RECEIVED
By Alameda County Environmental Health at 4:09 pm, Aug 21, 2013

Navdeep Singh Grewal
349 Brianne Court
Pleasanton, CA 94566

August 20, 2013

Mr. Mark Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: CHEVRON #9-1851
451 Hegenberger Road
Oakland, California
ACEH Case No. 464

Dear Mr. Detterman:

I, Mr. Navdeep Singh Grewal, have retained Pangea Environmental Services, Inc. (Pangea) for environmental consulting services for the project referenced above. On my behalf, Pangea is submitting the attached *UST Removal Compliance Sampling Report.*

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

Sincerely,

Navdeep Singh Grewal

October 26, 2012

Mr. Keith L. Matthews
City of Oakland Fire Department
Fire Prevention Bureau
250 Frank H. Ogawa Plaza, Suite 3341
Oakland, CA 94612

Re: **UST Removal Compliance Sampling Report**
451 Hegenberger Road, Oakland, California

Dear Mr. Matthews:

On behalf of property owner Mr. Navdeep Singh Grewal, Pangea Environmental Services, Inc., (Pangea) has prepared this *Underground Storage Tank (UST) Removal Compliance Sampling Report* for the subject site. This report describes compliance sampling performed after diesel UST removal with regulatory oversight by the City of Oakland Fire Department (OFD). The compliance sampling was conducted in general accordance with the California Regional Water Quality Control Board's *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites* (Tri-Regional Guidelines) dated September 2003. Described below are the project background, compliance sampling, and analytical results.

PROJECT BACKGROUND

The site is an active gasoline station located at the intersection of Hegenberger Road and Edgewater Road in Oakland, California. The operating station consists of one station building, two fuel dispenser islands, three 10,000-gallon underground storage tanks (USTs) and, prior to removal, one 10,000-gallon diesel UST.

UST REMOVAL

On September 18, 2012, Balch Petroleum Contractors and Builders Inc., (Balch) of Milpitas, California removed a 10,000-gallon diesel UST from the site. The UST removal was observed by Hazardous Materials Inspector Keith Matthews of OFD. UST removal/closure permit information is included in Appendix A. The generator's California EPA ID number is CAL000280379. Limited groundwater was encountered in the UST cavity beneath the bottom of the tank. The final excavation was approximately 15 feet deep at the bottom of the tanks. Photographs of the tank removal are presented in Appendix A. No holes were observed in the UST, which appeared

to be in very good condition. The tank was loaded by Balch and hauled to an appropriate licensed disposal facility. The waste manifest is included in Appendix A.

COMPLIANCE SAMPLING

On September 18, 2012, Pangea collected UST compliance samples and a four-point composite of stockpiled soil/fill removed from the UST area. Mr. Matthews of the OFD observed the compliance sampling. One compliance soil sample was collected from each end of the UST at the soil water interface (approximately 6 ft depth) and one groundwater sample was collected from under the UST for a total of three compliance samples (Figure 1).

To facilitate UST sample collection, a backhoe was used to collect soil from both ends of the UST. Soil from approximately 6 feet below grade surface (bgs) was lifted to the side of the pit in the backhoe bucket, where a sample was collected. A groundwater sample was collected from the bottom of the pit.

Four soil samples were also collected from the stockpiled soil/pea gravel, and composited by the laboratory prior to analysis. No odor or staining was observed during sampling of the stockpiled soil/pea gravel. All soil samples were collected in stainless steel tubes hammered into the soil and capped with Teflon and plastic end caps. The samples were placed into a cooler filled with ice, and delivered under chain-of-custody procedures to McCampbell Analytical, Inc. of Pittsburg, California, a State-certified laboratory. The compliance soil and stockpile sample locations are shown on Figure 1.

Based on discussions with the OFD and review of the *Tri-Regional Guidelines*, the stockpile and compliance soil samples were analyzed for TPHd by EPA Method 8015Cm with silica cleanup gel; benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tert-butyl ether (MTBE), tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC or 1,2-DCA) by EPA Method 8260B. Soil sampling was performed in accordance with Pangea's *Standard UST Excavation Sampling Procedures* presented in Appendix B.

ANALYTICAL RESULTS

Soil and groundwater analytical results from the UST removal compliance and stockpile sampling are summarized in Tables 1 and 2, respectively. TPHd was detected at very low concentrations in both compliance soil samples and the stockpile sample. TB1-6 from the west sidewall of the UST cavity contained TPHd at concentration of 3.6 mg/kg and TB2-6 from the east sidewall contained TPHd at a concentration of 5.5 mg/kg. The stockpile composite sample contained a TPHd concentration of 4.9 mg/kg. BTEX and MTBE were not detected in any of the stockpile or

compliance samples. The only volatile organic compound detected in any of the compliance samples was TBA at a concentration of 0.25 mg/kg (TB2-6).

Groundwater from the UST excavation contained TPHd [960 micrograms per liter (µg/L)], MTBE (15 µg/L) and TBA (1,800 µg/L). The laboratory analytical reports are included in Appendix C. The MTBE and TBA impact is apparently due to other petroleum hydrocarbon releases at the site. Groundwater analytical data from well MW-3, located immediately downgradient of the diesel UST (before well destruction), did not contain TPHd. Well MW-3 data indicates that the TPHd concentration from the grab compliance sample is very limited in extent.

CONCLUSIONS

Soil and groundwater analytical results indicate that no significant petroleum hydrocarbon contamination is present beneath the removed UST. This result is not surprising since no holes were observed in the removed tank and the tank appeared to be in good condition. Pangea understands that a regulatory case is currently open due to a historic release (Chevron is the responsible party). Pangea recommends no further action regarding the removed diesel UST.

If you have any questions or comments, I can be reached via phone at (510) 435-8664 or email at briddell@pangeaenv.com.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

ATTACHMENTS

Figure 1 – Compliance Sampling Locations

Table 1 – Soil Analytical Data
Table 2 - Groundwater Analytical Data

Appendix A – Tank Removal Documents
Appendix B – Standard Sampling Procedures
Appendix C – Laboratory Analytical Reports

cc: Navdeep Singh Grewal, 349 Brianne Ct., Pleasanton, CA 94566

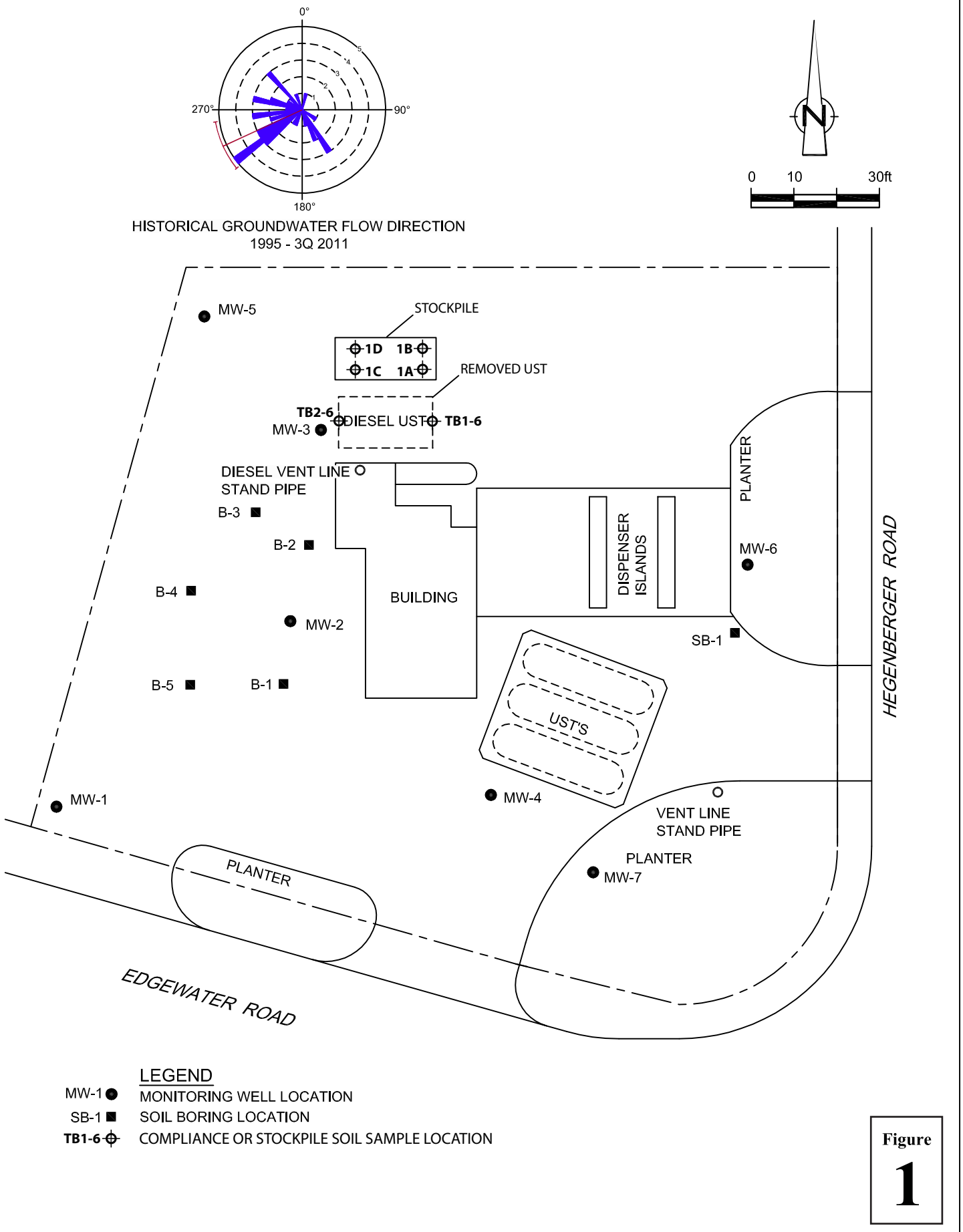

Figure 1

Chevron Service Station
451 Hegenberger Road
Oakland, California

PANGEA

Compliance Sampling Locations

Pangea

Table 1. Soil Analytical Data - 451 Hegenberger Road, Oakland, California

Sample ID	Date Sampled	Sample Depth (ft)	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Other VOCs
			← mg/kg →						
UST Compliance Samples									
TB1-6	9/18/2012	6.0	3.6	<0.005	<0.005	<0.005	<0.005	<0.05	ND
TB2-6	9/18/2012	6.0	5.5	<0.005	<0.005	<0.005	<0.005	<0.05	TBA (0.25)
Stockpile Samples									
1A,B,C,D	9/18/2012	--	4.9	<0.005	<0.005	<0.005	<0.005	<0.05	ND

Notes, Abbreviations and Methods:

mg/kg = Milligrams per kilogram, approximately equivalent to parts per million (ppm).

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

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8021B.

MTBE = Methyl tertiary-butyl ether by EPA Method 8021B.

Other VOCs = Other volatile organic compounds (VOCs) detected by EPA method 8206B.

TBA = tertiary butyl alcohol by EPA Method 8260B.

-- = Not available or not analyzed.

< n = Chemical not present at a concentration in excess of detection limit shown.

ND = Not detected above reporting limit/method detection limit.

Pangea

Table 2. Groundwater Analytical Data - 451 Hegenberger Road, Oakland, California

Sample ID	Sample Depth (ft)	Date Sampled	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	TAME	DIPE	ETBE	Other VOCs
			←					ug/L	→				
TB	14	9/18/2012	960	<10	<10	<10	<10	15	1,800	<10	<10	<10	ND

Abbreviations and Notes:

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015C.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8021B.
MTBE = Methyl tert-butyl ether by EPA Method 8260B.
TBA = tertiary butyl alcohol by EPA Method 8260B.
DIPE = diisopropyl ether by EPA Method 8260B.
ETBE = ethyl tert-butyl ether by EPA Method 8260B.
TAME = tert-amyl methyl ether by EPA Method 8260B.
Other VOCs = Other volatile organic compounds (VOCs) detected by EPA method 8206B.
ug/L = Micrograms per Liter
<n = Below detection limit of n ug/L
-- = Not analyzed
bgs = below grade surface
ND = Not detected above reporting limit/method detection limit.

APPENDIX A

Tank Removal Documents

Oakland Fire Department, Fire Prevention Bureau
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032

(510) 238-3851
TTY (510) 238-6884

Fire Prevention Work Order

Business Name:	Edgewater SuperStop	Reason:	Acceptance Test
Address:	451 Hegenberger RD	Request Date:	2012-05-03 10:45AM
Job (Insp Ref#):	2012-05503	Assigned To:	Matthews,Keith
Permit Type:	Underground Storage Permit	Permit #:	2012-05503
Description:	UST Upgrade+ UST Removal		
Applicant:	Balch Petroleum Contractors	Applicant Phone:	408/942-8686
Contractor:		Contractor Phone:	

Comments:

Oakland Fire Department, Fire Prevention Bureau
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032

(510) 238-3851
TTY (510) 238-6884

Fire Prevention Work Order

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Permit Type:	Underground Storage Permit	Permit #:	2012-05503
Description:	UST Upgrade		
Applicant:	Balch Petroleum Contractors	Applicant Phone:	408/942-8686
Contractor:		Contractor Phone:	

Comments: John5@BalchPetroleum.com

REVIEWED AND APPROVED
OAKLAND FIRE DEPARTMENT
BY: [signature]
TITLE: Assistant Insp. II
DATE: 6-1-2012
ALL INSPECTIONS REQUIRE
48 HOURS NOTICE

OAKLAND FIRE DEPARTMENT, OES
UNDERGROUND STORAGE TANK CLOSURE/REMOVAL FIELD INSPECTION REPORT

Site Address:	Name of Facility:
Inspector:	Contact on site:
Date and Time of Arrival:	Contractor/Consultant:

General Requirements	Yes	No	N/A
Approved closure plan on site.			
Changes to approved plan noted.			
Residuals properly stored/transported.			
Receipt for adequate dry ice noted.			

General Requirements	Yes	No	N/A
Site Safety Plan properly signed.			
40B:C fire extinguisher on site.			
"No Smoking" signs posted.			
Gas detector challenged by inspector.			

Tank Observations	T #1	T #2	T #3	T #4
Tank Capacity (gallons)				
Material last stored				
Dry ice used (pounds)				
Combustible gas concentration as %LEL. *(Note time & sampling point)*				
(1)				
(2)				
(3)				
Oxygen concentration as % volume. *(Note time &sampling point.)*				
(1)				
(2)				
(3)				
Tank Material				
Wrapping/Coating, if any				
Obvious holes?				

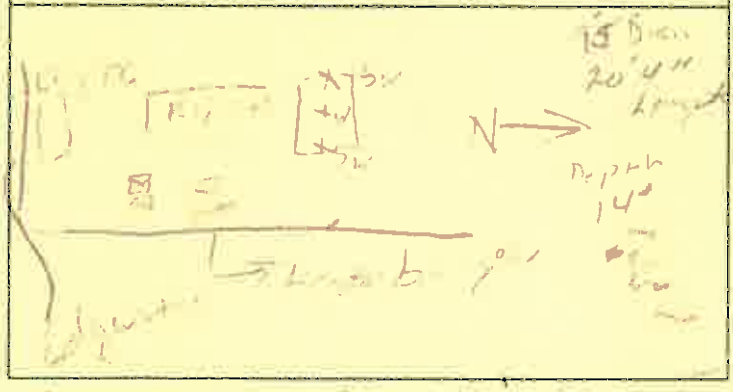
Tank Observations	T #1	T #2	T #3	T #4
Obvious corrosion?				
Obvious odors from tank?				
Seams intact?				
Tank bed backfill material				
Obvious discoloration?				
Obvious odors ex tank bed?				
Water in excavation?				
Sheen/product on water?				
Tank tagged by transporter?				
Tank wrapped for transport?				
Tank plugged w/ vent cap?				
Date/time tank hauled off?				
No. of soil samples taken?				
Depth of soil samples (ft. bgs)				

Piping Removal	Yes	No	N/A
All piping removed hauled off w/ tanks?			
Obvious holes on pipes?			
Obvious odors from pipes?			
Obvious soil discoloration in piping trench?			
Obvious odors from piping trench?			
Water in piping trench?			
Number & depth of soil samples from piping trench?			
Number & depth of water samples from piping trench?			

General Observations	Yes	No	N/A
Leak from any tank suspected?			
"Leak Report" form given to the operator?			
Obviously contaminated soil excavated?			
Soil stockpile sampled?			
Stockpile lined AND covered?			
Water in excavation sampled?			
Number/depth of water samples taken?			
All samples properly preserved for transport?			

Additional Observations	Yes	No	N/A
Soil/water sampling protocols acceptable?			
Sampling "chain of custody" noted?			
Tank pit filled in or covered?			
Tank pit fenced or barricaded?			
Transporter a registered HW hauler?			
Uniform HW Manifest completed?			
Contractor/Consultant reminded of complete UST Removal Report due within 30 days?			
Date/Time removal/closure operations completed?			
OT hours or additional charges due from contractor?			

SITE & SAMPLING DIAGRAM



Notes/Comments:

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAL000260379
2. Page 1 of
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 002135992 JJK

GENERATOR

5. Generator's Name and Mailing Address
EDGEWATER SUPER STOP
1475 2ND STREET
SAN RAFAEL, CA 94901
Generator's Phone: 415-258-1620

Generator's Site Address (if different than mailing address)
451 HEGENBERGER RD
OAKLAND, CA 94621

6. Transporter 1 Company Name: EIGHTEEN TRUCKING CO
U.S. EPA ID Number: CAR000184788

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

8. Designated Facility Name and Site Address
ECOLOGY CONTROL INDUSTRIES
255 PARR BOULEVARD
RICHMOND, CA 94801
Facility's Phone: 510-235-1393
U.S. EPA ID Number: CAD009402392

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON-RCRA HAZARDOUS WASTE SOLID (EMPTY STORAGE TANK)	001	TP	15000	P	512
	2.			0		
	3.			0		
	4.			0		

14. Special Handling Instructions and Additional Information
ECI JOB # 62T4400 TANK # 24374
WEAR PROPER PPE WHEN HANDLING // WEIGHTS AND VOLUMES ARE APPROXIMATE

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

Generator's/Offeror's Printed/Typed Name: NAVDEEP PRAWAL
Signature
Month / Day / Year: 10 / 12

INT'L

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

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RALPH DER BROS
Signature
Month / Day / Year

Transporter 2 Printed/Typed Name
Signature
Month / Day / Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

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

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

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

1.	2.	3.	4.

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

Printed/Typed Name
Signature
Month / Day / Year

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

GENERATOR'S INITIAL COPY

Removal of diesel UST

Diesel UST underside

UST cavity

Diesel UST loaded for removal

APPENDIX B

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR UST COMPLIANCE SAMPLING

During removal or replacement of underground gasoline storage tanks (USTs), dispensers, or product piping, soil and groundwater compliance sampling is typically required to assess whether or not chemicals of concern have impacted the subsurface. Pangea has developed standard field procedures for compliance sampling and any associated excavation, to provide sample collection, handling and documentation in compliance with State and local regulatory agency regulations. After initial sample collection beneath the removed fuel system component, additional soil samples are routinely collected to monitor the progress of any overexcavation and to confirm removal of soil containing hydrocarbons above regulatory limits.

Soil Sampling

Soil samples are typically collected from beneath the UST, dispenser or piping a maximum of two feet into the native or undisturbed soil. If water is present in the UST cavity, soil samples are typically collected from the soil/water interface. The soil samples are collected in steam-cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe or excavator. When a backhoe or excavator is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil. The location and number of samples is determined by regulatory agency representatives and are selected in general guidance with the State of California Regional Water Quality Control Board's *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites* dated September 2003.

When required or requested before sample collection, Pangea field staff screen soil with a portable photo-ionization detector (PID) to qualitatively assess the presence or absence of volatile hydrocarbons. Excavated soil is typically segregated based on hydrocarbon concentration and stockpiled on site on plastic sheeting. When field observations and/or PID measurements indicate that the hydrocarbon-bearing soil has been satisfactorily removed, Pangea collects soil samples from excavation sidewalls and floor for confirmatory analysis at a State-certified analytic laboratory.

Stockpile Soil Sampling

To facilitate soil disposal at approved offsite facilities, Pangea typically collects one four-point composite soil samples for 100 cubic yards or less of stockpiled soil. If the soil stockpile volume is between 100 and 1,000 cubic yards, two four-point composite samples are typically collected. If soil is segregated based on field observations, at least one four-point composite soil sample is collected for each segregated stockpile. To generate a composite sample, Pangea collects four individual soil samples in steam-cleaned brass or steel tubes by hand, or from either a driven split-spoon type sampler or the bucket of a backhoe or excavator. The sample locations and depths are selected to obtain composite soil sample representative of the stockpile. The four individual soil tubes are composited by the state-certified laboratory. When hand sampling or backhoe/excavator is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil. Additional stockpile sampling procedures may be required to facilitate reuse of soil onsite in accordance with regulatory oversight.

Grab Ground Water Sampling

If groundwater enters the excavation, grab ground water samples are typically collected from the open excavation. Grab groundwater sample can be collected from excavator equipment, disposable Tygon® tubing placed into the excavation, or other appropriate sampling equipment placed into the water. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory.

Sample Storage, Handling and Transport

Upon removal from the sampler or the backhoe, soil samples are trimmed flush, 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. Groundwater samples are labeled, placed in protective foam sleeves, and stored on crushed ice at or below 4° C. All samples are transported under chain-of-custody to a State-certified analytic laboratory.

Duplicates and Blanks

Duplicate or blind duplicate samples can be collected, if requested. For water sampling, laboratory-supplied trip blanks can accompany samples to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

APPENDIX C

Laboratory Analytical Reports

McCampbell 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

Analytical Report

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
	Client Contact: Tina De La Fuente	Date Reported: 09/24/12
	Client P.O.:	Date Completed: 09/24/12

WorkOrder: 1209438

September 25, 2012

Dear Tina:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#1465.001; Grewel-451 Hegenberger,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

120438

RUSH

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☒ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Tina de la Fuente Bill To: Pangea Environmental

Company: Pangea Environmental Services, Inc.

1710 Franklin Street, Suite 200

Oakland, CA 94612 E-Mail: tdelafuente@pangeaenv.com

Tele: (510) 836-3700 Fax: (510) 836-3709

Project #: 1465.001 Project Name: Grewel - 451 Hegenberger

Project Location: 451 Hegenberger Rd., Oakland, CA

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
TB	TB	9/18/12	1105	4	VOA	X					X	X		
TB1-6	TB1	↓	1135	1	SST		X				↓			
TB2-6	TB2	↓	1156	1	SST		X				↓			

Analysis Request

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015) w/ silica gel cleanup	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 8260 VOCs/BTEX/MTBE + EDB & EDC	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)
	X									X					
	↓									↓					
	↓									↓					

Other: Filter sample for DISSOLVED metals analysis

Comments: **Indicate here if these samples are potentially dangerous to handle:

TB: 5 DAY TAT
TB1-6: 24 HR
TB2-6: 24 HR

**MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

Relinquished By:	Date:	Time:	Received By:
	9/18/12	1645	
	9/18/12	1759	

ICE/t° 46i
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

PRESERVATION	VOAS	O&G	METALS	OTHER
		pH<2		

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1209438 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tina De La Fuente
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(415) 218-7247 FAX: (510) 836-3709

Email: tdelafuente@pangeaenv.com
cc:
PO:
ProjectNo: #1465.001; Grewel-451 Hegenberger

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

Requested TAT: 1 day

Date Received: **09/18/2012**
Date Printed: **09/18/2012**

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
1209438-001	TB	Water	9/18/2012 11:05	☐		A		B								
1209438-002	TB1-6	Soil	9/18/2012 11:35	☐	A		A									
1209438-003	TB2-6	Soil	9/18/2012 11:56	☐	A		A									

Test Legend:

1	8260B_S	2	8260B_W	3	TPH(D)WSG_S	4	TPH(D)WSG_W	5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments: 001-5day

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.

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Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.**
Date and Time Received: **9/18/2012 6:22:53 PM**

Project Name: **#1465.001; Grewel-451 Hegenberger**
LogIn Reviewed by: Melissa Valles

WorkOrder N°: **1209438** Matrix: Soil/Water
Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 4.6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/19/12

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1209438

Lab ID	1209438-002A
Client ID	TB1-6
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	102	%SS2:	107
%SS3:	112		

Comments:

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/19/12

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1209438

Lab ID	1209438-003A
Client ID	TB2-6
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	0.25	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	102	%SS2:	108
%SS3:	116		

Comments:

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/23/12
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/23/12

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1209438

Lab ID	1209438-001A
Client ID	TB
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<200	20	10	tert-Amyl methyl ether (TAME)	ND<10	20	0.5
Benzene	ND<10	20	0.5	Bromobenzene	ND<10	20	0.5
Bromochloromethane	ND<10	20	0.5	Bromodichloromethane	ND<10	20	0.5
Bromoform	ND<10	20	0.5	Bromomethane	ND<10	20	0.5
2-Butanone (MEK)	ND<40	20	2.0	t-Butyl alcohol (TBA)	1800	20	2.0
n-Butyl benzene	ND<10	20	0.5	sec-Butyl benzene	ND<10	20	0.5
tert-Butyl benzene	ND<10	20	0.5	Carbon Disulfide	ND<10	20	0.5
Carbon Tetrachloride	ND<10	20	0.5	Chlorobenzene	ND<10	20	0.5
Chloroethane	ND<10	20	0.5	Chloroform	ND<10	20	0.5
Chloromethane	ND<10	20	0.5	2-Chlorotoluene	ND<10	20	0.5
4-Chlorotoluene	ND<10	20	0.5	Dibromochloromethane	ND<10	20	0.5
1,2-Dibromo-3-chloropropane	ND<4.0	20	0.2	1,2-Dibromoethane (EDB)	ND<10	20	0.5
Dibromomethane	ND<10	20	0.5	1,2-Dichlorobenzene	ND<10	20	0.5
1,3-Dichlorobenzene	ND<10	20	0.5	1,4-Dichlorobenzene	ND<10	20	0.5
Dichlorodifluoromethane	ND<10	20	0.5	1,1-Dichloroethane	ND<10	20	0.5
1,2-Dichloroethane (1,2-DCA)	ND<10	20	0.5	1,1-Dichloroethene	ND<10	20	0.5
cis-1,2-Dichloroethene	ND<10	20	0.5	trans-1,2-Dichloroethene	ND<10	20	0.5
1,2-Dichloropropane	ND<10	20	0.5	1,3-Dichloropropane	ND<10	20	0.5
2,2-Dichloropropane	ND<10	20	0.5	1,1-Dichloropropene	ND<10	20	0.5
cis-1,3-Dichloropropene	ND<10	20	0.5	trans-1,3-Dichloropropene	ND<10	20	0.5
Diisopropyl ether (DIPE)	ND<10	20	0.5	Ethylbenzene	ND<10	20	0.5
Ethyl tert-butyl ether (ETBE)	ND<10	20	0.5	Freon 113	ND<200	20	10
Hexachlorobutadiene	ND<10	20	0.5	Hexachloroethane	ND<10	20	0.5
2-Hexanone	ND<10	20	0.5	Isopropylbenzene	ND<10	20	0.5
4-Isopropyl toluene	ND<10	20	0.5	Methyl-t-butyl ether (MTBE)	15	20	0.5
Methylene chloride	ND<10	20	0.5	4-Methyl-2-pentanone (MIBK)	ND<10	20	0.5
Naphthalene	ND<10	20	0.5	n-Propyl benzene	ND<10	20	0.5
Styrene	ND<10	20	0.5	1,1,1,2-Tetrachloroethane	ND<10	20	0.5
1,1,2,2-Tetrachloroethane	ND<10	20	0.5	Tetrachloroethene	ND<10	20	0.5
Toluene	ND<10	20	0.5	1,2,3-Trichlorobenzene	ND<10	20	0.5
1,2,4-Trichlorobenzene	ND<10	20	0.5	1,1,1-Trichloroethane	ND<10	20	0.5
1,1,2-Trichloroethane	ND<10	20	0.5	Trichloroethene	ND<10	20	0.5
Trichlorofluoromethane	ND<10	20	0.5	1,2,3-Trichloropropane	ND<10	20	0.5
1,2,4-Trimethylbenzene	ND<10	20	0.5	1,3,5-Trimethylbenzene	ND<10	20	0.5
Vinyl Chloride	ND<10	20	0.5	Xylenes, Total	ND<10	20	0.5

Surrogate Recoveries (%)

%SS1:	102	%SS2:	101
%SS3:	107		

Comments:

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/19/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3550B/3630C Analytical methods: SW8015B Work Order: 1209438

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1209438-002A	TB1-6	S	3.6	1	89	e7,e2
1209438-003A	TB2-6	S	5.5	1	101	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel-451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/19/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1209438

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1209438-001B	TB	W	960	1	92	e3

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e3) aged diesel is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 70779 | WorkOrder: 1209438

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1209390-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	0.050	74.7	77.2	3.31	82	56 - 94	30	50 - 135
Benzene	ND	0.050	86.8	90.7	4.41	96.7	60 - 106	30	70 - 137
t-Butyl alcohol (TBA)	ND	0.20	93.8	92.7	1.23	101	56 - 140	30	50 - 143
Chlorobenzene	ND	0.050	81.7	85	3.95	94.8	61 - 108	30	69 - 133
1,2-Dibromoethane (EDB)	ND	0.050	83.4	87.1	4.32	95.1	54 - 119	30	61 - 135
1,2-Dichloroethane (1,2-DCA)	ND	0.050	81.3	85.8	5.40	90.2	48 - 115	30	64 - 133
1,1-Dichloroethene	ND	0.050	81.8	82.2	0.484	86.6	46 - 111	30	65 - 142
Diisopropyl ether (DIPE)	ND	0.050	81.3	83.2	2.31	87.7	53 - 111	30	65 - 134
Ethyl tert-butyl ether (ETBE)	ND	0.050	80.9	83.8	3.54	89.4	61 - 104	30	61 - 127
Methyl-t-butyl ether (MTBE)	ND	0.050	77.2	81.4	5.18	87.3	58 - 107	30	65 - 130
Toluene	ND	0.050	90.5	93.9	3.66	106	64 - 114	30	70 - 146
Trichloroethene	ND	0.050	92.1	96.3	4.45	103	60 - 116	30	66 - 143
%SS1:	110	0.12	114	116	1.49	119	64 - 117	30	70 - 130
%SS2:	114	0.12	113	114	0.956	118	79 - 133	30	70 - 130
%SS3:	118	0.012	114	120	5.08	128	88 - 121	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70779 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209438-002A	09/18/12 11:35 AM	09/18/12	09/19/12 12:52 AM	1209438-003A	09/18/12 11:56 AM	09/18/12	09/19/12 1:31 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 70985 | WorkOrder: 1209438

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1209410-006B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	101	98	2.77	82.4	70 - 130	20	70 - 130
Benzene	ND	10	98.3	96.4	1.92	89.8	70 - 130	20	70 - 130
t-Butyl alcohol (TBA)	ND	40	90.8	91.3	0.551	70	70 - 130	20	70 - 130
Chlorobenzene	ND	10	94.1	92.3	1.92	87.8	70 - 130	20	70 - 130
1,2-Dibromoethane (EDB)	ND	10	107	104	2.84	90.4	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	92.1	90.1	2.23	77.6	70 - 130	20	70 - 130
1,1-Dichloroethene	ND	10	90.1	90.6	0.494	86.6	70 - 130	20	70 - 130
Diisopropyl ether (DIPE)	ND	10	99.7	98.4	1.27	84.8	70 - 130	20	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	99.7	97.9	1.78	82.7	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	17	10	96.3	87.5	3.41	79.9	70 - 130	20	70 - 130
Toluene	ND	10	91.6	89	2.89	86.6	70 - 130	20	70 - 130
Trichloroethene	ND	10	97.3	95.2	2.21	91.2	70 - 130	20	70 - 130
%SS1:	105	25	106	107	0.901	103	70 - 130	20	70 - 130
%SS2:	100	25	99	98	1.19	101	70 - 130	20	70 - 130
%SS3:	106	2.5	109	107	1.73	111	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70985 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209438-001A	09/18/12 11:05 AM	09/23/12	09/23/12 12:25 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 70809 | WorkOrder: 1209438

EPA Method: SW8015B | **Extraction: SW3550B/3630C** | **Spiked Sample ID: 1209395-005A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	120	40	106	118	3.14	125	70 - 130	30	70 - 130
%SS:	104	25	104	107	3.29	107	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70809 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209438-002A	09/18/12 11:35 AM	09/18/12	09/19/12 2:46 AM	1209438-003A	09/18/12 11:56 AM	09/18/12	09/19/12 1:38 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 70854 | WorkOrder: 1209438

EPA Method: SW8015B **Extraction: SW3510C/3630C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	127	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	72	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70854 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209438-001B	09/18/12 11:05 AM	09/18/12	09/19/12 5:10 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

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Analytical Report

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1465.001; Grewel - 451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
	Client Contact: Tina De La Fuente	Date Reported: 09/20/12
	Client P.O.:	Date Completed: 09/20/12

WorkOrder: 1209445

September 20, 2012

Dear Tina:

Enclosed within are:

1) The results of the **1** analyzed sample from your project: **#1465.001; Grewel - 451 Hegenberger,**
2) QC data for the above sample, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
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Telephone: (877) 252-9262 Fax: (925) 252-9269

1209445

RUSH

CHAIN OF CUSTODY RECORD

per T.F

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☒ 72 HR ☒ 5 DAY

GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Tina de la Fuente Bill To: Pangea Environmental

Company: Pangea Environmental Services, Inc.

1710 Franklin Street, Suite 200

Oakland, CA 94612 E-Mail: tdelafuente@pangeaenv.com

Tele: (510) 836-3700 Fax: (510) 836-3709

Project #: 1465.001 Project Name: Grewel - 451 Hegenberger

Project Location: 451 Hegenberger Rd., Oakland, CA

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
1A		9/18/12	1118	1	SST		X				X			
1B			1118	1	SST		X				X			
1C			1121	1	SST		X				X			
1D			1123	1	SST		X				X			

Analysis Request

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015) w/silica gel cleanup	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 8260 VOCs/BTEX/MTBE + EDB & EDC	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)
	X									X					
	X									X					
	X									X					
	X									X					

Other: Filter sample for DISSOLVED metals analysis

Comments: **Indicate here if these samples are potentially dangerous to handle:

4 TO 1 COMPOSITE

**MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

Relinquished By:	Date:	Time:	Received By:
	9/18/12	1645	
Relinquished By:	Date:	Time:	Received By:
	9/18/12	1759	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 2.0
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

VOAS O&G METALS OTHER
PRESERVATION pH<2

COMMENTS:

1A, B, C, D => 4 to 1 Composite

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1209445 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tina De La Fuente
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: tdelafuente@pangeaenv.com
cc:
PO:
ProjectNo: #1465.001; Grewel - 451 Hegenberger

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

Requested TAT: 3 days

Date Received: **09/18/2012**
Date Printed: **09/19/2012**

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
1209445-001	1A, B, C, D	Soil	9/18/2012 11:18	☐	A	A										

Test Legend:

1	8260B_S	2	TPH(D)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Zoraida Cortez

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.

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Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.**
Date and Time Received: **9/18/2012 8:09:23 PM**

Project Name: **#1465.001; Grewel - 451 Hegenberger**
LogIn Reviewed by: Zoraida Cortez

WorkOrder N°: **1209445** Matrix: Soil
Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel - 451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/20/12

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1209445

Lab ID	1209445-001A
Client ID	1A, B, C, D
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND<0.010	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	114	%SS2:	122
%SS3:	119		

Comments:

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Pangea Environmental Svcs., Inc.	Client Project ID: #1465.001; Grewel - 451 Hegenberger	Date Sampled: 09/18/12
		Date Received: 09/18/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/19/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3550B/3630C Analytical methods: SW8015B Work Order: 1209445

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1209445-001A	1A, B, C, D	S	4.9	1	109	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 70779 | WorkOrder: 1209445

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1209390-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	0.050	74.7	77.2	3.31	82	56 - 94	30	50 - 135
Benzene	ND	0.050	86.8	90.7	4.41	96.7	60 - 106	30	70 - 137
t-Butyl alcohol (TBA)	ND	0.20	93.8	92.7	1.23	101	56 - 140	30	50 - 143
Chlorobenzene	ND	0.050	81.7	85	3.95	94.8	61 - 108	30	69 - 133
1,2-Dibromoethane (EDB)	ND	0.050	83.4	87.1	4.32	95.1	54 - 119	30	61 - 135
1,2-Dichloroethane (1,2-DCA)	ND	0.050	81.3	85.8	5.40	90.2	48 - 115	30	64 - 133
1,1-Dichloroethene	ND	0.050	81.8	82.2	0.484	86.6	46 - 111	30	65 - 142
Diisopropyl ether (DIPE)	ND	0.050	81.3	83.2	2.31	87.7	53 - 111	30	65 - 134
Ethyl tert-butyl ether (ETBE)	ND	0.050	80.9	83.8	3.54	89.4	61 - 104	30	61 - 127
Methyl-t-butyl ether (MTBE)	ND	0.050	77.2	81.4	5.18	87.3	58 - 107	30	65 - 130
Toluene	ND	0.050	90.5	93.9	3.66	106	64 - 114	30	70 - 146
Trichloroethene	ND	0.050	92.1	96.3	4.45	103	60 - 116	30	66 - 143
%SS1:	110	0.12	114	116	1.49	119	64 - 117	30	70 - 130
%SS2:	114	0.12	113	114	0.956	118	79 - 133	30	70 - 130
%SS3:	118	0.012	114	120	5.08	128	88 - 121	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70779 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209445-001A	09/18/12 11:18 AM	09/18/12	09/20/12 11:58 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 70817 | WorkOrder: 1209445

EPA Method: SW8015B | **Extraction: SW3550B/3630C** | **Spiked Sample ID: 1209399-004A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	ND	40	114	114	0	103	70 - 130	30	70 - 130
%SS:	105	25	102	103	1.14	88	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 70817 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209445-001A	09/18/12 11:18 AM	09/18/12	09/19/12 2:51 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer