40	ND	109	107	70-130	2.40	30
Surrogate Recovery									
C9	25.6	25.6	25		102	102	70-130	0	30



Quality Control Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1512A03
Date Prepared: 12/23/15	BatchID: 114647
Date Analyzed: 12/23/15 - 12/24/15	Extraction Method: SW3510C
Instrument: GC6A	Analytical Method: SW8015B
Matrix: Water	Unit: µg/L
Project: 1244 2nd Ave, Oakland, CA	Sample ID: MB/LCS-114647

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1130	50	1000	-	113	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	645	677		625	103	108	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1512A03

ClientCode: PEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: BRiddell@pangeaenv.com
cc/3rd Party:
PO:
ProjectNo: 1244 2nd Ave, Oakland, CA

Bill to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 1 day;

Date Received: 12/23/2015

Date Logged: 12/23/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1512A03-001	B-4-3.5'	Soil	12/23/2015	<input type="checkbox"/>		A		A								
1512A03-003	B-4-W	Water	12/23/2015	<input type="checkbox"/>	B		A		A							

Test Legend:

1	8260B_W	2	G-MBTEX_S	3	G-MBTEX_W	4	TPH_S
5	TPH_W	6		7		8	
9		10		11		12	

The following SamplIDs: 001A, 003A contain testgroup.

Prepared by: Briana Cutino

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: PANGEA ENVIRONMENTAL SVCS., INC.

QC Level: LEVEL 2

Work Order: 1512A03

Project: 1244 2nd Ave, Oakland, CA

Client Contact: Bob Clark-Riddell

Date Logged: 12/23/2015

Comments:

Contact's Email: BRiddell@pangeaenv.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512A03-001A	B-4-3.5'	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A03-002A	B-4-8'	Soil		1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015			<input checked="" type="checkbox"/>	
1512A03-003A	B-4-W	Water	Multi-Range TPH(g,d,mo)	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	5%+	<input type="checkbox"/>	
1512A03-003B	B-4-W	Water	SW8260B (VOCs)	2	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	5%+	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1512A03

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Road
Pittsburg, CA 94565

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269

RUSH CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No


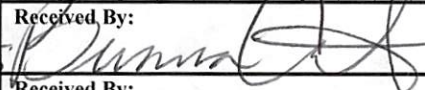
Report To: Bob Clark-Riddell Bill To: Pangea
Company: Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: briddell@pangeaenv.com
Tele: (510) 836-3700 Fax:
Project #: Project Name:
Project Location: 1244 2nd Ave, Oakland, CA
Sampler Signature:

Analysis Request

Other

Comments

SAMPLE ID	LOCATION (Field Point Name)	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015)/MTBE TPH as Diesel (8015) w/ Silica Gel Cleanup Total Petroleum Oil & Grease (5520 E&F/B&F) Total Petroleum Hydrocarbons (418.1) EPA 601 / 8010 / 8021 BTEX ONLY (EPA 602 / 8020) EPA 608 / 8081 EPA 608 / 8082 PCB's ONLY EPA 8140 / 8141 EPA 8150 / 8151 EPA 524.2 / 624 / 8260 EPA 525 / 625 / 8270 PAH's / PNA's by EPA 625 / 8270 / 8310 CAM-17 Metals (6010 / 6020) LUFT 5 Metals (6010 / 6020) Lead (200.8 / 200.9 / 6010) Five fuel oxygenates by EPA Method 8260 TPH scan (g/d, m/b)	Filter Samples for Metals analysis: Yes / No			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other					
B-4-3.5'		12/23/15		1		X					X								
B-4-7'8' ecl		12/23/15		1		X					X								Hold
B-4-W		12/23/15		8		X					X	X							

Relinquished By:  Date: 12/23/15 Time: 1845
Relinquished By: Date: Time: Received By: 
Relinquished By: Date: Time: Received By:

ICE/rp 2.1
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB
COMMENTS:
VOAS O&G METALS OTHER
PRESERVATION pH<2



Sample Receipt Checklist

Client Name:	Pangea Environmental Svcs., Inc.	Date and Time Received:	12/23/2015 18:45
Project Name:	1244 2nd Ave, Oakland, CA	Date Logged:	12/23/2015
WorkOrder №:	1512A03	Matrix:	<u>Soil/Water</u>
Carrier:	<u>Client Drop-In</u>	Received by:	Briana Cutino
		Logged by:	Briana Cutino

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample/Temp Blank temperature		Temp: 2°C	NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

* NOTE: If the "No" box is checked, see comments below.

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1512A04

Report Created for: Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200
Oakland, CA 94612

Project Contact: Bob Clark-Riddell

Project P.O.:

Project Name: 1244 2nd Ave, Oakland, CA

Project Received: 12/23/2015

Analytical Report reviewed & approved for release on 12/28/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Pangea Environmental Svcs., Inc.
Project: 1244 2nd Ave, Oakland, CA
WorkOrder: 1512A04

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e7	oil range compounds are significant



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-12'	1512A04-002A	Soil	12/23/2015	GC18	114716
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	12/28/2015 21:29	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/28/2015 21:29	
Benzene	ND	0.0050	1	12/28/2015 21:29	
Bromobenzene	ND	0.0050	1	12/28/2015 21:29	
Bromochloromethane	ND	0.0050	1	12/28/2015 21:29	
Bromodichloromethane	ND	0.0050	1	12/28/2015 21:29	
Bromoform	ND	0.0050	1	12/28/2015 21:29	
Bromomethane	ND	0.0050	1	12/28/2015 21:29	
2-Butanone (MEK)	ND	0.020	1	12/28/2015 21:29	
t-Butyl alcohol (TBA)	ND	0.050	1	12/28/2015 21:29	
n-Butyl benzene	ND	0.0050	1	12/28/2015 21:29	
sec-Butyl benzene	ND	0.0050	1	12/28/2015 21:29	
tert-Butyl benzene	ND	0.0050	1	12/28/2015 21:29	
Carbon Disulfide	ND	0.0050	1	12/28/2015 21:29	
Carbon Tetrachloride	ND	0.0050	1	12/28/2015 21:29	
Chlorobenzene	ND	0.0050	1	12/28/2015 21:29	
Chloroethane	ND	0.0050	1	12/28/2015 21:29	
Chloroform	ND	0.0050	1	12/28/2015 21:29	
Chloromethane	ND	0.0050	1	12/28/2015 21:29	
2-Chlorotoluene	ND	0.0050	1	12/28/2015 21:29	
4-Chlorotoluene	ND	0.0050	1	12/28/2015 21:29	
Dibromochloromethane	ND	0.0050	1	12/28/2015 21:29	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	12/28/2015 21:29	
1,2-Dibromoethane (EDB)	ND	0.0040	1	12/28/2015 21:29	
Dibromomethane	ND	0.0050	1	12/28/2015 21:29	
1,2-Dichlorobenzene	ND	0.0050	1	12/28/2015 21:29	
1,3-Dichlorobenzene	ND	0.0050	1	12/28/2015 21:29	
1,4-Dichlorobenzene	ND	0.0050	1	12/28/2015 21:29	
Dichlorodifluoromethane	ND	0.0050	1	12/28/2015 21:29	
1,1-Dichloroethane	ND	0.0050	1	12/28/2015 21:29	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	12/28/2015 21:29	
1,1-Dichloroethene	ND	0.0050	1	12/28/2015 21:29	
cis-1,2-Dichloroethene	ND	0.0050	1	12/28/2015 21:29	
trans-1,2-Dichloroethene	ND	0.0050	1	12/28/2015 21:29	
1,2-Dichloropropane	ND	0.0050	1	12/28/2015 21:29	
1,3-Dichloropropane	ND	0.0050	1	12/28/2015 21:29	
2,2-Dichloropropane	ND	0.0050	1	12/28/2015 21:29	

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-12'	1512A04-002A	Soil	12/23/2015	GC18	114716
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	12/28/2015 21:29	
cis-1,3-Dichloropropene	ND	0.0050	1	12/28/2015 21:29	
trans-1,3-Dichloropropene	ND	0.0050	1	12/28/2015 21:29	
Diisopropyl ether (DIPE)	ND	0.0050	1	12/28/2015 21:29	
Ethylbenzene	ND	0.0050	1	12/28/2015 21:29	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/28/2015 21:29	
Freon 113	ND	0.0050	1	12/28/2015 21:29	
Hexachlorobutadiene	ND	0.0050	1	12/28/2015 21:29	
Hexachloroethane	ND	0.0050	1	12/28/2015 21:29	
2-Hexanone	ND	0.0050	1	12/28/2015 21:29	
Isopropylbenzene	ND	0.0050	1	12/28/2015 21:29	
4-Isopropyl toluene	ND	0.0050	1	12/28/2015 21:29	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/28/2015 21:29	
Methylene chloride	ND	0.0050	1	12/28/2015 21:29	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/28/2015 21:29	
Naphthalene	ND	0.0050	1	12/28/2015 21:29	
n-Propyl benzene	ND	0.0050	1	12/28/2015 21:29	
Styrene	ND	0.0050	1	12/28/2015 21:29	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/28/2015 21:29	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/28/2015 21:29	
Tetrachloroethene	ND	0.0050	1	12/28/2015 21:29	
Toluene	ND	0.0050	1	12/28/2015 21:29	
1,2,3-Trichlorobenzene	ND	0.0050	1	12/28/2015 21:29	
1,2,4-Trichlorobenzene	ND	0.0050	1	12/28/2015 21:29	
1,1,1-Trichloroethane	ND	0.0050	1	12/28/2015 21:29	
1,1,2-Trichloroethane	ND	0.0050	1	12/28/2015 21:29	
Trichloroethene	ND	0.0050	1	12/28/2015 21:29	
Trichlorofluoromethane	ND	0.0050	1	12/28/2015 21:29	
1,2,3-Trichloropropane	ND	0.0050	1	12/28/2015 21:29	
1,2,4-Trimethylbenzene	ND	0.0050	1	12/28/2015 21:29	
1,3,5-Trimethylbenzene	ND	0.0050	1	12/28/2015 21:29	
Vinyl Chloride	ND	0.0050	1	12/28/2015 21:29	
Xylenes, Total	ND	0.0050	1	12/28/2015 21:29	

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-12'	1512A04-002A	Soil	12/23/2015	GC18	114716

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	87	70-130		12/28/2015 21:29
Toluene-d8	103	70-130		12/28/2015 21:29
4-BFB	70	70-130		12/28/2015 21:29
Benzene-d6	88	60-140		12/28/2015 21:29
Ethylbenzene-d10	85	60-140		12/28/2015 21:29
1,2-DCB-d4	91	60-140		12/28/2015 21:29

Analyst(s): KF



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank SE Wall-5'	1512A04-003A	Soil	12/23/2015	GC18	114716

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	12/28/2015 20:50
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/28/2015 20:50
Benzene	ND	0.0050	1	12/28/2015 20:50
Bromobenzene	ND	0.0050	1	12/28/2015 20:50
Bromochloromethane	ND	0.0050	1	12/28/2015 20:50
Bromodichloromethane	ND	0.0050	1	12/28/2015 20:50
Bromoform	ND	0.0050	1	12/28/2015 20:50
Bromomethane	ND	0.0050	1	12/28/2015 20:50
2-Butanone (MEK)	ND	0.020	1	12/28/2015 20:50
t-Butyl alcohol (TBA)	ND	0.050	1	12/28/2015 20:50
n-Butyl benzene	ND	0.0050	1	12/28/2015 20:50
sec-Butyl benzene	ND	0.0050	1	12/28/2015 20:50
tert-Butyl benzene	ND	0.0050	1	12/28/2015 20:50
Carbon Disulfide	ND	0.0050	1	12/28/2015 20:50
Carbon Tetrachloride	ND	0.0050	1	12/28/2015 20:50
Chlorobenzene	ND	0.0050	1	12/28/2015 20:50
Chloroethane	ND	0.0050	1	12/28/2015 20:50
Chloroform	ND	0.0050	1	12/28/2015 20:50
Chloromethane	ND	0.0050	1	12/28/2015 20:50
2-Chlorotoluene	ND	0.0050	1	12/28/2015 20:50
4-Chlorotoluene	ND	0.0050	1	12/28/2015 20:50
Dibromochloromethane	ND	0.0050	1	12/28/2015 20:50
1,2-Dibromo-3-chloropropane	ND	0.0040	1	12/28/2015 20:50
1,2-Dibromoethane (EDB)	ND	0.0040	1	12/28/2015 20:50
Dibromomethane	ND	0.0050	1	12/28/2015 20:50
1,2-Dichlorobenzene	ND	0.0050	1	12/28/2015 20:50
1,3-Dichlorobenzene	ND	0.0050	1	12/28/2015 20:50
1,4-Dichlorobenzene	ND	0.0050	1	12/28/2015 20:50
Dichlorodifluoromethane	ND	0.0050	1	12/28/2015 20:50
1,1-Dichloroethane	ND	0.0050	1	12/28/2015 20:50
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	12/28/2015 20:50
1,1-Dichloroethene	ND	0.0050	1	12/28/2015 20:50
cis-1,2-Dichloroethene	ND	0.0050	1	12/28/2015 20:50
trans-1,2-Dichloroethene	ND	0.0050	1	12/28/2015 20:50
1,2-Dichloropropane	ND	0.0050	1	12/28/2015 20:50
1,3-Dichloropropane	ND	0.0050	1	12/28/2015 20:50
2,2-Dichloropropane	ND	0.0050	1	12/28/2015 20:50

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank SE Wall-5'	1512A04-003A	Soil	12/23/2015	GC18	114716

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	12/28/2015 20:50
cis-1,3-Dichloropropene	ND	0.0050	1	12/28/2015 20:50
trans-1,3-Dichloropropene	ND	0.0050	1	12/28/2015 20:50
Diisopropyl ether (DIPE)	ND	0.0050	1	12/28/2015 20:50
Ethylbenzene	ND	0.0050	1	12/28/2015 20:50
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/28/2015 20:50
Freon 113	ND	0.0050	1	12/28/2015 20:50
Hexachlorobutadiene	ND	0.0050	1	12/28/2015 20:50
Hexachloroethane	ND	0.0050	1	12/28/2015 20:50
2-Hexanone	ND	0.0050	1	12/28/2015 20:50
Isopropylbenzene	ND	0.0050	1	12/28/2015 20:50
4-Isopropyl toluene	ND	0.0050	1	12/28/2015 20:50
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/28/2015 20:50
Methylene chloride	ND	0.0050	1	12/28/2015 20:50
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/28/2015 20:50
Naphthalene	ND	0.0050	1	12/28/2015 20:50
n-Propyl benzene	ND	0.0050	1	12/28/2015 20:50
Styrene	ND	0.0050	1	12/28/2015 20:50
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/28/2015 20:50
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/28/2015 20:50
Tetrachloroethene	ND	0.0050	1	12/28/2015 20:50
Toluene	ND	0.0050	1	12/28/2015 20:50
1,2,3-Trichlorobenzene	ND	0.0050	1	12/28/2015 20:50
1,2,4-Trichlorobenzene	ND	0.0050	1	12/28/2015 20:50
1,1,1-Trichloroethane	ND	0.0050	1	12/28/2015 20:50
1,1,2-Trichloroethane	ND	0.0050	1	12/28/2015 20:50
Trichloroethene	ND	0.0050	1	12/28/2015 20:50
Trichlorofluoromethane	ND	0.0050	1	12/28/2015 20:50
1,2,3-Trichloropropane	ND	0.0050	1	12/28/2015 20:50
1,2,4-Trimethylbenzene	ND	0.0050	1	12/28/2015 20:50
1,3,5-Trimethylbenzene	ND	0.0050	1	12/28/2015 20:50
Vinyl Chloride	ND	0.0050	1	12/28/2015 20:50
Xylenes, Total	ND	0.0050	1	12/28/2015 20:50

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/28/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank SE Wall-5'	1512A04-003A	Soil	12/23/2015	GC18	114716

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	88	70-130		12/28/2015 20:50
Toluene-d8	103	70-130		12/28/2015 20:50
4-BFB	72	70-130		12/28/2015 20:50
Benzene-d6	97	60-140		12/28/2015 20:50
Ethylbenzene-d10	95	60-140		12/28/2015 20:50
1,2-DCB-d4	95	60-140		12/28/2015 20:50

Analyst(s): KF



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-W	1512A04-001A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/24/2015 14:17
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/24/2015 14:17
Benzene	ND	0.50	1	12/24/2015 14:17
Bromobenzene	ND	0.50	1	12/24/2015 14:17
Bromochloromethane	ND	0.50	1	12/24/2015 14:17
Bromodichloromethane	ND	0.50	1	12/24/2015 14:17
Bromoform	ND	0.50	1	12/24/2015 14:17
Bromomethane	ND	0.50	1	12/24/2015 14:17
2-Butanone (MEK)	ND	2.0	1	12/24/2015 14:17
t-Butyl alcohol (TBA)	ND	2.0	1	12/24/2015 14:17
n-Butyl benzene	ND	0.50	1	12/24/2015 14:17
sec-Butyl benzene	ND	0.50	1	12/24/2015 14:17
tert-Butyl benzene	ND	0.50	1	12/24/2015 14:17
Carbon Disulfide	ND	0.50	1	12/24/2015 14:17
Carbon Tetrachloride	ND	0.50	1	12/24/2015 14:17
Chlorobenzene	ND	0.50	1	12/24/2015 14:17
Chloroethane	ND	0.50	1	12/24/2015 14:17
Chloroform	ND	0.50	1	12/24/2015 14:17
Chloromethane	ND	0.50	1	12/24/2015 14:17
2-Chlorotoluene	ND	0.50	1	12/24/2015 14:17
4-Chlorotoluene	ND	0.50	1	12/24/2015 14:17
Dibromochloromethane	ND	0.50	1	12/24/2015 14:17
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/24/2015 14:17
1,2-Dibromoethane (EDB)	ND	0.50	1	12/24/2015 14:17
Dibromomethane	ND	0.50	1	12/24/2015 14:17
1,2-Dichlorobenzene	ND	0.50	1	12/24/2015 14:17
1,3-Dichlorobenzene	ND	0.50	1	12/24/2015 14:17
1,4-Dichlorobenzene	ND	0.50	1	12/24/2015 14:17
Dichlorodifluoromethane	ND	0.50	1	12/24/2015 14:17
1,1-Dichloroethane	ND	0.50	1	12/24/2015 14:17
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/24/2015 14:17
1,1-Dichloroethene	ND	0.50	1	12/24/2015 14:17
cis-1,2-Dichloroethene	ND	0.50	1	12/24/2015 14:17
trans-1,2-Dichloroethene	ND	0.50	1	12/24/2015 14:17
1,2-Dichloropropane	ND	0.50	1	12/24/2015 14:17
1,3-Dichloropropane	ND	0.50	1	12/24/2015 14:17
2,2-Dichloropropane	ND	0.50	1	12/24/2015 14:17

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-W	1512A04-001A	Water	12/23/2015	GC16	114625
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	12/24/2015 14:17	
cis-1,3-Dichloropropene	ND	0.50	1	12/24/2015 14:17	
trans-1,3-Dichloropropene	ND	0.50	1	12/24/2015 14:17	
Diisopropyl ether (DIPE)	ND	0.50	1	12/24/2015 14:17	
Ethylbenzene	ND	0.50	1	12/24/2015 14:17	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/24/2015 14:17	
Freon 113	ND	0.50	1	12/24/2015 14:17	
Hexachlorobutadiene	ND	0.50	1	12/24/2015 14:17	
Hexachloroethane	ND	0.50	1	12/24/2015 14:17	
2-Hexanone	ND	0.50	1	12/24/2015 14:17	
Isopropylbenzene	ND	0.50	1	12/24/2015 14:17	
4-Isopropyl toluene	ND	0.50	1	12/24/2015 14:17	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/24/2015 14:17	
Methylene chloride	ND	0.50	1	12/24/2015 14:17	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/24/2015 14:17	
Naphthalene	ND	0.50	1	12/24/2015 14:17	
n-Propyl benzene	ND	0.50	1	12/24/2015 14:17	
Styrene	ND	0.50	1	12/24/2015 14:17	
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/24/2015 14:17	
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/24/2015 14:17	
Tetrachloroethene	ND	0.50	1	12/24/2015 14:17	
Toluene	ND	0.50	1	12/24/2015 14:17	
1,2,3-Trichlorobenzene	ND	0.50	1	12/24/2015 14:17	
1,2,4-Trichlorobenzene	ND	0.50	1	12/24/2015 14:17	
1,1,1-Trichloroethane	ND	0.50	1	12/24/2015 14:17	
1,1,2-Trichloroethane	ND	0.50	1	12/24/2015 14:17	
Trichloroethene	ND	0.50	1	12/24/2015 14:17	
Trichlorofluoromethane	ND	0.50	1	12/24/2015 14:17	
1,2,3-Trichloropropane	ND	0.50	1	12/24/2015 14:17	
1,2,4-Trimethylbenzene	ND	0.50	1	12/24/2015 14:17	
1,3,5-Trimethylbenzene	ND	0.50	1	12/24/2015 14:17	
Vinyl Chloride	ND	0.50	1	12/24/2015 14:17	
Xylenes, Total	ND	0.50	1	12/24/2015 14:17	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-W	1512A04-001A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	86	70-130		12/24/2015 14:17
Toluene-d8	78	70-130		12/24/2015 14:17
4-BFB	75	70-130		12/24/2015 14:17

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-W	1512A04-004A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/24/2015 12:52
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/24/2015 12:52
Benzene	ND	0.50	1	12/24/2015 12:52
Bromobenzene	ND	0.50	1	12/24/2015 12:52
Bromochloromethane	ND	0.50	1	12/24/2015 12:52
Bromodichloromethane	ND	0.50	1	12/24/2015 12:52
Bromoform	ND	0.50	1	12/24/2015 12:52
Bromomethane	ND	0.50	1	12/24/2015 12:52
2-Butanone (MEK)	ND	2.0	1	12/24/2015 12:52
t-Butyl alcohol (TBA)	ND	2.0	1	12/24/2015 12:52
n-Butyl benzene	ND	0.50	1	12/24/2015 12:52
sec-Butyl benzene	ND	0.50	1	12/24/2015 12:52
tert-Butyl benzene	ND	0.50	1	12/24/2015 12:52
Carbon Disulfide	ND	0.50	1	12/24/2015 12:52
Carbon Tetrachloride	ND	0.50	1	12/24/2015 12:52
Chlorobenzene	ND	0.50	1	12/24/2015 12:52
Chloroethane	ND	0.50	1	12/24/2015 12:52
Chloroform	ND	0.50	1	12/24/2015 12:52
Chloromethane	ND	0.50	1	12/24/2015 12:52
2-Chlorotoluene	ND	0.50	1	12/24/2015 12:52
4-Chlorotoluene	ND	0.50	1	12/24/2015 12:52
Dibromochloromethane	ND	0.50	1	12/24/2015 12:52
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/24/2015 12:52
1,2-Dibromoethane (EDB)	ND	0.50	1	12/24/2015 12:52
Dibromomethane	ND	0.50	1	12/24/2015 12:52
1,2-Dichlorobenzene	ND	0.50	1	12/24/2015 12:52
1,3-Dichlorobenzene	ND	0.50	1	12/24/2015 12:52
1,4-Dichlorobenzene	ND	0.50	1	12/24/2015 12:52
Dichlorodifluoromethane	ND	0.50	1	12/24/2015 12:52
1,1-Dichloroethane	ND	0.50	1	12/24/2015 12:52
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/24/2015 12:52
1,1-Dichloroethene	ND	0.50	1	12/24/2015 12:52
cis-1,2-Dichloroethene	ND	0.50	1	12/24/2015 12:52
trans-1,2-Dichloroethene	ND	0.50	1	12/24/2015 12:52
1,2-Dichloropropane	ND	0.50	1	12/24/2015 12:52
1,3-Dichloropropane	ND	0.50	1	12/24/2015 12:52
2,2-Dichloropropane	ND	0.50	1	12/24/2015 12:52

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-W	1512A04-004A	Water	12/23/2015	GC16	114625
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	12/24/2015 12:52	
cis-1,3-Dichloropropene	ND	0.50	1	12/24/2015 12:52	
trans-1,3-Dichloropropene	ND	0.50	1	12/24/2015 12:52	
Diisopropyl ether (DIPE)	ND	0.50	1	12/24/2015 12:52	
Ethylbenzene	ND	0.50	1	12/24/2015 12:52	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/24/2015 12:52	
Freon 113	ND	0.50	1	12/24/2015 12:52	
Hexachlorobutadiene	ND	0.50	1	12/24/2015 12:52	
Hexachloroethane	ND	0.50	1	12/24/2015 12:52	
2-Hexanone	ND	0.50	1	12/24/2015 12:52	
Isopropylbenzene	ND	0.50	1	12/24/2015 12:52	
4-Isopropyl toluene	ND	0.50	1	12/24/2015 12:52	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/24/2015 12:52	
Methylene chloride	ND	0.50	1	12/24/2015 12:52	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/24/2015 12:52	
Naphthalene	ND	0.50	1	12/24/2015 12:52	
n-Propyl benzene	ND	0.50	1	12/24/2015 12:52	
Styrene	ND	0.50	1	12/24/2015 12:52	
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/24/2015 12:52	
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/24/2015 12:52	
Tetrachloroethene	ND	0.50	1	12/24/2015 12:52	
Toluene	ND	0.50	1	12/24/2015 12:52	
1,2,3-Trichlorobenzene	ND	0.50	1	12/24/2015 12:52	
1,2,4-Trichlorobenzene	ND	0.50	1	12/24/2015 12:52	
1,1,1-Trichloroethane	ND	0.50	1	12/24/2015 12:52	
1,1,2-Trichloroethane	ND	0.50	1	12/24/2015 12:52	
Trichloroethene	ND	0.50	1	12/24/2015 12:52	
Trichlorofluoromethane	ND	0.50	1	12/24/2015 12:52	
1,2,3-Trichloropropane	ND	0.50	1	12/24/2015 12:52	
1,2,4-Trimethylbenzene	ND	0.50	1	12/24/2015 12:52	
1,3,5-Trimethylbenzene	ND	0.50	1	12/24/2015 12:52	
Vinyl Chloride	ND	0.50	1	12/24/2015 12:52	
Xylenes, Total	ND	0.50	1	12/24/2015 12:52	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-W	1512A04-004A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	86	70-130		12/24/2015 12:52
Toluene-d8	78	70-130		12/24/2015 12:52
4-BFB	78	70-130		12/24/2015 12:52

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-12'	1512A04-002A	Soil	12/23/2015	GC7	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 14:27
MTBE	ND	0.050	1	12/24/2015 14:27
Benzene	ND	0.0050	1	12/24/2015 14:27
Toluene	ND	0.0050	1	12/24/2015 14:27
Ethylbenzene	ND	0.0050	1	12/24/2015 14:27
Xylenes	ND	0.015	1	12/24/2015 14:27
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	101	70-130		12/24/2015 14:27

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank SE Wall-5'	1512A04-003A	Soil	12/23/2015	GC19	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 14:17
MTBE	ND	0.050	1	12/24/2015 14:17
Benzene	ND	0.0050	1	12/24/2015 14:17
Toluene	ND	0.0050	1	12/24/2015 14:17
Ethylbenzene	ND	0.0050	1	12/24/2015 14:17
Xylenes	ND	0.015	1	12/24/2015 14:17
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	113	70-130		12/24/2015 14:17

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-W	1512A04-001B	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 14:41
MTBE	ND	5.0	1	12/24/2015 14:41
Benzene	ND	0.50	1	12/24/2015 14:41
Toluene	ND	0.50	1	12/24/2015 14:41
Ethylbenzene	ND	0.50	1	12/24/2015 14:41
Xylenes	ND	1.5	1	12/24/2015 14:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	88	70-130		12/24/2015 14:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-W	1512A04-004B	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 14:11
MTBE	ND	5.0	1	12/24/2015 14:11
Benzene	ND	0.50	1	12/24/2015 14:11
Toluene	ND	0.50	1	12/24/2015 14:11
Ethylbenzene	ND	0.50	1	12/24/2015 14:11
Xylenes	ND	1.5	1	12/24/2015 14:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	90	70-130		12/24/2015 14:11

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-12'	1512A04-002A	Soil	12/23/2015	GC39A	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	38	1.0	1	12/24/2015 22:19
TPH-Motor Oil (C18-C36)	63	5.0	1	12/24/2015 22:19
Surrogates	REC (%)	Limits		
C9	93	70-130		12/24/2015 22:19
Analyst(s): TK		Analytical Comments: e7,e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank SE Wall-5'	1512A04-003A	Soil	12/23/2015	GC39B	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/24/2015 13:36
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/24/2015 13:36
Surrogates	REC (%)	Limits		
C9	98	70-130		12/24/2015 13:36
Analyst(s): TK				



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:12
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-W	1512A04-001B	Water	12/23/2015	GC39A	114647

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2200	100	1	12/24/2015 21:01
TPH-Motor Oil (C18-C36)	1700	500	1	12/24/2015 21:01

Surrogates	REC (%)	Limits	Date Analyzed
C9	93	70-130	12/24/2015 21:01

Analyst(s): TK Analytical Comments: e3,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Tank Pit-W	1512A04-004B	Water	12/23/2015	GC6A	114647

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	240	50	1	12/24/2015 15:20
TPH-Motor Oil (C18-C36)	ND	250	1	12/24/2015 15:20

Surrogates	REC (%)	Limits	Date Analyzed
C9	117	70-130	12/24/2015 15:20

Analyst(s): TK Analytical Comments: e3



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: 1244 2nd Ave, Oakland, CA	Date Sampled: 12/23/15
	Client Contact: Bob Clark-Riddell	Date Received: 12/23/15
	Client P.O.:	Date Extracted: 12/23/15
		Date Analyzed: 12/24/15

Fuel FingerPrint *

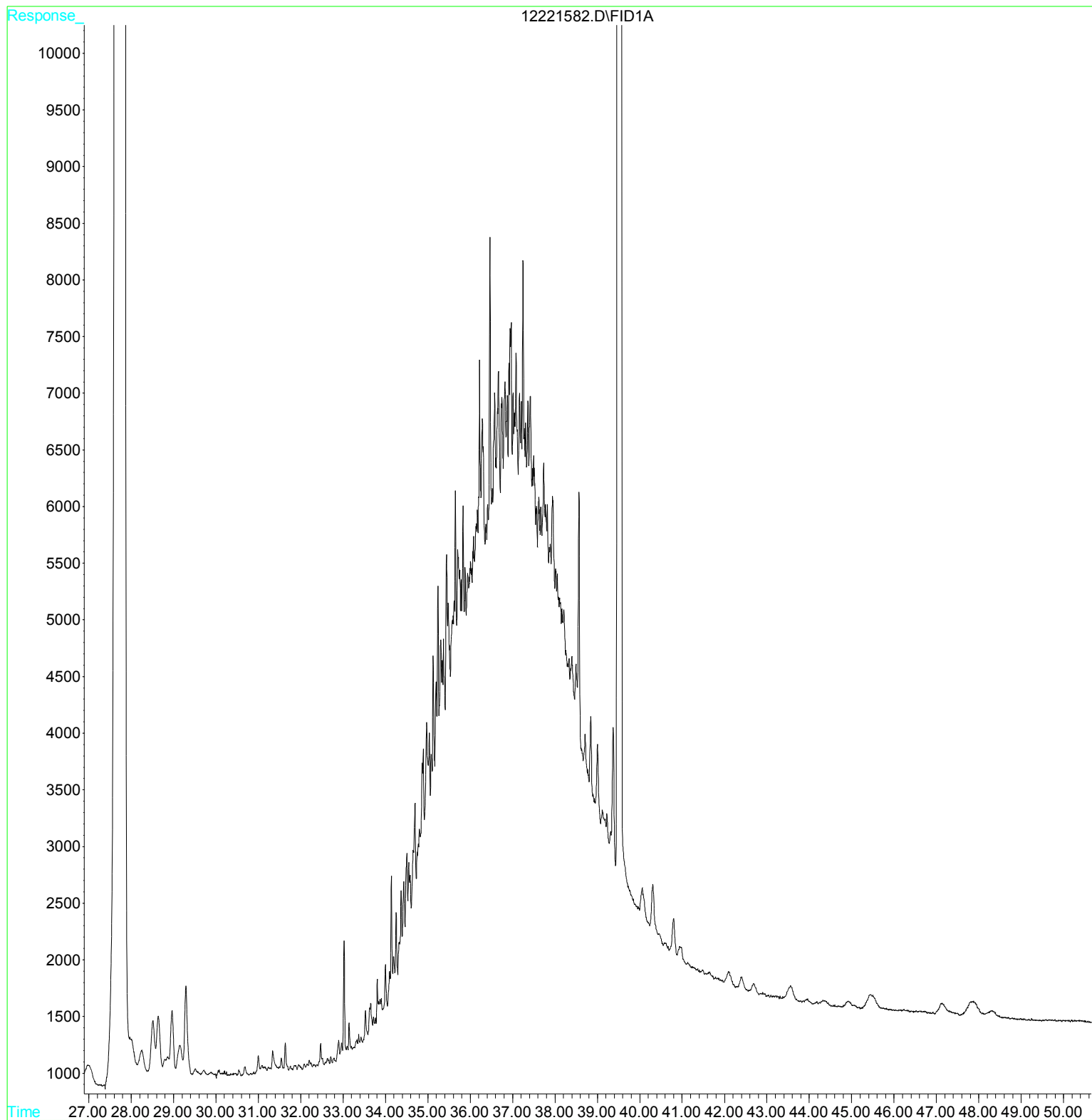
Extraction method: SW3510C

Analytical methods: SW8015B

Work Order: 1512A04

Lab ID	Client ID	Matrix	Fuel Fingerprint
1512A04-004B	Tank Pit-W	W	This sample contains a significant aged diesel pattern between C10 and C23. Chromatogram enclosed.

File : D:\HPCHEM\GC6\DATAA\12221582.D
Operator : Toshiko
Acquired : 24 Dec 2015 3:20 pm using AcqMethod GC6AH1.M
Instrument : GC-6
Sample Name: 1512A04-004B W +FF,BO 1DAY RE
Misc Info : TPH
Vial Number: 41





Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/28/15
Date Analyzed: 12/28/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114716
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114716
 1512A04-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0468	0.0050	0.050	-	94	53-116
Benzene	ND	0.0494	0.0050	0.050	-	99	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.181	0.050	0.20	-	90	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0474	0.0050	0.050	-	95	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0457	0.0040	0.050	-	91	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0440	0.0040	0.050	-	88	58-135
1,1-Dichloroethene	ND	0.0441	0.0050	0.050	-	88	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/28/15
Date Analyzed: 12/28/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114716
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114716
 1512A04-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0485	0.0050	0.050	-	97	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0475	0.0050	0.050	-	95	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0463	0.0050	0.050	-	93	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0472	0.0050	0.050	-	94	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0489	0.0050	0.050	-	98	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/28/15
Date Analyzed: 12/28/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114716
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114716
 1512A04-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.110	0.110		0.12	88	88	70-130
Toluene-d8	0.131	0.120		0.12	105	96	70-130
4-BFB	0.00919	0.0111		0.012	74	89	70-130
Benzene-d6	0.103	0.105		0.10	103	105	60-140
Ethylbenzene-d10	0.101	0.104		0.10	101	104	60-140
1,2-DCB-d4	0.0989	0.105		0.10	99	105	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0433	0.0441	0.050	ND	87	88	70-130	1.83	20
Benzene	0.0439	0.0445	0.050	ND	88	89	70-130	1.36	20
t-Butyl alcohol (TBA)	0.166	0.166	0.20	ND	83	83	70-130	0	20
Chlorobenzene	0.0424	0.0433	0.050	ND	85	87	70-130	1.95	20
1,2-Dibromoethane (EDB)	0.0430	0.0432	0.050	ND	86	86	70-130	0	20
1,2-Dichloroethane (1,2-DCA)	0.0401	0.0410	0.050	ND	80	82	70-130	2.18	20
1,1-Dichloroethene	0.0396	0.0402	0.050	ND	79	80	70-130	1.49	20
Diisopropyl ether (DIPE)	0.0437	0.0444	0.050	ND	87	89	70-130	1.58	20
Ethyl tert-butyl ether (ETBE)	0.0434	0.0445	0.050	ND	87	89	70-130	2.52	20
Methyl-t-butyl ether (MTBE)	0.0426	0.0433	0.050	ND	85	87	70-130	1.55	20
Toluene	0.0413	0.0424	0.050	ND	83	85	70-130	2.60	20
Trichloroethene	0.0434	0.0439	0.050	ND	87	88	70-130	1.22	20

Surrogate Recovery									
Dibromofluoromethane	0.112	0.110	0.12		89	88	70-130	1.09	20
Toluene-d8	0.119	0.120	0.12		95	96	70-130	0.570	20
4-BFB	0.0106	0.0107	0.012		85	85	70-130	0	20
Benzene-d6	0.0930	0.0943	0.10		93	94	60-140	1.37	20
Ethylbenzene-d10	0.0916	0.0931	0.10		92	93	60-140	1.67	20
1,2-DCB-d4	0.0979	0.0985	0.10		98	99	60-140	0.625	20



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	8.15	0.50	10	-	81	54-140
Benzene	ND	8.15	0.50	10	-	82	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	28.6	2.0	40	-	72	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	8.60	0.50	10	-	86	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	8.04	0.50	10	-	80	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	7.88	0.50	10	-	79	66-125
1,1-Dichloroethene	ND	8.06	0.50	10	-	81	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	8.60	0.50	10	-	86	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	8.47	0.50	10	-	85	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	7.80	0.50	10	-	78	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	8.25	0.50	10	-	83	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	8.47	0.50	10	-	85	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	19.5	21.0		25	78	84	70-130
Toluene-d8	21.6	21.9		25	87	88	70-130
4-BFB	2.55	1.78		2.5	102	71	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	8.85	9.34	10	ND	89	93	69-139	5.41	20
Benzene	8.50	8.80	10	ND	85	88	69-141	3.47	20
t-Butyl alcohol (TBA)	33.4	35.4	40	ND	84	89	41-152	5.83	20
Chlorobenzene	8.92	9.20	10	ND	89	92	77-120	3.08	20
1,2-Dibromoethane (EDB)	8.70	9.31	10	ND	87	93	76-135	6.86	20
1,2-Dichloroethane (1,2-DCA)	8.60	8.88	10	ND	86	89	73-139	3.21	20
1,1-Dichloroethene	8.41	8.85	10	ND	84	88	59-140	5.04	20
Diisopropyl ether (DIPE)	9.18	9.22	10	ND	92	92	72-140	0	20
Ethyl tert-butyl ether (ETBE)	9.09	9.36	10	ND	91	94	71-140	2.99	20
Methyl-t-butyl ether (MTBE)	8.59	9.14	10	ND	86	91	73-139	6.22	20
Toluene	8.54	8.82	10	ND	85	88	71-128	3.29	20
Trichloroethene	8.72	9.02	10	ND	87	90	64-132	3.50	20

Surrogate Recovery									
Dibromofluoromethane	21.3	21.6	25		85	86	70-130	1.42	20
Toluene-d8	21.9	22.1	25		87	88	70-130	0.978	20
4-BFB	1.86	1.92	2.5		74	77	70-130	3.23	20



Quality Control Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1512A04
Date Prepared: 12/23/15	BatchID: 114623
Date Analyzed: 12/23/15	Extraction Method: SW5030B
Instrument: GC3	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 1244 2nd Ave, Oakland, CA	Sample ID: MB/LCS-114623 1512975-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.645	0.40	0.60	-	107	70-130
MTBE	ND	0.0985	0.050	0.10	-	98	70-130
Benzene	ND	0.117	0.0050	0.10	-	117	70-130
Toluene	ND	0.121	0.0050	0.10	-	121	70-130
Ethylbenzene	ND	0.120	0.0050	0.10	-	120	70-130
Xylenes	ND	0.359	0.015	0.30	-	120	70-130

Surrogate Recovery

2-Fluorotoluene	0.106	0.113		0.10	106	113	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.555	0.573	0.60	ND	92	95	70-130	3.21	20
MTBE	0.0708	0.0732	0.10	ND	71	73	70-130	3.38	20
Benzene	0.0934	0.0928	0.10	ND	91	91	70-130	0	20
Toluene	0.0966	0.0961	0.10	ND	97	96	70-130	0.467	20
Ethylbenzene	0.101	0.101	0.10	ND	101	101	70-130	0	20
Xylenes	0.326	0.323	0.30	ND	109	108	70-130	0.827	20

Surrogate Recovery

2-Fluorotoluene	0.111	0.110	0.10		111	109	70-130	1.48	20
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Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC3
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114620
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-114620
 1512934-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	60.8	40	60	-	101	70-130
MTBE	ND	10.3	5.0	10	-	103	70-130
Benzene	ND	10.6	0.50	10	-	106	70-130
Toluene	ND	10.7	0.50	10	-	107	70-130
Ethylbenzene	ND	10.9	0.50	10	-	109	70-130
Xylenes	ND	32.6	1.5	30	-	109	70-130
Surrogate Recovery							
aaa-TFT	8.97	9.14		10	90	91	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		6200	NR	NR	-	NR	
MTBE	NR	NR		ND<100	NR	NR	-	NR	
Benzene	NR	NR		18	NR	NR	-	NR	
Toluene	NR	NR		780	NR	NR	-	NR	
Ethylbenzene	NR	NR		410	NR	NR	-	NR	
Xylenes	NR	NR		2400	NR	NR	-	NR	
Surrogate Recovery									
aaa-TFT	NR	NR			NR	NR	-	NR	



Quality Control Report

Client:	Pangea Environmental Svcs., Inc.	WorkOrder:	1512A04
Date Prepared:	12/23/15	BatchID:	114657
Date Analyzed:	12/24/15	Extraction Method:	SW3550B
Instrument:	GC39A, GC39B	Analytical Method:	SW8015B
Matrix:	Soil	Unit:	mg/Kg
Project:	1244 2nd Ave, Oakland, CA	Sample ID:	MB/LCS-114657 1512A04-003AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	40.7	1.0	40	-	102	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.8	24.4		25	95	98	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.7	40.6	40	ND	97	99	70-130	2.34	30
Surrogate Recovery									
C9	24.5	24.6	25		98	98	70-130	0	30



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15 - 12/24/15
Instrument: GC6A
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A04
BatchID: 114647
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-114647

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1130	50	1000	-	113	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	645	677		625	103	108	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1512A04

ClientCode: PEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: BRiddell@pangeaenv.com
cc/3rd Party:
PO:
ProjectNo: 1244 2nd Ave, Oakland, CA

Bill to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 1 day;

Date Received: 12/23/2015

Date Logged: 12/23/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1512A04-001	B-6-W	Water	12/23/2015	<input type="checkbox"/>	A		B		B							
1512A04-002	Tank Pit-12'	Soil	12/23/2015	<input type="checkbox"/>		A		A								
1512A04-003	Tank SE Wall-5'	Soil	12/23/2015	<input type="checkbox"/>		A		A								
1512A04-004	Tank Pit-W	Water	12/23/2015	<input type="checkbox"/>	A		B		B							

Test Legend:

1	8260B_W	2	G-MBTEX_S	3	G-MBTEX_W	4	TPH(FF)_S
5	TPH(FF)_W	6		7		8	
9		10		11		12	

The following SampIDs: 001B, 002A, 003A, 004B contain testgroup.

Prepared by: Briana Cutino

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: PANGEA ENVIRONMENTAL SVCS., INC.

QC Level: LEVEL 2

Work Order: 1512A04

Project: 1244 2nd Ave, Oakland, CA

Client Contact: Bob Clark-Riddell

Date Logged: 12/23/2015

Comments:

Contact's Email: BRiddell@pangeaenv.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512A04-001A	B-6-W	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
1512A04-001B	B-6-W	Water	Multi-Range TPH(g,d,mo)	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
1512A04-002A	Tank Pit-12'	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A04-003A	Tank SE Wall-5'	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A04-004A	Tank Pit-W	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A04-004B	Tank Pit-W	Water	TPH (Fuel Fingerprint)	6	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1512A04

RUSH

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Road
Pittsburg, CA 94565

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269


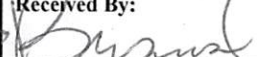
CHAIN OF CUSTODY RECORD

TURN AROUND TIME
RUSH 24 HR 48 HR 72 HR 5 DAY
EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Bob Clark-Riddell Bill To: Pangea
Company: Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: briddell@pangeaenv.com
Tele: (510) 836-3700 Fax:
Project #: Project Name:
Project Location: 1244 2nd Ave, Oakland, CA
Sampler Signature:

Analysis Request												Other	Comments					
BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) w/ Silica Gel Cleanup	Total Petroleum OH & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Five fuel oxygenates by EPA Method 8260	Filter Samples for Metals analysis: Yes / No TPH scan (old, mo/bo) * fuel fingerprint *	

SAMPLE ID	LOCATION (Field Point Name)	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
B-6-W		12/23/15		8		X					X	X					
Tank Pit-12'				1			X										
Tank SE Wall-5'				1			X										
Tank Pit-W		12/23/15		8		X					X						

Relinquished By:  Date: 12/23/15 Time: 1845 Received By: 
Relinquished By: _____ Date: _____ Time: _____ Received By: _____
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/° _____ COMMENTS:
GOOD CONDITION _____
HEAD SPACE ABSENT _____ *USE FINGERPRINT TO DETERMINE
DECHLORINATED IN LAB _____ QUANTIFICATION AS M.O. OR B.O.
APPROPRIATE CONTAINERS _____
PRESERVED IN LAB _____
登別>涙 VOAS O&G METALS OTHER
VOAS O&G METALS OTHER
PRESERVATION pH<2



Sample Receipt Checklist

Client Name: Pangea Environmental Svcs., Inc. Date and Time Received: 12/23/2015 18:48
Project Name: 1244 2nd Ave, Oakland, CA Date Logged: 12/23/2015
WorkOrder No: 1512A04 Matrix: Soil/Water Received by: Briana Cutino
Carrier: Client Drop-In Logged by: Briana Cutino

Chain of Custody (COC) Information

Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Sample IDs noted by Client on COC? Yes [checked] No []
Date and Time of collection noted by Client on COC? Yes [checked] No []
Sampler's name noted on COC? Yes [checked] No []

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes [] No [] NA [checked]
Shipping container/cooler in good condition? Yes [checked] No []
Samples in proper containers/bottles? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes [checked] No []
Sample/Temp Blank temperature Temp: 2°C NA []
Water - VOA vials have zero headspace / no bubbles? Yes [] No [] NA [checked]
Sample labels checked for correct preservation? Yes [checked] No []
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes [] No [] NA [checked]
Samples Received on Ice? Yes [checked] No []
(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes [] No [] NA [checked]
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes [] No [] NA [checked]

* NOTE: If the "No" box is checked, see comments below.

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1512A05

Report Created for: Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200
Oakland, CA 94612

Project Contact: Bob Clark-Riddell

Project P.O.:

Project Name: 1244 2nd Ave, Oakland, CA

Project Received: 12/23/2015

Analytical Report reviewed & approved for release on 12/28/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Pangea Environmental Svcs., Inc.
Project: 1244 2nd Ave, Oakland, CA
WorkOrder: 1512A05

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-3.5	1512A05-010A	Soil	12/23/2015	GC18	114656
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	12/24/2015 10:32	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/24/2015 10:32	
Benzene	ND	0.0050	1	12/24/2015 10:32	
Bromobenzene	ND	0.0050	1	12/24/2015 10:32	
Bromochloromethane	ND	0.0050	1	12/24/2015 10:32	
Bromodichloromethane	ND	0.0050	1	12/24/2015 10:32	
Bromoform	ND	0.0050	1	12/24/2015 10:32	
Bromomethane	ND	0.0050	1	12/24/2015 10:32	
2-Butanone (MEK)	ND	0.020	1	12/24/2015 10:32	
t-Butyl alcohol (TBA)	ND	0.050	1	12/24/2015 10:32	
n-Butyl benzene	ND	0.0050	1	12/24/2015 10:32	
sec-Butyl benzene	ND	0.0050	1	12/24/2015 10:32	
tert-Butyl benzene	ND	0.0050	1	12/24/2015 10:32	
Carbon Disulfide	ND	0.0050	1	12/24/2015 10:32	
Carbon Tetrachloride	ND	0.0050	1	12/24/2015 10:32	
Chlorobenzene	ND	0.0050	1	12/24/2015 10:32	
Chloroethane	ND	0.0050	1	12/24/2015 10:32	
Chloroform	ND	0.0050	1	12/24/2015 10:32	
Chloromethane	ND	0.0050	1	12/24/2015 10:32	
2-Chlorotoluene	ND	0.0050	1	12/24/2015 10:32	
4-Chlorotoluene	ND	0.0050	1	12/24/2015 10:32	
Dibromochloromethane	ND	0.0050	1	12/24/2015 10:32	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	12/24/2015 10:32	
1,2-Dibromoethane (EDB)	ND	0.0040	1	12/24/2015 10:32	
Dibromomethane	ND	0.0050	1	12/24/2015 10:32	
1,2-Dichlorobenzene	ND	0.0050	1	12/24/2015 10:32	
1,3-Dichlorobenzene	ND	0.0050	1	12/24/2015 10:32	
1,4-Dichlorobenzene	ND	0.0050	1	12/24/2015 10:32	
Dichlorodifluoromethane	ND	0.0050	1	12/24/2015 10:32	
1,1-Dichloroethane	ND	0.0050	1	12/24/2015 10:32	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	12/24/2015 10:32	
1,1-Dichloroethene	ND	0.0050	1	12/24/2015 10:32	
cis-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 10:32	
trans-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 10:32	
1,2-Dichloropropane	ND	0.0050	1	12/24/2015 10:32	
1,3-Dichloropropane	ND	0.0050	1	12/24/2015 10:32	
2,2-Dichloropropane	ND	0.0050	1	12/24/2015 10:32	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-3.5	1512A05-010A	Soil	12/23/2015	GC18	114656
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	12/24/2015 10:32	
cis-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 10:32	
trans-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 10:32	
Diisopropyl ether (DIPE)	ND	0.0050	1	12/24/2015 10:32	
Ethylbenzene	ND	0.0050	1	12/24/2015 10:32	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/24/2015 10:32	
Freon 113	ND	0.0050	1	12/24/2015 10:32	
Hexachlorobutadiene	ND	0.0050	1	12/24/2015 10:32	
Hexachloroethane	ND	0.0050	1	12/24/2015 10:32	
2-Hexanone	ND	0.0050	1	12/24/2015 10:32	
Isopropylbenzene	ND	0.0050	1	12/24/2015 10:32	
4-Isopropyl toluene	ND	0.0050	1	12/24/2015 10:32	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/24/2015 10:32	
Methylene chloride	ND	0.0050	1	12/24/2015 10:32	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/24/2015 10:32	
Naphthalene	ND	0.0050	1	12/24/2015 10:32	
n-Propyl benzene	ND	0.0050	1	12/24/2015 10:32	
Styrene	ND	0.0050	1	12/24/2015 10:32	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 10:32	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 10:32	
Tetrachloroethene	ND	0.0050	1	12/24/2015 10:32	
Toluene	ND	0.0050	1	12/24/2015 10:32	
1,2,3-Trichlorobenzene	ND	0.0050	1	12/24/2015 10:32	
1,2,4-Trichlorobenzene	ND	0.0050	1	12/24/2015 10:32	
1,1,1-Trichloroethane	ND	0.0050	1	12/24/2015 10:32	
1,1,2-Trichloroethane	ND	0.0050	1	12/24/2015 10:32	
Trichloroethene	ND	0.0050	1	12/24/2015 10:32	
Trichlorofluoromethane	ND	0.0050	1	12/24/2015 10:32	
1,2,3-Trichloropropane	ND	0.0050	1	12/24/2015 10:32	
1,2,4-Trimethylbenzene	ND	0.0050	1	12/24/2015 10:32	
1,3,5-Trimethylbenzene	ND	0.0050	1	12/24/2015 10:32	
Vinyl Chloride	ND	0.0050	1	12/24/2015 10:32	
Xylenes, Total	ND	0.0050	1	12/24/2015 10:32	

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-3.5	1512A05-010A	Soil	12/23/2015	GC18	114656

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	84	70-130		12/24/2015 10:32
Toluene-d8	102	70-130		12/24/2015 10:32
4-BFB	71	70-130		12/24/2015 10:32
Benzene-d6	100	60-140		12/24/2015 10:32
Ethylbenzene-d10	100	60-140		12/24/2015 10:32
1,2-DCB-d4	99	60-140		12/24/2015 10:32

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-7'	1512A05-011A	Soil	12/23/2015	GC18	114656

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	12/24/2015 11:10
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/24/2015 11:10
Benzene	ND	0.0050	1	12/24/2015 11:10
Bromobenzene	ND	0.0050	1	12/24/2015 11:10
Bromochloromethane	ND	0.0050	1	12/24/2015 11:10
Bromodichloromethane	ND	0.0050	1	12/24/2015 11:10
Bromoform	ND	0.0050	1	12/24/2015 11:10
Bromomethane	ND	0.0050	1	12/24/2015 11:10
2-Butanone (MEK)	ND	0.020	1	12/24/2015 11:10
t-Butyl alcohol (TBA)	ND	0.050	1	12/24/2015 11:10
n-Butyl benzene	ND	0.0050	1	12/24/2015 11:10
sec-Butyl benzene	ND	0.0050	1	12/24/2015 11:10
tert-Butyl benzene	ND	0.0050	1	12/24/2015 11:10
Carbon Disulfide	ND	0.0050	1	12/24/2015 11:10
Carbon Tetrachloride	ND	0.0050	1	12/24/2015 11:10
Chlorobenzene	ND	0.0050	1	12/24/2015 11:10
Chloroethane	ND	0.0050	1	12/24/2015 11:10
Chloroform	ND	0.0050	1	12/24/2015 11:10
Chloromethane	ND	0.0050	1	12/24/2015 11:10
2-Chlorotoluene	ND	0.0050	1	12/24/2015 11:10
4-Chlorotoluene	ND	0.0050	1	12/24/2015 11:10
Dibromochloromethane	ND	0.0050	1	12/24/2015 11:10
1,2-Dibromo-3-chloropropane	ND	0.0040	1	12/24/2015 11:10
1,2-Dibromoethane (EDB)	ND	0.0040	1	12/24/2015 11:10
Dibromomethane	ND	0.0050	1	12/24/2015 11:10
1,2-Dichlorobenzene	ND	0.0050	1	12/24/2015 11:10
1,3-Dichlorobenzene	ND	0.0050	1	12/24/2015 11:10
1,4-Dichlorobenzene	ND	0.0050	1	12/24/2015 11:10
Dichlorodifluoromethane	ND	0.0050	1	12/24/2015 11:10
1,1-Dichloroethane	ND	0.0050	1	12/24/2015 11:10
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	12/24/2015 11:10
1,1-Dichloroethene	ND	0.0050	1	12/24/2015 11:10
cis-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 11:10
trans-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 11:10
1,2-Dichloropropane	ND	0.0050	1	12/24/2015 11:10
1,3-Dichloropropane	ND	0.0050	1	12/24/2015 11:10
2,2-Dichloropropane	ND	0.0050	1	12/24/2015 11:10

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-7'	1512A05-011A	Soil	12/23/2015	GC18	114656
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	12/24/2015 11:10	
cis-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 11:10	
trans-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 11:10	
Diisopropyl ether (DIPE)	ND	0.0050	1	12/24/2015 11:10	
Ethylbenzene	ND	0.0050	1	12/24/2015 11:10	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/24/2015 11:10	
Freon 113	ND	0.0050	1	12/24/2015 11:10	
Hexachlorobutadiene	ND	0.0050	1	12/24/2015 11:10	
Hexachloroethane	ND	0.0050	1	12/24/2015 11:10	
2-Hexanone	ND	0.0050	1	12/24/2015 11:10	
Isopropylbenzene	ND	0.0050	1	12/24/2015 11:10	
4-Isopropyl toluene	ND	0.0050	1	12/24/2015 11:10	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/24/2015 11:10	
Methylene chloride	ND	0.0050	1	12/24/2015 11:10	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/24/2015 11:10	
Naphthalene	ND	0.0050	1	12/24/2015 11:10	
n-Propyl benzene	ND	0.0050	1	12/24/2015 11:10	
Styrene	ND	0.0050	1	12/24/2015 11:10	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 11:10	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 11:10	
Tetrachloroethene	ND	0.0050	1	12/24/2015 11:10	
Toluene	ND	0.0050	1	12/24/2015 11:10	
1,2,3-Trichlorobenzene	ND	0.0050	1	12/24/2015 11:10	
1,2,4-Trichlorobenzene	ND	0.0050	1	12/24/2015 11:10	
1,1,1-Trichloroethane	ND	0.0050	1	12/24/2015 11:10	
1,1,2-Trichloroethane	ND	0.0050	1	12/24/2015 11:10	
Trichloroethene	ND	0.0050	1	12/24/2015 11:10	
Trichlorofluoromethane	ND	0.0050	1	12/24/2015 11:10	
1,2,3-Trichloropropane	ND	0.0050	1	12/24/2015 11:10	
1,2,4-Trimethylbenzene	ND	0.0050	1	12/24/2015 11:10	
1,3,5-Trimethylbenzene	ND	0.0050	1	12/24/2015 11:10	
Vinyl Chloride	ND	0.0050	1	12/24/2015 11:10	
Xylenes, Total	ND	0.0050	1	12/24/2015 11:10	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-7'	1512A05-011A	Soil	12/23/2015	GC18	114656

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	84	70-130		12/24/2015 11:10
Toluene-d8	102	70-130		12/24/2015 11:10
4-BFB	71	70-130		12/24/2015 11:10
Benzene-d6	94	60-140		12/24/2015 11:10
Ethylbenzene-d10	94	60-140		12/24/2015 11:10
1,2-DCB-d4	93	60-140		12/24/2015 11:10

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-8'	1512A05-014A	Soil	12/23/2015	GC18	114656

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	12/24/2015 09:54
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/24/2015 09:54
Benzene	ND	0.0050	1	12/24/2015 09:54
Bromobenzene	ND	0.0050	1	12/24/2015 09:54
Bromochloromethane	ND	0.0050	1	12/24/2015 09:54
Bromodichloromethane	ND	0.0050	1	12/24/2015 09:54
Bromoform	ND	0.0050	1	12/24/2015 09:54
Bromomethane	ND	0.0050	1	12/24/2015 09:54
2-Butanone (MEK)	ND	0.020	1	12/24/2015 09:54
t-Butyl alcohol (TBA)	ND	0.050	1	12/24/2015 09:54
n-Butyl benzene	ND	0.0050	1	12/24/2015 09:54
sec-Butyl benzene	ND	0.0050	1	12/24/2015 09:54
tert-Butyl benzene	ND	0.0050	1	12/24/2015 09:54
Carbon Disulfide	ND	0.0050	1	12/24/2015 09:54
Carbon Tetrachloride	ND	0.0050	1	12/24/2015 09:54
Chlorobenzene	ND	0.0050	1	12/24/2015 09:54
Chloroethane	ND	0.0050	1	12/24/2015 09:54
Chloroform	ND	0.0050	1	12/24/2015 09:54
Chloromethane	ND	0.0050	1	12/24/2015 09:54
2-Chlorotoluene	ND	0.0050	1	12/24/2015 09:54
4-Chlorotoluene	ND	0.0050	1	12/24/2015 09:54
Dibromochloromethane	ND	0.0050	1	12/24/2015 09:54
1,2-Dibromo-3-chloropropane	ND	0.0040	1	12/24/2015 09:54
1,2-Dibromoethane (EDB)	ND	0.0040	1	12/24/2015 09:54
Dibromomethane	ND	0.0050	1	12/24/2015 09:54
1,2-Dichlorobenzene	ND	0.0050	1	12/24/2015 09:54
1,3-Dichlorobenzene	ND	0.0050	1	12/24/2015 09:54
1,4-Dichlorobenzene	ND	0.0050	1	12/24/2015 09:54
Dichlorodifluoromethane	ND	0.0050	1	12/24/2015 09:54
1,1-Dichloroethane	ND	0.0050	1	12/24/2015 09:54
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	12/24/2015 09:54
1,1-Dichloroethene	ND	0.0050	1	12/24/2015 09:54
cis-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 09:54
trans-1,2-Dichloroethene	ND	0.0050	1	12/24/2015 09:54
1,2-Dichloropropane	ND	0.0050	1	12/24/2015 09:54
1,3-Dichloropropane	ND	0.0050	1	12/24/2015 09:54
2,2-Dichloropropane	ND	0.0050	1	12/24/2015 09:54

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-8'	1512A05-014A	Soil	12/23/2015	GC18	114656
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	12/24/2015 09:54	
cis-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 09:54	
trans-1,3-Dichloropropene	ND	0.0050	1	12/24/2015 09:54	
Diisopropyl ether (DIPE)	ND	0.0050	1	12/24/2015 09:54	
Ethylbenzene	ND	0.0050	1	12/24/2015 09:54	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/24/2015 09:54	
Freon 113	ND	0.0050	1	12/24/2015 09:54	
Hexachlorobutadiene	ND	0.0050	1	12/24/2015 09:54	
Hexachloroethane	ND	0.0050	1	12/24/2015 09:54	
2-Hexanone	ND	0.0050	1	12/24/2015 09:54	
Isopropylbenzene	ND	0.0050	1	12/24/2015 09:54	
4-Isopropyl toluene	ND	0.0050	1	12/24/2015 09:54	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/24/2015 09:54	
Methylene chloride	ND	0.0050	1	12/24/2015 09:54	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/24/2015 09:54	
Naphthalene	ND	0.0050	1	12/24/2015 09:54	
n-Propyl benzene	ND	0.0050	1	12/24/2015 09:54	
Styrene	ND	0.0050	1	12/24/2015 09:54	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 09:54	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/24/2015 09:54	
Tetrachloroethene	ND	0.0050	1	12/24/2015 09:54	
Toluene	ND	0.0050	1	12/24/2015 09:54	
1,2,3-Trichlorobenzene	ND	0.0050	1	12/24/2015 09:54	
1,2,4-Trichlorobenzene	ND	0.0050	1	12/24/2015 09:54	
1,1,1-Trichloroethane	ND	0.0050	1	12/24/2015 09:54	
1,1,2-Trichloroethane	ND	0.0050	1	12/24/2015 09:54	
Trichloroethene	ND	0.0050	1	12/24/2015 09:54	
Trichlorofluoromethane	ND	0.0050	1	12/24/2015 09:54	
1,2,3-Trichloropropane	ND	0.0050	1	12/24/2015 09:54	
1,2,4-Trimethylbenzene	ND	0.0050	1	12/24/2015 09:54	
1,3,5-Trimethylbenzene	ND	0.0050	1	12/24/2015 09:54	
Vinyl Chloride	ND	0.0050	1	12/24/2015 09:54	
Xylenes, Total	ND	0.0050	1	12/24/2015 09:54	

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-8'	1512A05-014A	Soil	12/23/2015	GC18	114656

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	85	70-130		12/24/2015 09:54
Toluene-d8	100	70-130		12/24/2015 09:54
4-BFB	71	70-130		12/24/2015 09:54
Benzene-d6	93	60-140		12/24/2015 09:54
Ethylbenzene-d10	91	60-140		12/24/2015 09:54
1,2-DCB-d4	91	60-140		12/24/2015 09:54

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-W	1512A05-012A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/24/2015 13:34
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/24/2015 13:34
Benzene	ND	0.50	1	12/24/2015 13:34
Bromobenzene	ND	0.50	1	12/24/2015 13:34
Bromochloromethane	ND	0.50	1	12/24/2015 13:34
Bromodichloromethane	ND	0.50	1	12/24/2015 13:34
Bromoform	ND	0.50	1	12/24/2015 13:34
Bromomethane	ND	0.50	1	12/24/2015 13:34
2-Butanone (MEK)	ND	2.0	1	12/24/2015 13:34
t-Butyl alcohol (TBA)	ND	2.0	1	12/24/2015 13:34
n-Butyl benzene	ND	0.50	1	12/24/2015 13:34
sec-Butyl benzene	ND	0.50	1	12/24/2015 13:34
tert-Butyl benzene	ND	0.50	1	12/24/2015 13:34
Carbon Disulfide	ND	0.50	1	12/24/2015 13:34
Carbon Tetrachloride	ND	0.50	1	12/24/2015 13:34
Chlorobenzene	ND	0.50	1	12/24/2015 13:34
Chloroethane	ND	0.50	1	12/24/2015 13:34
Chloroform	ND	0.50	1	12/24/2015 13:34
Chloromethane	ND	0.50	1	12/24/2015 13:34
2-Chlorotoluene	ND	0.50	1	12/24/2015 13:34
4-Chlorotoluene	ND	0.50	1	12/24/2015 13:34
Dibromochloromethane	ND	0.50	1	12/24/2015 13:34
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/24/2015 13:34
1,2-Dibromoethane (EDB)	ND	0.50	1	12/24/2015 13:34
Dibromomethane	ND	0.50	1	12/24/2015 13:34
1,2-Dichlorobenzene	ND	0.50	1	12/24/2015 13:34
1,3-Dichlorobenzene	ND	0.50	1	12/24/2015 13:34
1,4-Dichlorobenzene	ND	0.50	1	12/24/2015 13:34
Dichlorodifluoromethane	ND	0.50	1	12/24/2015 13:34
1,1-Dichloroethane	ND	0.50	1	12/24/2015 13:34
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/24/2015 13:34
1,1-Dichloroethene	ND	0.50	1	12/24/2015 13:34
cis-1,2-Dichloroethene	ND	0.50	1	12/24/2015 13:34
trans-1,2-Dichloroethene	ND	0.50	1	12/24/2015 13:34
1,2-Dichloropropane	ND	0.50	1	12/24/2015 13:34
1,3-Dichloropropane	ND	0.50	1	12/24/2015 13:34
2,2-Dichloropropane	ND	0.50	1	12/24/2015 13:34

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-W	1512A05-012A	Water	12/23/2015	GC16	114625
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	12/24/2015 13:34	
cis-1,3-Dichloropropene	ND	0.50	1	12/24/2015 13:34	
trans-1,3-Dichloropropene	ND	0.50	1	12/24/2015 13:34	
Diisopropyl ether (DIPE)	ND	0.50	1	12/24/2015 13:34	
Ethylbenzene	ND	0.50	1	12/24/2015 13:34	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/24/2015 13:34	
Freon 113	ND	0.50	1	12/24/2015 13:34	
Hexachlorobutadiene	ND	0.50	1	12/24/2015 13:34	
Hexachloroethane	ND	0.50	1	12/24/2015 13:34	
2-Hexanone	ND	0.50	1	12/24/2015 13:34	
Isopropylbenzene	ND	0.50	1	12/24/2015 13:34	
4-Isopropyl toluene	ND	0.50	1	12/24/2015 13:34	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/24/2015 13:34	
Methylene chloride	ND	0.50	1	12/24/2015 13:34	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/24/2015 13:34	
Naphthalene	ND	0.50	1	12/24/2015 13:34	
n-Propyl benzene	ND	0.50	1	12/24/2015 13:34	
Styrene	ND	0.50	1	12/24/2015 13:34	
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/24/2015 13:34	
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/24/2015 13:34	
Tetrachloroethene	ND	0.50	1	12/24/2015 13:34	
Toluene	ND	0.50	1	12/24/2015 13:34	
1,2,3-Trichlorobenzene	ND	0.50	1	12/24/2015 13:34	
1,2,4-Trichlorobenzene	ND	0.50	1	12/24/2015 13:34	
1,1,1-Trichloroethane	ND	0.50	1	12/24/2015 13:34	
1,1,2-Trichloroethane	ND	0.50	1	12/24/2015 13:34	
Trichloroethene	ND	0.50	1	12/24/2015 13:34	
Trichlorofluoromethane	ND	0.50	1	12/24/2015 13:34	
1,2,3-Trichloropropane	ND	0.50	1	12/24/2015 13:34	
1,2,4-Trimethylbenzene	ND	0.50	1	12/24/2015 13:34	
1,3,5-Trimethylbenzene	ND	0.50	1	12/24/2015 13:34	
Vinyl Chloride	ND	0.50	1	12/24/2015 13:34	
Xylenes, Total	ND	0.50	1	12/24/2015 13:34	

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Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-W	1512A05-012A	Water	12/23/2015	GC16	114625

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	86	70-130		12/24/2015 13:34
Toluene-d8	77	70-130		12/24/2015 13:34
4-BFB	78	70-130		12/24/2015 13:34

Analyst(s): KBO



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15-12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1-4'	1512A05-001A	Soil	12/23/2015	GC7	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 10:14
MTBE	---	0.050	1	12/24/2015 10:14
Benzene	---	0.0050	1	12/24/2015 10:14
Toluene	---	0.0050	1	12/24/2015 10:14
Ethylbenzene	---	0.0050	1	12/24/2015 10:14
Xylenes	---	0.015	1	12/24/2015 10:14
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	103	70-130		12/24/2015 10:14

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2-4'	1512A05-004A	Soil	12/23/2015	GC7	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 10:55
MTBE	---	0.050	1	12/24/2015 10:55
Benzene	---	0.0050	1	12/24/2015 10:55
Toluene	---	0.0050	1	12/24/2015 10:55
Ethylbenzene	---	0.0050	1	12/24/2015 10:55
Xylenes	---	0.015	1	12/24/2015 10:55
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	99	70-130		12/24/2015 10:55

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15-12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3-3.5'	1512A05-007A	Soil	12/23/2015	GC7	114623

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 13:26
MTBE	---	0.050	1	12/24/2015 13:26
Benzene	---	0.0050	1	12/24/2015 13:26
Toluene	---	0.0050	1	12/24/2015 13:26
Ethylbenzene	---	0.0050	1	12/24/2015 13:26
Xylenes	---	0.015	1	12/24/2015 13:26
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	118	70-130		12/24/2015 13:26

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-3.5	1512A05-010A	Soil	12/23/2015	GC7	114659

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 09:44
MTBE	---	0.050	1	12/24/2015 09:44
Benzene	---	0.0050	1	12/24/2015 09:44
Toluene	---	0.0050	1	12/24/2015 09:44
Ethylbenzene	---	0.0050	1	12/24/2015 09:44
Xylenes	---	0.015	1	12/24/2015 09:44
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	103	70-130		12/24/2015 09:44

Analyst(s): IA

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15-12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-7'	1512A05-011A	Soil	12/23/2015	GC7	114659

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 11:56
MTBE	---	0.050	1	12/24/2015 11:56
Benzene	---	0.0050	1	12/24/2015 11:56
Toluene	---	0.0050	1	12/24/2015 11:56
Ethylbenzene	---	0.0050	1	12/24/2015 11:56
Xylenes	---	0.015	1	12/24/2015 11:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	99	70-130		12/24/2015 11:56

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-3.5'	1512A05-013A	Soil	12/23/2015	GC7	114659

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 11:26
MTBE	---	0.050	1	12/24/2015 11:26
Benzene	---	0.0050	1	12/24/2015 11:26
Toluene	---	0.0050	1	12/24/2015 11:26
Ethylbenzene	---	0.0050	1	12/24/2015 11:26
Xylenes	---	0.015	1	12/24/2015 11:26
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	101	70-130		12/24/2015 11:26

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15-12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-8'	1512A05-014A	Soil	12/23/2015	GC7	114659

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	12/24/2015 12:26
MTBE	---	0.050	1	12/24/2015 12:26
Benzene	---	0.0050	1	12/24/2015 12:26
Toluene	---	0.0050	1	12/24/2015 12:26
Ethylbenzene	---	0.0050	1	12/24/2015 12:26
Xylenes	---	0.015	1	12/24/2015 12:26

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	102	70-130	12/24/2015 12:26

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1-W	1512A05-003A	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 09:42
MTBE	---	5.0	1	12/24/2015 09:42
Benzene	---	0.50	1	12/24/2015 09:42
Toluene	---	0.50	1	12/24/2015 09:42
Ethylbenzene	---	0.50	1	12/24/2015 09:42
Xylenes	---	1.5	1	12/24/2015 09:42
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	92	70-130		12/24/2015 09:42

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2-W	1512A05-006A	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 10:11
MTBE	---	5.0	1	12/24/2015 10:11
Benzene	---	0.50	1	12/24/2015 10:11
Toluene	---	0.50	1	12/24/2015 10:11
Ethylbenzene	---	0.50	1	12/24/2015 10:11
Xylenes	---	1.5	1	12/24/2015 10:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	93	70-130		12/24/2015 10:11

Analyst(s): IA

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/24/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3-W	1512A05-009A	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 10:41
MTBE	---	5.0	1	12/24/2015 10:41
Benzene	---	0.50	1	12/24/2015 10:41
Toluene	---	0.50	1	12/24/2015 10:41
Ethylbenzene	---	0.50	1	12/24/2015 10:41
Xylenes	---	1.5	1	12/24/2015 10:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	90	70-130		12/24/2015 10:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-W	1512A05-012A	Water	12/23/2015	GC3	114620

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	12/24/2015 13:41
MTBE	---	5.0	1	12/24/2015 13:41
Benzene	---	0.50	1	12/24/2015 13:41
Toluene	---	0.50	1	12/24/2015 13:41
Ethylbenzene	---	0.50	1	12/24/2015 13:41
Xylenes	---	1.5	1	12/24/2015 13:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	90	70-130		12/24/2015 13:41

Analyst(s): IA



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1-4'	1512A05-001A	Soil	12/23/2015	GC39A	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 15:40
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 15:40
Surrogates	REC (%)	Limits		
C9	93	70-130		12/25/2015 15:40

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2-4'	1512A05-004A	Soil	12/23/2015	GC39A	114598

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 16:58
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 16:58
Surrogates	REC (%)	Limits		
C9	93	70-130		12/25/2015 16:58

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3-3.5'	1512A05-007A	Soil	12/23/2015	GC39B	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 02:12
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 02:12
Surrogates	REC (%)	Limits		
C9	98	70-130		12/25/2015 02:12

Analyst(s): TK

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-3.5	1512A05-010A	Soil	12/23/2015	GC39B	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 15:01
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 15:01
Surrogates	REC (%)	Limits		
C9	97	70-130		12/25/2015 15:01

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-7'	1512A05-011A	Soil	12/23/2015	GC39B	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 16:19
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 16:19
Surrogates	REC (%)	Limits		
C9	98	70-130		12/25/2015 16:19

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-3.5'	1512A05-013A	Soil	12/23/2015	GC39B	114657

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 03:30
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 03:30
Surrogates	REC (%)	Limits		
C9	98	70-130		12/25/2015 03:30

Analyst(s): TK

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-8'	1512A05-014A	Soil	12/23/2015	GC39B	114598

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	12/25/2015 14:22
TPH-Motor Oil (C18-C36)	ND	5.0	1	12/25/2015 14:22

Surrogates	REC (%)	Limits	Date Analyzed
C9	98	70-130	12/25/2015 14:22

Analyst(s): TK



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1-W	1512A05-003A	Water	12/23/2015	GC39A	114647
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	110		100	1	12/25/2015 01:33
TPH-Motor Oil (C18-C36)	550		500	1	12/25/2015 01:33
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	95		70-130		12/25/2015 01:33
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e7,e2			

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2-W	1512A05-006A	Water	12/23/2015	GC39A	114647
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	150		100	1	12/25/2015 02:51
TPH-Motor Oil (C18-C36)	920		500	1	12/25/2015 02:51
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	93		70-130		12/25/2015 02:51
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e7,e2			

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3-W	1512A05-009A	Water	12/23/2015	GC39B	114647
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	100		50	1	12/24/2015 23:36
TPH-Motor Oil (C18-C36)	270		250	1	12/24/2015 23:36
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	93		70-130		12/24/2015 23:36
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e7,e2			

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 12/23/15 19:35
Date Prepared: 12/23/15
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-W	1512A05-012A	Water	12/23/2015	GC39B	114647

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	63	50	1	12/25/2015 00:54
TPH-Motor Oil (C18-C36)	ND	250	1	12/25/2015 00:54

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	70-130	12/25/2015 00:54

Analyst(s): TK

Analytical Comments: e2



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/24/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114656
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114656
 1512999-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0489	0.0050	0.050	-	98	53-116
Benzene	ND	0.0512	0.0050	0.050	-	102	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.196	0.050	0.20	-	98	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0500	0.0050	0.050	-	100	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0483	0.0040	0.050	-	97	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0452	0.0040	0.050	-	90	58-135
1,1-Dichloroethene	ND	0.0457	0.0050	0.050	-	91	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/24/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114656
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114656
 1512999-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0521	0.0050	0.050	-	104	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0497	0.0050	0.050	-	99	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0481	0.0050	0.050	-	96	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0484	0.0050	0.050	-	97	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0510	0.0050	0.050	-	102	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/24/15
Instrument: GC18
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114656
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-114656
 1512999-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.106	0.104		0.12	84	84	70-130
Toluene-d8	0.120	0.119		0.12	96	95	70-130
4-BFB	0.0100	0.0101		0.012	80	81	70-130
Benzene-d6	0.0996	0.0988		0.10	100	99	60-140
Ethylbenzene-d10	0.0994	0.0969		0.10	99	97	60-140
1,2-DCB-d4	0.0945	0.101		0.10	95	101	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0399	0.0405	0.050	ND	80	81	70-130	1.43	20
Benzene	0.0405	0.0404	0.050	ND	81	81	70-130	0	20
t-Butyl alcohol (TBA)	0.159	0.160	0.20	ND	79	80	70-130	0.555	20
Chlorobenzene	0.0402	0.0398	0.050	ND	80	80	70-130	0	20
1,2-Dibromoethane (EDB)	0.0390	0.0393	0.050	ND	78	79	70-130	0.745	20
1,2-Dichloroethane (1,2-DCA)	0.0364	0.0364	0.050	ND	73	73	70-130	0	20
1,1-Dichloroethene	0.0358	0.0359	0.050	ND	72	72	70-130	0	20
Diisopropyl ether (DIPE)	0.0415	0.0417	0.050	ND	83	83	70-130	0	20
Ethyl tert-butyl ether (ETBE)	0.0399	0.0402	0.050	ND	80	80	70-130	0	20
Methyl-t-butyl ether (MTBE)	0.0389	0.0392	0.050	ND	78	78	70-130	0	20
Toluene	0.0391	0.0386	0.050	ND	78	77	70-130	1.21	20
Trichloroethene	0.0405	0.0402	0.050	ND	81	80	70-130	0.818	20

Surrogate Recovery									
Dibromofluoromethane	0.105	0.107	0.12		84	86	70-130	1.99	20
Toluene-d8	0.117	0.117	0.12		94	94	70-130	0	20
4-BFB	0.0103	0.0105	0.012		83	84	70-130	1.28	20
Benzene-d6	0.0903	0.0887	0.10		90	89	60-140	1.78	20
Ethylbenzene-d10	0.0880	0.0859	0.10		88	86	60-140	2.46	20
1,2-DCB-d4	0.0954	0.0949	0.10		95	95	60-140	0	20



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	8.15	0.50	10	-	81	54-140
Benzene	ND	8.15	0.50	10	-	82	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	28.6	2.0	40	-	72	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	8.60	0.50	10	-	86	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	8.04	0.50	10	-	80	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	7.88	0.50	10	-	79	66-125
1,1-Dichloroethene	ND	8.06	0.50	10	-	81	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	8.60	0.50	10	-	86	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	8.47	0.50	10	-	85	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	7.80	0.50	10	-	78	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	8.25	0.50	10	-	83	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	8.47	0.50	10	-	85	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC10
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114625
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-114625
 1512848-004CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	19.5	21.0		25	78	84	70-130
Toluene-d8	21.6	21.9		25	87	88	70-130
4-BFB	2.55	1.78		2.5	102	71	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	8.85	9.34	10	ND	89	93	69-139	5.41	20
Benzene	8.50	8.80	10	ND	85	88	69-141	3.47	20
t-Butyl alcohol (TBA)	33.4	35.4	40	ND	84	89	41-152	5.83	20
Chlorobenzene	8.92	9.20	10	ND	89	92	77-120	3.08	20
1,2-Dibromoethane (EDB)	8.70	9.31	10	ND	87	93	76-135	6.86	20
1,2-Dichloroethane (1,2-DCA)	8.60	8.88	10	ND	86	89	73-139	3.21	20
1,1-Dichloroethene	8.41	8.85	10	ND	84	88	59-140	5.04	20
Diisopropyl ether (DIPE)	9.18	9.22	10	ND	92	92	72-140	0	20
Ethyl tert-butyl ether (ETBE)	9.09	9.36	10	ND	91	94	71-140	2.99	20
Methyl-t-butyl ether (MTBE)	8.59	9.14	10	ND	86	91	73-139	6.22	20
Toluene	8.54	8.82	10	ND	85	88	71-128	3.29	20
Trichloroethene	8.72	9.02	10	ND	87	90	64-132	3.50	20

Surrogate Recovery									
Dibromofluoromethane	21.3	21.6	25		85	86	70-130	1.42	20
Toluene-d8	21.9	22.1	25		87	88	70-130	0.978	20
4-BFB	1.86	1.92	2.5		74	77	70-130	3.23	20



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC3
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114623
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-114623
 1512975-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.645	0.40	0.60	-	107	70-130
MTBE	ND	0.0985	0.050	0.10	-	98	70-130
Benzene	ND	0.117	0.0050	0.10	-	117	70-130
Toluene	ND	0.121	0.0050	0.10	-	121	70-130
Ethylbenzene	ND	0.120	0.0050	0.10	-	120	70-130
Xylenes	ND	0.359	0.015	0.30	-	120	70-130

Surrogate Recovery

2-Fluorotoluene	0.106	0.113		0.10	106	113	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.555	0.573	0.60	ND	92	95	70-130	3.21	20
MTBE	0.0708	0.0732	0.10	ND	71	73	70-130	3.38	20
Benzene	0.0934	0.0928	0.10	ND	91	91	70-130	0	20
Toluene	0.0966	0.0961	0.10	ND	97	96	70-130	0.467	20
Ethylbenzene	0.101	0.101	0.10	ND	101	101	70-130	0	20
Xylenes	0.326	0.323	0.30	ND	109	108	70-130	0.827	20

Surrogate Recovery

2-Fluorotoluene	0.111	0.110	0.10		111	109	70-130	1.48	20
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Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/24/15
Instrument: GC19
Matrix: Soil
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114659
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-114659
 1512A05-010AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.635	0.40	0.60	-	106	70-130
MTBE	ND	0.0781	0.050	0.10	-	78	70-130
Benzene	ND	0.106	0.0050	0.10	-	106	70-130
Toluene	ND	0.108	0.0050	0.10	-	108	70-130
Ethylbenzene	ND	0.114	0.0050	0.10	-	114	70-130
Xylenes	ND	0.362	0.015	0.30	-	120	70-130

Surrogate Recovery

2-Fluorotoluene	0.108	0.128		0.10	108	128	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.500	0.493	0.60	ND	83	82	70-130	1.54	20
MTBE	0.0822	0.0826	0.10	ND	82	83	70-130	0.460	20
Benzene	0.0929	0.0880	0.10	ND	93	88	70-130	5.39	20
Toluene	0.0927	0.0877	0.10	ND	93	88	70-130	5.53	20
Ethylbenzene	0.0959	0.0917	0.10	ND	96	92	70-130	4.48	20
Xylenes	0.300	0.288	0.30	ND	100	96	70-130	3.99	20

Surrogate Recovery

2-Fluorotoluene	0.113	0.106	0.10		113	106	70-130	6.09	20
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Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15
Instrument: GC3
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114620
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-114620
 1512934-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	60.8	40	60	-	101	70-130
MTBE	ND	10.3	5.0	10	-	103	70-130
Benzene	ND	10.6	0.50	10	-	106	70-130
Toluene	ND	10.7	0.50	10	-	107	70-130
Ethylbenzene	ND	10.9	0.50	10	-	109	70-130
Xylenes	ND	32.6	1.5	30	-	109	70-130
Surrogate Recovery							
aaa-TFT	8.97	9.14		10	90	91	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		6200	NR	NR	-	NR	
MTBE	NR	NR		ND<100	NR	NR	-	NR	
Benzene	NR	NR		18	NR	NR	-	NR	
Toluene	NR	NR		780	NR	NR	-	NR	
Ethylbenzene	NR	NR		410	NR	NR	-	NR	
Xylenes	NR	NR		2400	NR	NR	-	NR	
Surrogate Recovery									
aaa-TFT	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1512A05
Date Prepared: 12/22/15	BatchID: 114598
Date Analyzed: 12/23/15	Extraction Method: SW3550B
Instrument: GC9b	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 1244 2nd Ave, Oakland, CA	Sample ID: MB/LCS-114598 1512938-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	36.2	1.0	40	-	90	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.3	24.2		25	93	97	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	43.7	42.6	40	ND	109	107	70-130	2.40	30
Surrogate Recovery									
C9	25.6	25.6	25		102	102	70-130	0	30



Quality Control Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1512A05
Date Prepared: 12/23/15	BatchID: 114657
Date Analyzed: 12/24/15	Extraction Method: SW3550B
Instrument: GC39A, GC39B	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 1244 2nd Ave, Oakland, CA	Sample ID: MB/LCS-114657 1512A04-003AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	40.7	1.0	40	-	102	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.8	24.4		25	95	98	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.7	40.6	40	ND	97	99	70-130	2.34	30
Surrogate Recovery									
C9	24.5	24.6	25		98	98	70-130	0	30



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 12/23/15
Date Analyzed: 12/23/15 - 12/24/15
Instrument: GC6A
Matrix: Water
Project: 1244 2nd Ave, Oakland, CA

WorkOrder: 1512A05
BatchID: 114647
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-114647

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1130	50	1000	-	113	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	645	677		625	103	108	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1512A05

ClientCode: PEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: BRiddell@pangeaenv.com
cc/3rd Party:
PO:
ProjectNo: 1244 2nd Ave, Oakland, CA

Bill to:

Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 1 day;

Date Received: 12/23/2015
Date Logged: 12/23/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1512A05-001	B-1-4'	Soil	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-003	B-1-W	Water	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-004	B-2-4'	Soil	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-006	B-2-W	Water	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-007	B-3-3.5'	Soil	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-009	B-3-W	Water	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-010	B-5-3.5	Soil	12/23/2015	<input type="checkbox"/>	A		A		A								
1512A05-011	B-5-7'	Soil	12/23/2015	<input type="checkbox"/>	A		A		A								
1512A05-012	B-5-W	Water	12/23/2015	<input type="checkbox"/>		A		A		A							
1512A05-013	B-6-3.5'	Soil	12/23/2015	<input type="checkbox"/>			A		A								
1512A05-014	B-6-8'	Soil	12/23/2015	<input type="checkbox"/>	A		A		A								

Test Legend:

1	8260B_S	2	8260B_W	3	G-MBTEX_S	4	G-MBTEX_W
5	TPH(DMO)_S	6	TPH(DMO)_W	7		8	
9		10		11		12	

The following SampIDs: 001A, 003A, 004A, 006A, 007A, 009A, 010A, 011A, 012A, 013A, 014A contain testgroup.

Prepared by: Briana Cutino

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: PANGEA ENVIRONMENTAL SVCS., INC.

QC Level: LEVEL 2

Work Order: 1512A05

Project: 1244 2nd Ave, Oakland, CA

Client Contact: Bob Clark-Riddell

Date Logged: 12/23/2015

Comments:

Contact's Email: BRiddell@pangeaenv.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512A05-001A	B-1-4'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A05-002A	B-1-8'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input checked="" type="checkbox"/>	
1512A05-003A	B-1-W	Water	TPH (Fuel Fingerprint)	8	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
1512A05-004A	B-2-4'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A05-005A	B-2-6.5'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input checked="" type="checkbox"/>	
1512A05-006A	B-2-W	Water	TPH (Fuel Fingerprint)	8	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
1512A05-007A	B-3-3.5'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A05-008A	B-3-7'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input checked="" type="checkbox"/>	
1512A05-009A	B-3-W	Water	TPH (Fuel Fingerprint)	8	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
1512A05-010A	B-5-3.5	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		1 day		<input type="checkbox"/>	
1512A05-011A	B-5-7'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		1 day		<input type="checkbox"/>	
1512A05-012A	B-5-W	Water	TPH (Fuel Fingerprint)	8	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	12/23/2015	1 day	Present	<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		1 day	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: PANGEA ENVIRONMENTAL SVCS., INC.

QC Level: LEVEL 2

Work Order: 1512A05

Project: 1244 2nd Ave, Oakland, CA

Client Contact: Bob Clark-Riddell

Date Logged: 12/23/2015

Comments:

Contact's Email: BRiddell@pangeaenv.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1512A05-013A	B-6-3.5'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
1512A05-014A	B-6-8'	Soil	TPH (Fuel Fingerprint)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	12/23/2015	1 day		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		1 day		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1512AD5

RUSH

McCAMPBELL ANALYTICAL, INC

1534 Willow Pass Road
Pittsburg, CA 94565

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Bob Clark-Riddell Bill To: Pangea
Company: Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: briddell@pangeaenv.com
Tele: (510) 836-3700 Fax:
Project #: Project Name:
Project Location: 1244 2nd Ave, Oakland, CA
Sampler Signature:

Analysis Request										Other	Comments							
BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) w/ Silica Gel Cleanup	Total Petroleum Oil & Grease (6520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Five fuel oxygenates by EPA Method 8260	TPH scan	Filter Samples for Metals analysis: Yes / No
B-1-4'		12/23/15	1		X		X										X	
B-1-8'			1		X		X										X	Hold
B-1-W			8	X			X	X									X	
B-2-4'			1		X		X										X	
B-2-6.5'			1		X		X										X	Hold
B-2-W			8	X			X	X									X	
B-3-3.5'			1		X		X										X	
B-3-7'			1		X		X										X	Hold
B-3-W			8	X			X	X									X	
B-5-3.5			1		X		X				X	X					X	
B-5-7'			1		X		X				X	X					X	
B-5-W			8	X			X	X			X	X					X	
B-6-3.5'			1		X		X				X	X					X	
B-6-8'		12/23/15	1		X		X				X	X					X	Hold

Relinquished By: *[Signature]* Date: 12/23/15 Time: 1845 Received By: *[Signature]*
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

ICE/° _____ COMMENTS:
GOOD CONDITION _____
HEAD SPACE ABSENT _____
DECHLORINATED IN LAB _____
APPROPRIATE CONTAINERS _____
PRESERVED IN LAB _____
VOAS O&G METALS OTHER
PRESERVATION pH<2



Sample Receipt Checklist

Client Name:	Pangea Environmental Svcs., Inc.	Date and Time Received:	12/23/2015 18:45
Project Name:	1244 2nd Ave, Oakland, CA	Date Logged:	12/23/2015
WorkOrder №:	1512A05	Matrix:	<u>Soil/Water</u>
Carrier:	<u>Client Drop-In</u>	Received by:	Briana Cutino
		Logged by:	Briana Cutino

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample/Temp Blank temperature		Temp: 2°C	NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

* NOTE: If the "No" box is checked, see comments below.

Comments: Samples 7, 11, and 14 are labeled incorrectly.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mcccampbell.com / E-mail: main@mcccampbell.com

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: 1244 2nd Ave, Oakland, CA	Date Sampled: 12/23/15
	Client Contact: Bob Clark-Riddell	Date Received: 12/23/15
	Client P.O.:	Date Extracted: 12/23/15
		Date Analyzed: 12/24/15

Fuel FingerPrint *

Extraction method: SW3510C

Analytical methods: SW8015B

Work Order: 1512A04

Lab ID	Client ID	Matrix	Fuel Fingerprint
1512A04-004B	Tank Pit-W	W	This sample contains a significant aged diesel pattern between C10 and C23. Chromatogram enclosed.

File : D:\HPCHEM\GC6\DATAA\12221582.D
Operator : Toshiko
Acquired : 24 Dec 2015 3:20 pm using AcqMethod GC6AH1.M
Instrument : GC-6
Sample Name: 1512A04-004B W +FF,BO 1DAY RE
Misc Info : TPH
Vial Number: 41

