Mr. Keith Nowell Alameda County Environmental Health Department of Environmental Health 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor Alameda, CA 94502-6577

# **RECEIVED**

11:29 am, May 22, 2012

Alameda County Environmental Health

Re: Former Exxon Station

5175 Broadway Oakland, California ACEH File No. 139 SFRWQCB Site No. 01-0958 UST Fund Claim No. 3406

Dear Mr. Nowell:

I, Mr. Ernie Nadel, have retained Pangea Environmental Services, Inc. (Pangea) as the environmental consultant for the project referenced above. Pangea is submitting the attached report on my behalf.

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

Sincerely,

Ernie Nadel

Rockridge Heights, LLC



March 31, 2011

Deidre Mena EBMUD Environmental Services Division P.O. Box 24055, MS#702 Oakland, CA 94623-1055

Re: Semi-Annual Discharge Compliance Report – June 2010 to January 2011

Groundwater Remediation, 5175 Broadway, Oakland, California

Dear Ms. Mena:

Pangea Environmental Services, Inc. (Pangea) has prepared this *Semi-Annual Discharge Compliance Report – December 2010 to March 2011* for the subject site for the period of December 8, 2010 to March 31, 2011. As specified in the Wastewater Discharge Permit #50649181 issued August 20, 2010, discharge compliance reports are required semi-annually by the East Bay Municipal Utility District (EBMUD). This report presents the semi-annual test results -- no regulated substances (petroleum hydrocarbons) were detected in the system effluent compliance point. Described below are background information, system operation and performance, and system sampling.

## **BACKGROUND INFORMATION**

DPE system installation was required and approved by the Alameda County Environmental Health (ACEH) to cleanup residual petroleum hydrocarbons from a prior unauthorized release. The DPE system consists of an aboveground vacuum pump to simultaneously extract soil vapor and groundwater. The groundwater treatment equipment consists of a 200-gallon vapor/liquid separator (knockout tank), transfer pump, a particulate filter vessel, two 200-lb activated carbon vessels connected in series, and a water totalizer meter. Once the transfer tank becomes full, the transfer pump is activated by level control switches in the transfer tank and pumps the groundwater through the water treatment system prior to discharge to the sanitary sewer under permit from the EBMUD.

# SYSTEM OPERATION AND PERFORMANCE

The DPE system commenced continuous operation on Wednesday, December 8, 2010. As of the end of this reporting period (March 31, 2011), the DPE system extracted and treated approximately 60,322 gallons of groundwater. The average groundwater flow rate has ranged from approximately 0.09 to 1.17 gpm, which includes system shutdown periods. GWE system performance is summarized in Table 1.

Semi-Annual Discharge Compliance Report 5175 Broadway Oakland, CA March 31, 2011

# **SYSTEM SAMPLING**

During this reporting period, samples were collected from the influent and effluent of the groundwater treatment portion of the DPE system on December 13, 2010 and February 22, 2011. Influent samples were also collected again on February 2, 2011. The system operated for approximately 87 days of the reporting period. System flow data and groundwater analytical results are summarized on Table 1. Based on laboratory analytical results, the DPE system was operating in compliance with discharge permit conditions: no regulated substances (petroleum hydrocarbons) were detected in the system effluent. The laboratory analytical report is included in Appendix A.

# **CLOSING**

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

If you have any questions, please email mgillies@pangeaeny.com or call me at (408)910-1783.

Sincerely,

Pangea Environmental Services, Inc.

Morgan Gillies

# **ATTACHMENTS**

Table 1 – Groundwater Extraction System Performance Summary Appendix A – Laboratory Analytical Report

# **APPENDIX A**

Laboratory Analytical Report

# Pangea

Table 1. GWE (DPE) System Performance Summary - 5175 Broadway, Oakland, California

		Totalizer	Interval	Interval	Average	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE	
Well ID	Date	Reading <sup>1</sup>	Flow Volume	Duration	Flow Rate	Concentration	Concentration	Concentration	Removed	Removed	Removed	Comments
		(gallons)	(gallons)	(days)	(gpm)	(ug/L)	(ug/L)	(ug/L)	(Lbs)	(Lbs)	(Lbs)	
System	12/08/10	0	0	0					0.000	0.000	0.000	System startup testing, water not discharged to sewer yet.
nfluent	12/10/10	248	248	2	0.09				0.000	0.000	0.000	bystem startup testing, water not discharged to sewer yet.
	12/14/10	1,120	872	4	0.15	300	4.6	ND(<5.0)	0.002	0.000	0.000	Startup water sampling of influent (12/14)
	12/22/10	3,585	2,465	8	0.21				0.006	0.000	0.000	1 0
	01/07/11	7,622	4,037	16	0.18				0.010	0.000	0.000	System shutdown 1/14 due to noise complaint
	02/02/11	16,840	9,218	26	0.25	1,300	52	ND(<10)	0.100	0.004	0.000	Off on arrival; restart.
	02/22/11	25,427	8,587	20	0.30	680	8.4	ND(<5.0)	0.049	0.001	0.000	
	02/28/11	28,855	3,428	6	0.40				0.019	0.000	0.000	
	03/09/11	31,981	3,126	9	0.24				0.018	0.000	0.000	
	03/15/11	34,398	2,417	6	0.28				0.014	0.000	0.000	
	03/16/11	34,961	563	1	0.39				0.003	0.000	0.000	
	03/31/11	60,322	25,361	15	1.17				0.143	0.002	0.000	_
								•	0.221	0.006	0.000	Total Cumulative Removal (Lbs)
system	12/08/10											
Effluent	12/14/10					ND (<50)	ND (<0.5)	ND (<5.0)				Startup water sampling of effluent (12/14)
	02/22/11					ND (<50)	ND (<0.5)	ND (<5.0)				

Discharge Limits (ug/L):	5	5	5	5
	Benzene	Toluene	Ethylbenzene	Total Xylenes

#### ABBREVIATIONS AND NOTES:

 $1 = \text{Initial totalizer reading was 23,559}. \ Therefore, shown reading above 0 is actual reading plus minus 23,559}. \ The 12/10/10 reading of 23,807 less 23,559 equals 248 gallons discharged.$ 

gpm = Gallons per minute

TPHd = Total Petroleum Hydrocarbon as Diesel analyzed by EPA Method 8015B with silica gel cleanup

TPHg = Total Petroleum Hydrocarbon as Gasoline analyzed by EPA Method 8015B

Benzene analyzed by EPA Method 8021B

 $MTBE = Methyl \ tertiary \ butyl \ ether \ analyzed \ by \ EPA \ Method \ 8021 \ Cm$ 

Toulene, Ethylbenzene and Total Xylenes analyzed by EPA Method 8015B

-- = not measured/not available

<sup>\*</sup> Estimated contaminant mass calculated by multiplying average concentration detected during period (Table 1) by volume of extracted groundwater. Uses most recent lab data.

<sup>\*\*</sup>Unless noted Toulene, Ethylbenzene and Total Xylenes non-detect (<0.5)

McCampbell Analytical,	Inc.
"When Quality Counts"	

Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway, Rockridge Heights	Date Sampled: 0	)2/22/11
1710 Franklin Street, Ste. 200		Date Received: 0	)2/23/11
7,707744444	Client Contact: Tina De La Fuente	Date Reported: 0	03/01/11
Oakland, CA 94612	Client P.O.:	Date Completed: 0	)2/28/11

WorkOrder: 1102709

March 01, 2011

<b>D</b>		٠.	
Dear	- 1	1r	าล:

# Enclosed within are:

- 1) The results of the 3 analyzed samples from your project: 5175 Broadway, Rockridge Heights,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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.

Web	McCAMPBELL ANALYTICAL, INC.  1534 Willow Pass Rd. Pittsburg, CA 94565  Website: www.mccampbell.com Telephone: (925) 252-9262  Fax: (925) 252-9269														OU	HA ND	TI	MI	3	R	US RUS No	H	24	⊒ HR		48 F	] HR	RD □ 72 H 0	R 5 DAY			
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Tele: (510) 836-3	702				(510)								$\exists$	8015)/MTBE	- e	&F/	18									00/				E.		analysis:
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SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Cluden	Other	ICE	HCL	HNO3	Other	BTEX & TPH as	TPH as Diesel (8015) with 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)	5 Oxygenates(TAME, TBA, DIPE, ETBE, MTBE) by 8260.		
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# McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262				V	/orkOi	der: 1102	709	Cl	ientCode:	PEO				
	WaterTrax	WriteO	n 🔽 EDF		xcel	Fax	V	Email	□н	ardCopy	Third	Party	J-f	iag
Report to:					Bi	I to:				Req	uested T	AT:	5 d	lays
Tina De La Fuente	Email:	tdelafuente@	pangeaenv.com			Bob Clark	k-Riddell							
Pangea Environmental Svcs., Inc.	CC:					Pangea E	nvironm	ental Sv	cs., Inc.	ъ.			00/00/0	
1710 Franklin Street, Ste. 200	PO:					1710 Fran	nklin Stre	et, Ste.	200	Dat	te Recei	ved:	02/23/2	2011
Oakland, CA 94612	ProjectNo:	5175 Broadw	ay, Rockridge Hei	ghts		Oakland,	CA 9461	2		Dat	e Printe	ed:	02/25/2	2011
(510) 836-3700 FAX (510) 836-370	)9													
							Requ	ested T	ests (See	legend b	elow)			
Lah ID Client II	<b>`</b>	Matrix	Collection Date	Hold	1	2 3	4	5	6 7	8	a	10	11	12

				Requested Tests (See legella below)												
Lab ID	Client ID	Matrix	Collection Date H	lold	1	2	3	4	5	6	7	8	9	10	11	12
1102709-001	INF-W	Water	2/22/2011 15:00			Α	Α									
1102709-002	EFF-W	Water	2/22/2011 15:15			Α										
1102709-003	INF-V	Air	2/22/2011 14:00		A											

rest Legenu.				
1 G-MBTEX_AIR	2 G-MBTEX_W	3 PREDF REPORT	4	5
6	7	8	9	10
11	12			
The following SampID: 003A contain	ns testgroup.			Prepared by: Ana Venegas

# **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.

# Sample Receipt Checklist

Client Name:	Pangea Environmental	Svcs., Inc.			Da	ate a	and Time Received:	2/23/201	1 2:40:36 PM
Project Name:	5175 Broadway, Rockri	dge Heights			Cl	hec	klist completed and r	eviewed by:	Ana Venegas
WorkOrder N°:	<b>1102709</b> Matrix	Air/Water			Ca	arrie	er: Rob Pringle (M	Al Courier)	
		<u>Chain o</u>	of Cu	stody (C	COC) Info	rma	ation		
Chain of custody	y present?		Yes	<b>V</b>	No [				
Chain of custody	y signed when relinquished and	d received?	Yes	<b>V</b>	No [				
Chain of custody	y agrees with sample labels?	,	Yes	<b>✓</b>	No [				
Sample IDs noted	d by Client on COC?	,	Yes	<b>V</b>	No [				
Date and Time o	f collection noted by Client on C	OC?	Yes	<b>✓</b>	No [				
Sampler's name	noted on COC?		Yes	<b>v</b>	No [				
		Sar	nple	Receipt	Informa	tior	<u>n</u>		
Custody seals in	ntact on shipping container/cool	er?	Yes		No [			NA 🗹	
Shipping contain	ner/cooler in good condition?	,	Yes	<b>V</b>	No [				
Samples in prop	er containers/bottles?	,	Yes	✓	No [				
Sample containe	ers intact?	,	Yes	✓	No [				
Sufficient sample	e volume for indicated test?		Yes	<b>✓</b>	No [				
	<u>Sa</u>	mple Preserv	atior	n and Ho	old Time	(HT	Γ <u>) Information</u>		
All samples rece	eived within holding time?		Yes	<b>✓</b>	No [				
Container/Temp	Blank temperature	(	Coole	er Temp:	7°C			NA $\square$	
Water - VOA via	als have zero headspace / no b	ubbles?	Yes	✓	No [		No VOA vials subm	itted $\square$	
Sample labels cl	hecked for correct preservation	1?	Yes	<b>✓</b>	No [				
Metal - pH accep	otable upon receipt (pH<2)?	,	Yes		No [			NA 🔽	
Samples Receive	red on Ice?		Yes	<b>✓</b>	No [				
		(Ice Type:	WE	TICE	)				
* NOTE: If the "I	No" box is checked, see comm	ents below.							
=====	=======	====	==	===	===	=	======	====	=======
Client contacted:	:	Date contacted	d:				Contacted	by:	
Comments:									

Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway, Rockridge Heights	Date Sampled:	02/22/11
1710 Franklin Street, Ste. 200	Rockridge Heights	Date Received:	02/23/11
	Client Contact: Tina De La Fuente	Date Extracted:	02/24/11
Oakland, CA 94612	Client P.O.:	Date Analyzed:	02/24/11

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1102709 MTBE Lab ID Client ID Matrix TPH(g) Benzene Toluene Ethylbenzene Xylenes DF % SS Comments 003A INF-V 1300 ND<17 6.0 2.8 3.7 14 117

Reporting Limit for DF $=1$ ;	A	25	2.5	0.25	0.25	0.25	0.25	μg/L			
ND means not detected at or above the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg			
* unter and using complete an expended in use II sail/abudas/saild complete in modes, using complete in use/using anadyst/cit/consequence liquid complete in mode.											

 $\%\,SS = Percent\;Recovery\;of\;Surrogate\;Standard$ 

DF = Dilution Factor

d1) weakly modified or unmodified gasoline is significant

Angela Rydelius, Lab Manager

<sup>\*</sup> water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway,	Date Sampled:	02/22/11
1710 Franklin Street, Ste. 200	Rockridge Heights	Date Received:	02/23/11
,	Client Contact: Tina De La Fuente	Date Extracted:	02/24/11
Oakland, CA 94612	Client P.O.:	Date Analyzed:	02/24/11

# Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv\*

SW8021B/8015Bm Extraction method: SW5030B Analytical methods: Work Order: 1102709 Matrix MTBE DF % SS Lab ID Client ID TPH(g) Benzene Toluene Ethylbenzene Xylenes Comments 003A INF-V 370 117 A ND<4.5 1.8 0.72 0.843.2 6.7 d1

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.										
Reporting Limit for DF =1; A 7.0 0.68 0.077 0.065 0.057 0.057 1 uL/L								uL/L		
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg	

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

%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:

d1) weakly modified or unmodified gasoline is significant

Angela Rydelius, Lab Manager

Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway, Rockridge Heights	Date Sampled:	02/22/11	
1710 Franklin Street, Ste. 200	Rockridge Heights	Date Received:	02/23/11	
	Client Contact: Tina De La Fuente	Date Extracted:	02/26/11	
Oakland, CA 94612	Client P.O.:	Date Analyzed:	02/26/11	

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

Gasoline Range (Co-C12) Volatile Hydrocar bons as Gasoline with DTEA and WITDE											
Extraction	action method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 11							102709			
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	INF-W	W	680	ND	8.4	4.4	8.4	49	1	98	d1
002A	EFF-W	w	ND	ND	ND	ND	ND	ND	1	98	
	rting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5		μg/L	,
	D means not detected at or		mg/K	g							

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

- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- d1) weakly modified or unmodified gasoline is significant



<sup>#</sup> cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

# QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water/Air QC Matrix: Water BatchID: 56437 WorkOrder 1102709

EPA Method SW8021B/8015Bm	Extra	tion SW	5030B					S	Spiked San	nple ID	: 1102687-0	01E
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
7 may to	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)	ND	60	109	107	1.64	106	108	1.53	70 - 130	20	70 - 130	20
MTBE	ND	10	90	98.5	9.02	105	92.3	12.8	70 - 130	20	70 - 130	20
Benzene	ND	10	116	113	2.57	113	113	0	70 - 130	20	70 - 130	20
Toluene	ND	10	103	101	1.65	101	101	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	105	102	2.74	102	101	0.665	70 - 130	20	70 - 130	20
Xylenes	ND	30	118	115	2.64	115	116	0.468	70 - 130	20	70 - 130	20
%SS:	96	10	104	103	0.578	104	102	1.74	70 - 130	20	70 - 130	20

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

### BATCH 56437 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1102709-001A	02/22/11 3:00 PM	I 02/26/11	02/26/11 9:14 PM	1102709-002A	02/22/11 3:15 PM	02/26/11	02/26/11 4:14 AM
1102709-003A	02/22/11 2:00 PM	1 02/24/11	02/24/11 12:36 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.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.

