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By Alameda County Environmental Health at 3:36 pm, Apr 01, 2013

March 29, 2013

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

Re: **Semi-Annual Discharge Compliance Report – September 2012 to March 2013**
Groundwater Remediation, 5175 Broadway, Oakland, California

Dear Ms. Mena:

Pangea Environmental Services, Inc. (Pangea) has prepared this *Semi-Annual Discharge Compliance Report – September 2012 to March 2013* for the subject site for the period of September 1, 2012 to March 1, 2013. 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). 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 1, 2013), the DPE system extracted and treated approximately 79,201 gallons of groundwater. The DPE system was restarted on November 27, 2012 and operated for approximately two weeks, after being temporarily off since January 31, 2012. During this reporting period, the average groundwater flow rate ranged from approximately 0.001 to 0.004 gpm, which includes system shutdown periods. GWE system performance is summarized in Table 1. No hazardous waste was removed from the site during this reporting period.

PANGEA Environmental Services, Inc.

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

SYSTEM SAMPLING

During this reporting period, samples were collected from the influent port of the groundwater treatment system. No effluent samples were collected this reporting period, but historical effluent sampling has indicated no detectable hydrocarbon concentrations in discharged water. System flow data and groundwater analytical results are summarized on Table 1. The DPE system was operating in compliance with discharge permit conditions.

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@pangeaenv.com or call me at (408)910-1783.

Sincerely,
Pangea Environmental Services, Inc.



Morgan Gillies
Project Manager

ATTACHMENTS

Table 1 – Groundwater Extraction System Performance Summary

Appendix A – Laboratory Analytical Report

Pangea

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

Well ID	Date	Totalizer Reading ¹ (gallons)	Interval Flow Volume (gallons)	Interval Duration (days)	Average Flow Rate (gpm)	TPHg Concentration (ug/L)	Benzene Concentration (ug/L)	MTBE Concentration (ug/L)	TPHg Removed (Lbs)	Benzene Removed (Lbs)	MTBE Removed (Lbs)	Comments
System	12/08/10	0	0	0	--	---	---	---	0.000	0.000	0.000	System startup testing, water not discharged to sewer yet.
Influent	12/10/10	248	248	2	0.09	---	---	---	0.000	0.000	0.000	Off; restart.
	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	On. Shutdown due to noise, restarted 12/29.
	01/07/11	7,622	4,037	16	0.18	---	---	---	0.010	0.000	0.000	On. System off 1/14 due to noise, restart 1/19.
	02/02/11	16,840	9,218	26	0.25	1,300	52	ND (<10)	0.100	0.004	0.000	Off on arrival; add oil and restart.
	02/22/11	25,427	8,587	20	0.30	680	8.4	ND (<5.0)	0.049	0.001	0.000	On. Add more oil.
	02/28/11	28,855	3,428	6	0.40	---	---	---	0.019	0.000	0.000	On. Shutdown for GWM and restarted.
	03/09/11	31,981	3,126	9	0.24	---	---	---	0.018	0.000	0.000	On.
	03/15/11	34,398	2,417	6	0.28	---	---	---	0.014	0.000	0.000	On.
	03/16/11	34,961	563	1	0.39	---	---	---	0.003	0.000	0.000	On.
	03/31/11	36,763	1,802	15	0.08	---	---	---	0.010	0.000	0.000	Off. Add more soundproofing and restart.
	04/06/11	39,571	2,808	6	0.33	---	---	---	0.016	0.000	0.000	On.
	04/12/11	39,671	100	6	0.01	240	4.8	ND (<5.0)	0.000	0.000	0.000	See NOTE below.
	04/26/11	41,195	1,524	14	0.08	---	---	---	0.003	0.000	0.000	On.
	05/04/11	41,703	508	8	0.04	---	---	---	0.001	0.000	0.000	Off. Pump overheating. Restart
	05/24/11	42,965	1,262	20	0.04	66	0.92	ND (<5.0)	0.001	0.000	0.000	Off. Restart
	06/02/11	43,908	943	9	0.07	---	---	---	0.001	0.000	0.000	On.
	06/06/11	47,392	3,484	4	0.60	---	---	---	0.002	0.000	0.000	Off on arrival; restart. Off on departure
	07/13/11	48,851	1,459	37	0.03	---	---	---	0.001	0.000	0.000	Off on arrival; restart.
	07/21/11	51,271	2,420	8	0.21	---	---	---	0.001	0.000	0.000	Off. Restart.
	07/26/11	53,411	2,140	5	0.30	68	0.51	ND (<5.0)	0.001	0.000	0.000	On.
	07/28/11	54,069	658	2	0.23	---	---	---	0.000	0.000	0.000	On.
	08/08/11	55,829	1,760	11	0.11	---	---	---	0.001	0.000	0.000	Off. Restart.
	08/18/11	60,036	4,207	10	0.29	---	---	---	0.002	0.000	0.000	On.
	08/31/11	61,771	1,735	13	0.09	---	---	---	0.001	0.000	0.000	Off. Restart.
	09/22/11	65,179	3,408	22	0.11	---	---	---	0.002	0.000	0.000	Off. Restart.
	09/26/11	65,389	210	4	0.04	---	---	---	0.000	0.000	0.000	Off. Restart.
	10/05/11	65,650	261	9	0.02	---	---	---	0.000	0.000	0.000	On.
	10/11/11	65,743	93	6	0.01	---	---	---	0.000	0.000	0.000	Off. Restart.
	10/18/11	65,881	138	7	0.01	---	---	---	0.000	0.000	0.000	Off. Restart.
	11/02/11	66,589	708	15	0.03	---	---	---	0.000	0.000	0.000	On.
	11/15/11	66,684	95	13	0.01	---	---	---	0.000	0.000	0.000	Off on arrival, restart.
	11/22/11	67,082	398	7	0.04	---	---	---	0.000	0.000	0.000	On.
	11/23/11	67,161	79	1	0.05	---	---	---	0.000	0.000	0.000	On.
	11/29/11	67,810	649	6	0.08	---	---	---	0.000	0.000	0.000	On.
	12/08/11	68,695	885	9	0.07	---	---	---	0.001	0.000	0.000	On.
	12/16/11	69,431	736	8	0.06	---	---	---	0.001	0.000	0.000	On.
	12/22/11	69,481	50	6	0.01	ND (<50)	ND (<0.5)	ND (<5.0)	0.000	0.000	0.000	Off. Leave off for QM event 12/29.
	01/03/12	69,841	360	12	0.02	---	---	---	0.000	0.000	0.000	Off. Restart.
	01/04/12	70,027	186	1	0.13	---	---	---	0.000	0.000	0.000	On.
	01/16/12	71,127	1,100	12	0.06	---	---	---	0.000	0.000	0.000	On.
	01/31/12	72,634	1,507	15	0.07	---	---	---	0.000	0.000	0.000	On. System shutdown.
	11/28/12	72,918	284	1	0.20	130	1.8	ND (<5.0)	0.000	0.000	0.000	On. System restarted for rebound test on 11/27.
	11/29/12	73,107	188	1	0.13	---	---	---	0.000	0.000	0.000	On.
	11/30/12	73,295	189	1	0.13	---	---	---	0.000	0.000	0.000	On.
	12/04/12	76,799	3,504	4	0.61	---	---	---	0.004	0.000	0.000	On.
	12/07/12	77,981	1,182	3	0.27	---	---	---	0.001	0.000	0.000	On.
	12/11/12	79,201	1,220	4	0.21	---	---	---	0.001	0.000	0.000	On. System shutdown.
									0.273	0.006	0.000	Total Cumulative Removal (Lbs)
System	04/12/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	See NOTE below.
Midpoint	05/24/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	
	07/26/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	
	12/22/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	

Pangea

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

Well ID	Date	Totalizer Reading ¹ (gallons)	Interval Flow Volume (gallons)	Interval Duration (days)	Average Flow Rate (gpm)	TPHg Concentration (ug/L)	Benzene Concentration (ug/L)	MTBE Concentration (ug/L)	TPHg Removed (Lbs)	Benzene Removed (Lbs)	MTBE Removed (Lbs)	Comments
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)	---	---	---	
	05/24/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	
	07/26/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	
	12/22/11	---	---	---	---	ND (<50)	ND (<0.5)	ND (<5.0)	---	---	---	

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

ABBREVIATIONS AND NOTES:

NOTE = Based on previous and subsequent analytical results Pangea switched the 4/12/11 analytical results for System Influent and Midpoint. Pangea suspects that the samples were accidentally switched by the lab or mislabeled by the technician.

1 = Initial totalizer reading was 23,559. Therefore, shown reading above 0 is actual reading 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

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

-- = not measured/not available

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

**Unless noted Toluene, Ethylbenzene and Total Xylenes non-detect (<0.5)

APPENDIX A

Laboratory Analytical Report



Analytical Report

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1145.001; Rockridge	Date Sampled: 11/28/12
		Date Received: 11/28/12
	Client Contact: Morgan Gillies	Date Reported: 12/03/12
	Client P.O.: 5157 Broadway	Date Completed: 12/03/12

WorkOrder: 1211771

December 04, 2012

Dear Morgan:

Enclosed within are:

- 1) The results of the **2** analyzed samples from your project: **#1145.001; Rockridge,**
- 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 McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
 Laboratory Manager
 McC Campbell Analytical, Inc.

The analytical results relate only to the items tested.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1211771

ClientCode: PEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQUIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

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

Email: mgillies@pangeaenv.com; tdelafuente@pa
cc:
PO: 5157 Broadway
ProjectNo: #1145.001; Rockridge

Bill to:

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

Requested TAT:

5 days

Date Received: 11/28/2012

Date Printed: 11/28/2012

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	
1211771-001	INF-W	Water	11/28/2012 16:00	<input type="checkbox"/>		A	A										
1211771-002	INF-V	Air	11/28/2012 16:15	<input type="checkbox"/>	A												

Test Legend:

1	G-MBTX_AIR	2	G-MBTX_W	3	PREF REPORT	4		5	
6		7		8		9		10	
11		12							

The following SampID: 002A contains testgroup.

Prepared by: Jena Alfaro

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.** Date and Time Received: **11/28/2012 6:15:44 PM**
 Project Name: **#1145.001; Rockridge** LogIn Reviewed by: **Jena Alfaro**
 WorkOrder N°: **1211771** Matrix: Air/Water Carrier: Client Drop-In

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: 16°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

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

 Comments:



Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1145.001; Rockridge	Date Sampled: 11/28/12
	Client Contact: Morgan Gillies	Date Received: 11/28/12
	Client P.O.: 5157 Broadway	Date Extracted: 11/29/12
		Date Analyzed: 11/29/12

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1211771

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
002A	INF-V	A	200	ND	0.58	0.44	ND	0.28	1	---#	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; ND means not detected at or above the reporting limit	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* vapor samples are reported in µL/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in µg/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 McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 72784

WorkOrder: 1211771

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					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(btex) [£]	N/A	60	N/A	N/A	N/A	110	N/A	N/A	80 - 120	
MTBE	N/A	10	N/A	N/A	N/A	93.8	N/A	N/A	80 - 120	
Benzene	N/A	10	N/A	N/A	N/A	110	N/A	N/A	80 - 120	
Toluene	N/A	10	N/A	N/A	N/A	111	N/A	N/A	80 - 120	
Ethylbenzene	N/A	10	N/A	N/A	N/A	111	N/A	N/A	80 - 120	
Xylenes	N/A	30	N/A	N/A	N/A	111	N/A	N/A	80 - 120	
%SS:	N/A	10	N/A	N/A	N/A	103	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 72784 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1211771-002A	11/28/12 4:15 PM	11/29/12	11/29/12 3:17 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.
 $\% \text{ Recovery} = 100 * (\text{MS-Sample}) / (\text{Amount Spiked}); \text{RPD} = 100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2).$
 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 = 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.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 72842

WorkOrder: 1211771

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					Spiked Sample ID: 1211749-001B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH(btex) £	ND	60	106	114	7.68	108	70 - 130	20	80 - 120	
MTBE	ND	10	93.9	110	15.5	91.1	70 - 130	20	80 - 120	
Benzene	ND	10	103	114	10.8	101	70 - 130	20	80 - 120	
Toluene	ND	10	106	116	8.66	103	70 - 130	20	80 - 120	
Ethylbenzene	ND	10	106	118	10.8	104	70 - 130	20	80 - 120	
Xylenes	ND	30	110	122	10.1	108	70 - 130	20	80 - 120	
%SS:	92	10	90	92	2.11	93	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 72842 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1211771-001A	11/28/12 4:00 PM	11/30/12	11/30/12 5:49 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.
 £ 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.