



Union Pacific Railroad

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March 2, 2016

RECEIVED

By Alameda County Environmental Health 11:35 am, Mar 10, 2016

Ms. Karel Detterman
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Submittal of the 2015 Fourth Quarter Groundwater Monitoring Report, 744 and 758 High Street, Oakland, California, Fuel Leak Case No. RO1135 and GeoTracker Global ID T0600101305

Dear Ms. Detterman:

On behalf of Union Pacific Railroad (UPRR), enclosed is the 2015 Fourth Quarter Groundwater Monitoring Report, which presents the methodology and results for the 2015 fourth quarter groundwater monitoring event conducted for the 744 and 758 High Street site in Oakland, California.

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

If you have any questions or comments after reviewing this material, please feel free to contact me by email at LAMANCUS@up.com or by phone at (916) 789-5184.

Sincerely,

Lauren A. Mancuso
Manager of Site Remediation
Union Pacific Railroad Company

C: David Hodson/CH2M HILL

Enclosure: referenced report



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Subject: 2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California, Fuel Leak Case No. RO1135 and GeoTracker
Global ID T0600101305

Dear Ms. Detterman:

On behalf of Union Pacific Railroad Company (UPRR), CH2M HILL, Inc. (CH2M) has prepared this *2015 Fourth Quarter Groundwater Monitoring Report* (letter report) for the former UPRR property located within the property currently identified as 750 High Street, in Oakland, California (the site). Historically, the site was known to be located at 744 and 758 High Street. A site location map is presented on Figure 1.

This letter report provides a summary of the fourth quarter 2015 groundwater monitoring activities, a summary of the analytical results for the fourth quarter 2015 groundwater monitoring event, and recommendations.

The current site groundwater monitoring program at the site has consisted of quarterly monitoring of monitoring wells MW-01 through MW-05. Information about site history and previous investigations is presented in *Soil and Groundwater Investigation and Updated Site Conceptual Model Report, 744 and 758 High Street, Oakland, California* (report).¹

Fourth Quarter 2015 Groundwater Monitoring Activities

This section describes the fourth quarter 2015 groundwater monitoring activities. Monitoring well locations are presented on Figure 2. Well construction details, including coordinates, are presented in Table 1.

Groundwater Monitoring

Blaine Tech Services, Inc. (Blaine Tech), under contract to CH2M, performed groundwater monitoring activities on December 18, 2015. The following activities were performed during this groundwater monitoring event:

- Measured depth to water in site monitoring wells MW-01 through MW-05.
- Collected groundwater samples from monitoring wells MW-01 through MW-05.

¹ CH2M HILL (CH2M). 2015. *Soil and Groundwater Investigation and Updated Site Conceptual Model Report, 744 and 758 High Street, Oakland, California*. May 8.

Blaine Tech's field documentation for the fourth quarter 2015 groundwater monitoring event, including wellhead inspection checklist, purge parameters, sampling logs that document depths to water, and a chain-of-custody form, is included as Attachment 1.

During the fourth quarter 2015 groundwater monitoring event, monitoring wells were gauged for depth-to-water measurements before groundwater sampling began. Groundwater was purged and collected using a submersible pump with dedicated or new tubing for each monitoring well. Purging continued until groundwater parameters stabilized or until three well-casing volumes of water had been removed. Temperature, electrical conductivity, dissolved oxygen, turbidity, oxidation-reduction potential, and pH were measured. Turbidity measurements were significantly elevated (near or greater than 1,000 Nephelometric Turbidity Units) during sampling at monitoring wells MW-04 and MW-05. Samples for metals analysis were filtered in the field using an in-line disposable 0.45 micron filter prior to collection. Purged groundwater was transferred to labeled 55-gallon drums for temporary onsite storage.

Laboratory Analyses

TestAmerica (California Environmental Laboratory Accreditation Program No. 1197), of Pleasanton, California, conducted the analysis of groundwater samples under chain of custody; chain-of-custody forms are provided in Attachment 2. TestAmerica analyzed groundwater samples for total petroleum hydrocarbons (TPH) (as gasoline [TPH-g], as diesel [TPH-d], and as motor oil [TPH-mo]) using U.S. Environmental Protection Agency (EPA) Method 8015M, semivolatile organic compounds (SVOCs) using EPA Method 8270C, metals by EPA Methods 6010B/7470, and polychlorinated biphenyls (PCBs) using EPA Method 8082.

Fourth Quarter 2015 Groundwater Monitoring Results

This section presents groundwater monitoring results for the fourth quarter 2015 groundwater monitoring event, including groundwater elevations and gradients, light nonaqueous phase liquid (LNAPL) measurements (if any), and analytical results.

Groundwater Elevations and Gradient

Table 2 presents a summary of the fourth quarter 2015 groundwater depths and elevations. Groundwater elevations ranged from 10.58 feet above mean sea level (amsl) to 15.25 feet amsl. Groundwater elevations and interpreted groundwater elevation contours for the fourth quarter 2015 groundwater monitoring event are presented on Figure 3. The groundwater flow direction during the fourth quarter 2015, based on the measured groundwater elevations, is generally to the southwest, consistent with previous quarterly monitoring events. The average horizontal hydraulic gradient was calculated to be approximately 0.014 feet per foot for the fourth quarter 2015 monitoring event.

Light Nonaqueous Phase Liquid Measurements

LNAPL was not observed in monitoring wells MW-01 through MW-05 during the fourth quarter 2015 groundwater monitoring event.

Groundwater Analytical Results

Table 3 presents a summary of analytical results from groundwater samples collected during the fourth quarter 2015 monitoring event. Constituent concentrations are compared to California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) commercial/industrial environmental

screening levels (ESLs) for groundwater that is a current or potential source of drinking water.² Several constituents had reporting limits that exceeded ESLs. Metals including beryllium, cadmium, cobalt, copper, lead, mercury, and nickel, and TPH-g were detected at concentrations above ESLs in at least one sample collected during the fourth quarter 2015 groundwater event. TPH-d and TPH-mo, although detected in at least one sample collected during the quarterly reporting period, did not exceed the ESLs. SVOCs and PCBs were not detected at concentrations above reporting limits. Metals appear to be randomly distributed in groundwater across the site, indicating general elevated levels of metals in groundwater and soil at the site. In general, detected metals concentrations above ESLs in groundwater samples collected at the site are consistent with site-wide elevated levels of metals in soil. Figure 4 presents the concentrations of metals detected in groundwater above ESLs.

Attachment 2 provides the laboratory reports for the samples collected during the fourth quarter 2015 monitoring event.

To assess the quality of data from field sampling efforts and to assist with validation of collected data, a field duplicate sample collected during the fourth quarter 2015 monitoring event was analyzed to check for sampling consistency and error. A field duplicate sample was collected from monitoring well MW-01 during the fourth quarter 2015 monitoring event, immediately after the primary sample was collected. For analytes that were detected in both the original sample and field duplicate sample, the results for the duplicate sample correlated well with the original sample results. Data quality assessment and validation memorandums are presented in Attachment 2.

Groundwater Monitoring Recommendations

The fourth quarter 2015 monitoring event was the fourth consecutive quarterly monitoring event performed at the site. Based on the relatively low concentrations of metals in groundwater and the absence of SVOCs and PCBs detected in groundwater above reporting limits, additional groundwater monitoring is not recommended to evaluate groundwater impacts or remedial action options at or for the site.

Please contact me at (510) 587-7615 or via email at jeff.paik@ch2m.com if you have any questions.

Sincerely,
CH2M



Jeff Paik, P.E.
Project Manager

² California Regional Water Quality Control Board, San Francisco Bay Region (Water Board). 2013. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. Interim Final. December.

Enclosures:

Table 1: Monitoring Well Construction and Survey Information

Table 2: Groundwater Measurements

Table 3: Summary of Groundwater Monitoring Sample Results

Figure 1: Site Location Map

Figure 2: Monitoring Well Locations

Figure 3: Groundwater Elevations

Figure 4: Groundwater Monitoring Results for Antimony, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, and Nickel

Attachment 1: Wellhead Inspection Checklists, Well Gauging Data Forms, Sample Forms, and Chain-of-Custody Forms

Attachment 2: Laboratory Reports and Data Quality Assessment and Validation Memorandum

Electronic copies only:

Lauren Mancuso/UPRR

Tables

Table 1. Monitoring Well Construction and Survey Information
2015 Fourth Quarter Groundwater Monitoring Report, 744 and 758 High Street, Oakland, California

Well Name	Construction Date	Northing (feet)	Easting (feet)	Ground Surface Elevation (feet amsl)	Top of Casing (feet bgs)	Top of Screen Depth (feet bgs)	Top of Screen Elevation (feet amsl)	Bottom of Screen Depth (feet bgs)	Bottom of Screen Elevation (feet amsl)
MW-1	17-Feb-15	2106831.22	6065060.05	22.28	21.84	8	13.84	18	3.84
MW-2	17-Feb-15	2106995.70	6064801.68	22.17	21.83	7	14.83	17	4.83
MW-3	17-Feb-15	2106652.46	6065267.69	22.11	21.94	7	14.94	17	4.94
MW-4	17-Feb-15	2106710.60	6065093.67	20.1	19.24	7	12.24	17	2.24
MW-5	17-Feb-15	2106546.66	6065368.70	22.38	22.18	7	15.18	17	5.18

Notes:

amsl = above mean sea level
bgs = below ground surface

Table 2. Groundwater Measurements

2015 Fourth Quarter Groundwater Monitoring Report

744 and 758 High Street, Oakland, California

Location	Measurement Date	Well Top of Casing Elevation (feet amsl)	Depth to NAPL Measurement (feet bgs)	Depth to Water Measurement (feet bgs)	Thickness of NAPL (feet)	Groundwater Elevation (feet amsl)
MW-01	03/10/2015	21.84	--	7.04	--	14.80
	06/26/2015	21.84	--	7.33	--	14.51
	09/30/2015	21.84	--	8.47	--	13.37
	12/18/2015	21.84	--	6.59	--	15.25
MW-02	03/10/2015	21.83	--	7.20	--	14.63
	06/26/2015	21.83	--	8.38	--	13.45
	09/30/2015	21.83	--	9.14	--	12.69
	12/18/2015	21.83	--	7.82	--	14.01
MW-03	03/10/2015	21.93	--	8.93	--	13.01
	06/26/2015	21.94	--	9.86	--	12.08
	09/30/2015	21.93	--	10.25	--	11.68
	12/18/2015	21.93	--	9.61	--	12.32
MW-04	03/10/2015	19.24	--	5.30	--	13.94
	06/26/2015	19.24	--	6.72	--	12.52
	09/30/2015	19.24	--	7.37	--	11.87
	12/18/2015	19.24	--	6.82	--	12.42
MW-05	03/10/2015	22.18	--	10.89	--	11.29
	06/26/2015	22.18	--	11.93	--	10.25
	09/30/2015	22.18	--	13.34	--	8.84
	12/18/2015	22.18	--	11.60	--	10.58

Notes:

amsl above mean sea level

bgs below ground surface

Table 3. Summary of Groundwater Monitoring Sample Results

2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California

Parameter Group:				TPH	TPH	TPH	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	
Parameter:				TPH-g	TPH-d	TPH-mo	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel
Groundwater ESL for Drinking Water Source ¹				Screening Levels (µg/L)														
				100	100	100	6	10	1,000	0.53	0.25	50	3	3.1	2.5	0.025	78	8.2
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	50 U	60 U	100 U	10 U	10 U	13 J	2 U	2 U	1.3 J	2 U	20 U	2.7 J	0.2 U	10 U	2.1 J
	FD	03/10/15	8	50 U	50 U	100 U	2 U	0.99 J	12 J	0.5 U	1 U	2.4 J	1 U	0.63 J	2.3 J	0.11 J	0.57 J	2.7 J
		06/26/15	8	50 U	47 U	39 J	8.4 J	7.8 J	33 J	2 U	2 U	2.2 J	2 U	20 U	2.6 J	0.2 U	15	4.4 J
	FD	06/26/15	8	50 U	47 U	53 J	10 U	10 U	31 J	2 U	2 U	1.9 J	2 U	20 U	5.9	0.2 U	10 U	3.9 J
		09/30/15	10	50 U	47 U	94 U	10 U	4.2 J	11 J	2 U	0.43 J	10 U	2 U	20 U	2.3 J	0.2 U	3.1 J	1.7 J
	FD	09/30/15	10	50 U	25 J	94 U	10 U	10 U	10 J	2 U	2 U	10 U	2 U	20 U	2.9 J	0.2	10 U	1.9 J
		12/18/15	10	50 U	51 U	46 J	2 U	1	12	0.5 U	0.8 J	2.7 J	1 U	0.85 J	2.4 J	0.2 U	0.83 J	2.4
	FD	12/18/15	10	50 U	51 U	100 U	2 U	0.99 J	11	0.5 U	1 U	2.4 J	1 U	0.63 J	1 U	0.11 J	0.57 J	2.3
MW-02		03/10/15	8	50 U	100 U	100 U	10 U	10 U	35 J	2 U	2 U	0.9 J	2 U	20 U	2.3 J	0.2 U	10 U	15
		06/26/15	9	23 J	21 J	48 J	10 U	10 U	48 J	2 U	2 U	7.1 J	0.93 J	4.7 J	9.6	0.2 U	10 U	21
		09/30/15	11	50 U	27 J	100 U	10 U	10 U	80	2 U	0.24 J	10 U	2 U	20 U	4 J	0.28	10 U	13
		12/18/15	11	22 J	49 U	65 J	1.7 J	0.81 J	100	0.73 J	0.67 J	1.4 J	1 U	1.8 J	3 J	0.2 U	0.61 J	11
MW-03		03/10/15	10	50 U	98 U	140 U	10 U	10 U	54	2 U	2 U	10	1.9 J	20 U	4.2 J	0.2	10 U	26
		06/26/15	10	94	37 J	55 J	10 U	10 U	54	2 U	2 U	5.1 J	1.2 J	3.8 J	6	0.2 U	10 U	15
		09/30/15	12	200	32 J	56 J	10 U	10 U	74	2 U	2 U	10 U	1.3 J	20 U	2.8 J	0.2 U	10 U	17
		12/18/15	12	330	61	59 J	0.52 J	2.3	100	0.75 J	0.44 J	30	3.6	9.1 J	5.6	2.3	3.4 J	49
MW-04		03/10/15	6	50 U	130 U	130 U	10 U	10 U	47 J	2 U	2 U	2.6 J	2 U	20 U	3.5 J	0.2 U	10 U	12
		06/26/15	8	50 U	74	65 J	10 U	10 U	120	2 U	2 U	55	8.1	12 J	14	0.2 U	10 U	75
		09/30/15	9	50 U	90	110	10 U	10 U	110	2 U	2 U	25	4.4	6.7 J	6.3	0.16 J	10 U	42
		12/18/15	9	50 U	76	45 J	2 U	1.4	81	0.5 U	0.21 J	8.4 J	0.82 J	4.5 J	4.1 J	0.33	0.75 J	14
MW-05		03/10/15	12	22 J	52 U	100 U	10 U	10 U	41 J	2 U	2 U	6.9 J	0.75 J	20 U	2.8 J	0.2 U	10 U	14
		06/26/15	13	50 U	28 J	80 J	10 U	10 U	49 J	2 U	2 U	5.2 J	2 U	5.8 J	7.2	0.2 U	10 U	13
		09/30/15	14	50 U	25 J	49 J	10 U	10 U	75	2 U	2 U	10 U	0.69 J	20 U	2.6 J	0.2 U	10 U	11
		12/18/15	14	50 U	65	94 J	2 U	1.4	120	0.5 U	1 U	8.1	0.94 J	5.7 J	2.9 J	0.24	0.67 J	16

Table 3. Summary of Groundwater Monitoring Sample Results

2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California

Parameter Group:				MET	MET	MET	MET	MET	PCB	PCB	PCB	PCB	PCB	PCB	PCB	SVOC	SVOC	SVOC
Parameter:				Selenium	Silver	Thallium	Vanadium	Zinc	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene
Groundwater ESL for Drinking Water Source ¹				Screening Levels (µg/L)														
				5	0.19	2	19	81	NE	NE	NE	NE	NE	NE	NE	5	10	65
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	20 U	5 U	10 U	2.4 J	25	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2.1 UJ	2.1 UJ	2.1 U
	FD	03/10/15	8	0.81 J	1 U	1 U	2.7 J	27	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	2 U	2 U	2 U
		06/26/15	8	20 U	5 U	10 U	4.7 J	12 J	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.9 U	1.9 UJ	1.9 U
	FD	06/26/15	8	20 U	5 U	10 U	4.1 J	20 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.9 U	1.9 U	1.9 U
		09/30/15	10	20 U	5 U	10 U	3.4 J	20 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.9 U	1.9 U	1.9 U
	FD	09/30/15	10	20 U	5 U	10 U	3.1 J	20 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.9 U	1.9 U	1.9 U
		12/18/15	10	0.79 J	1 U	1 U	3.3 J	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U
	FD	12/18/15	10	0.81 J	1 U	1 U	2.4 J	20 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2.1 U	2.1 U	2.1 U
MW-02		03/10/15	8	20 U	5 U	10 U	2.8 J	24	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	2.1 U	2.1 U	2.1 U
		06/26/15	9	20 U	5 U	10 U	6.5 J	10 J	--	--	--	--	--	--	1.9 U	1.9 U	1.9 U	
		09/30/15	11	20 U	5 U	10 U	2.6 J	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U
		12/18/15	11	0.5 J	1 U	1 U	2.7 J	20 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	2 U	2 U	2 U
MW-03		03/10/15	10	20 U	5 U	10 U	7.5 J	26	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2.1 U	2.1 U	2.1 U
		06/26/15	10	20 U	5 U	10 U	4.5 J	8 J	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.24 J	1.9 U	1.9 U	1.9 U
		09/30/15	12	20 U	5 U	10 U	3 J	20 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.18 J	1.9 U	1.9 U	1.9 U
		12/18/15	12	1.2 J	1 U	1 U	16	24	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U
MW-04		03/10/15	6	20 U	5 U	10 U	2.9 J	15 J	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2.1 U	2.1 U	2.1 U
		06/26/15	8	20 U	5 U	10 U	26	26	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	1.9 U	1.9 U	1.9 U
		09/30/15	9	20 U	5 U	10 U	15	16 J	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	1.9 U	1.9 U	1.9 U
		12/18/15	9	1.3 J	1 U	1 U	6.6 J	12 J	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2.1 U	2.1 U	2.1 U
MW-05		03/10/15	12	20 U	5 U	10 U	4.9 J	10 J	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	2 U	2 U	2 U
		06/26/15	13	20 U	5 U	10 U	3.8 J	14 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U
		09/30/15	14	20 U	5 U	10 U	2.8 J	20 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	1.9 U	1.9 U	1.9 U
		12/18/15	14	2 U	1 U	1 U	6.9 J	9.8 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.1 U	2.1 U	2.1 U

Table 3. Summary of Groundwater Monitoring Sample Results

2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California

Parameter Group:				SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	
Parameter:				1,4-Dichloro- benzene	2,4,5- Trichloro- phenol	2,4,6- Trichloro- phenol	2,4-Dichloro- phenol	2,4-Dimethyl- phenol	2,4-Dinitro- phenol	2,4-Dinitro- toluene	2,6-Dinitro- toluene	2-Chloro- naphthalene	2-Chloro- phenol	2-Methyl- naphthalene	2-Methyl- phenol	2-Nitroaniline	2-Nitrophenol	3,3'-Dichloro benzidine
Groundwater ESL for Drinking Water Source ¹				Screening Levels (µg/L)														
				5	11	1.6	0.3	100	15	0.099	NE	NE	0.18	2.1	NE	NE	NE	0.056
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	2.1 U	4.2 U	2.1 UJ	5.2 UJ	3.1 U	10 U	4.2 U	5.2 U	4.2 U	4.2 U	2.1 U	4.2 U	10 U	2.1 UJ	5.2 U
	FD	03/10/15	8	2 U	4 U	2 U	5.1 U	3 U	10 U	4 U	5.1 U	4 U	4 U	2 U	4 U	10 U	2 U	5.1 U
		06/26/15	8	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
	FD	06/26/15	8	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
		09/30/15	10	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
	FD	09/30/15	10	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
		12/18/15	10	2 U	4 U	2 U	5 U	3 U	10 U	4 U	5 U	4 U	4 U	2 U	4 U	10 U	2 U	5 U
	FD	12/18/15	10	2.1 U	4.1 U	2.1 U	5.2 U	3.1 U	10 U	4.1 U	5.2 U	4.1 U	4.1 U	2.1 U	4.1 U	10 U	2.1 U	5.2 U
MW-02		03/10/15	8	2.1 U	4.2 U	2.1 U	5.2 U	3.1 U	10 U	4.2 U	5.2 U	4.2 U	4.2 U	2.1 U	4.2 U	10 U	2.1 U	5.2 U
		06/26/15	9	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
		09/30/15	11	2 U	4.1 U	2 U	5.1 U	3.1 U	10 U	4.1 U	5.1 U	4.1 U	4.1 U	2 U	4.1 U	10 U	2 U	5.1 U
		12/18/15	11	2 U	4 U	2 U	5 U	3 U	10 U	4 U	5 U	4 U	4 U	2 U	4 U	10 U	2 U	5 U
MW-03		03/10/15	10	2.1 U	4.2 U	2.1 U	5.3 U	3.2 U	11 U	4.2 U	5.3 U	4.2 U	4.2 U	2.1 U	4.2 U	11 U	2.1 U	5.3 U
		06/26/15	10	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
		09/30/15	12	1.9 U	3.8 U	1.9 U	4.8 U	2.9 U	9.6 U	3.8 U	4.8 U	3.8 U	3.8 U	1.9 U	3.8 U	9.6 U	1.9 U	4.8 U
		12/18/15	12	2 U	4.1 U	2 U	5.1 U	3 U	10 U	4.1 U	5.1 U	4.1 U	4.1 U	2 U	4.1 U	10 U	2 U	5.1 U
MW-04		03/10/15	6	2.1 U	4.1 U	2.1 U	5.2 U	3.1 U	10 U	4.1 U	5.2 U	4.1 U	4.1 U	2.1 U	4.1 U	10 U	2.1 U	5.2 U
		06/26/15	8	1.9 U	3.8 U	1.9 U	4.8 U	2.9 U	9.5 U	3.8 U	4.8 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.8 U
		09/30/15	9	1.9 U	3.8 U	1.9 U	4.7 U	2.8 U	9.5 U	3.8 U	4.7 U	3.8 U	3.8 U	1.9 U	3.8 U	9.5 U	1.9 U	4.7 U
		12/18/15	9	2.1 U	4.1 U	2.1 U	5.1 U	3.1 U	10 U	4.1 U	5.1 U	4.1 U	4.1 U	2.1 U	4.1 U	10 U	2.1 U	5.1 U
MW-05		03/10/15	12	2 U	4 U	2 U	5.1 U	3 U	10 U	4 U	5.1 U	4 U	4 U	2 U	4 U	10 U	2 U	5.1 U
		06/26/15	13	2 U	4 U	2 U	5 U	3 U	9.9 U	4 U	5 U	4 U	4 U	2 U	4 U	9.9 U	2 U	5 U
		09/30/15	14	1.9 U	3.8 U	1.9 U	4.8 U	2.9 U	9.6 U	3.8 U	4.8 U	3.8 U	3.8 U	1.9 U	3.8 U	9.6 U	1.9 U	4.8 U
		12/18/15	14	2.1 U	4.1 U	2.1 U	5.1 U	3.1 U	10 U	4.1 U	5.1 U	4.1 U	4.1 U	2.1 U	4.1 U	10 U	2.1 U	5.1 U

Table 3. Summary of Groundwater Monitoring Sample Results

2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California

Parameter Group:				SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC		
Parameter:				3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromo-phenyl phenyl ether	4-Chloro-aniline	4-Chloro-phenyl phenyl ether	4-Chloro-3-methylphenol	4-Methyl-phenol	4-Nitro- aniline	4-Nitro-phenol	Acenaphthylene	Acenaphthene	Anthracene	Azobenzene	Benzo(a)-anthracene	Benzo(a)-pyrene
Groundwater ESL for Drinking Water Source ¹				Screening Levels (µg/L)														
				NE	NE	NE	5	NE	NE	NE	NE	NE	30	20	0.73	NE	0.027	0.014
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	5.2 U	10 U	5.2 U	2.1 U	5.2 U	5.2 U	8.4 U	10 U	10 U	4.2 UJ	2.1 UJ	2.1 U	2.1 U	5.2 U	2.1 U
	FD	03/10/15	8	5.1 U	10 U	5.1 U	2 U	5.1 U	5.1 U	8.1 U	10 U	10 U	4 U	2 U	2 U	2 U	5.1 U	2 U
		06/26/15	8	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
	FD	06/26/15	8	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
		09/30/15	10	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
	FD	09/30/15	10	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
		12/18/15	10	5 U	10 U	5 U	2 U	5 U	5 U	8 U	10 U	10 U	4 U	2 U	2 U	2 U	5 U	2 U
	FD	12/18/15	10	5.2 U	10 U	5.2 U	2.1 U	5.2 U	5.2 U	8.3 U	10 U	10 U	4.1 U	2.1 U	2.1 U	2.1 U	5.2 U	2.1 U
MW-02		03/10/15	8	5.2 U	10 U	5.2 U	2.1 U	5.2 U	5.2 U	8.3 U	10 U	10 U	4.2 U	2.1 U	2.1 U	2.1 U	5.2 U	2.1 U
		06/26/15	9	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
		09/30/15	11	5.1 U	10 U	5.1 U	2 U	5.1 U	5.1 U	8.1 U	10 U	10 U	4.1 U	2 U	2 U	2 U	5.1 U	2 U
		12/18/15	11	5 U	10 U	5 U	2 U	5 U	5 U	8 U	10 U	10 U	4 U	2 U	2 U	2 U	5 U	2 U
MW-03		03/10/15	10	5.3 U	11 U	5.3 U	2.1 U	5.3 U	5.3 U	8.4 U	11 U	11 U	4.2 U	2.1 U	2.1 U	2.1 U	5.3 U	2.1 U
		06/26/15	10	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
		09/30/15	12	4.8 U	9.6 U	4.8 U	1.9 U	4.8 U	4.8 U	7.6 U	9.6 U	9.6 U	3.8 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U
		12/18/15	12	5.1 U	10 U	5.1 U	2 U	5.1 U	5.1 U	8.1 U	10 U	10 U	4.1 U	2 U	2 U	2 U	5.1 U	2 U
MW-04		03/10/15	6	5.2 U	10 U	5.2 U	2.1 U	5.2 U	5.2 U	8.3 U	10 U	10 U	4.1 U	2.1 U	2.1 U	2.1 U	5.2 U	2.1 U
		06/26/15	8	4.8 U	9.5 U	4.8 U	1.9 U	4.8 U	4.8 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U
		09/30/15	9	4.7 U	9.5 U	4.7 U	1.9 U	4.7 U	4.7 U	7.6 U	9.5 U	9.5 U	3.8 U	1.9 U	1.9 U	1.9 U	4.7 U	1.9 U
		12/18/15	9	5.1 U	10 U	5.1 U	2.1 U	5.1 U	5.1 U	8.2 U	10 U	10 U	4.1 U	2.1 U	2.1 U	2.1 U	5.1 U	2.1 U
MW-05		03/10/15	12	5.1 U	10 U	5.1 U	2 U	5.1 U	5.1 U	8.1 U	10 U	10 U	4 U	2 U	2 U	2 U	5.1 U	2 U
		06/26/15	13	5 U	9.9 U	5 U	2 U	5 U	5 U	7.9 U	9.9 U	9.9 U	4 U	2 U	2 U	2 U	5 U	2 U
		09/30/15	14	4.8 U	9.6 U	4.8 U	1.9 U	4.8 U	4.8 U	7.7 U	9.6 U	9.6 U	3.8 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U
		12/18/15	14	5.1 U	10 U	5.1 U	2.1 U	5.1 U	5.1 U	8.2 U	10 U	10 U	4.1 U	2.1 U	2.1 U	2.1 U	5.1 U	2.1 U

Table 3. Summary of Groundwater Monitoring Sample Results

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Parameter Group:				SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	
Parameter:				Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Benzoic acid	Benzyl Alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Chrysene	Dibenz(a,h)-anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate
Groundwater ESL for Drinking Water Source ¹				Screening Levels (µg/L)														
				0.056	0.1	0.056	NE	NE	NE	0.0055	4	NE	0.35	0.016	NE	1.5	1.5	NE
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	2.1 U	2.1 U	2.1 U	10 U	5.2 U	5.2 UJ	2.1 U	4.7 J	5.2 U	2.1 U	2.1 U	4.2 U	5.2 U	5.2 U	5.2 U
	FD	03/10/15	8	2 U	2 U	2 U	10 U	5.1 U	5.1 U	2 U	3.2 J	5.1 U	2 U	2 U	4 U	5.1 U	5.1 U	5.1 U
		06/26/15	8	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
	FD	06/26/15	8	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
		09/30/15	10	1.9 U	0.8 J	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1 J	3.8 U	4.7 U	4.7 U	4.7 U
	FD	09/30/15	10	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
		12/18/15	10	2 U	2 U	2 U	10 U	5 U	5 U	2 U	10 U	5 U	2 U	2 U	4 U	5 U	5 U	5 U
	FD	12/18/15	10	2.1 U	2.1 U	2.1 U	10 U	5.2 U	5.2 U	2.1 U	10 U	5.2 U	2.1 U	2.1 U	4.1 U	5.2 U	5.2 U	5.2 U
MW-02		03/10/15	8	2.1 U	2.1 U	2.1 U	10 U	5.2 U	5.2 U	2.1 U	9.3 J	5.2 U	2.1 U	2.1 U	4.2 U	5.2 U	5.2 U	5.2 U
		06/26/15	9	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
		09/30/15	11	2 U	2 U	2 U	10 U	5.1 U	5.1 U	2 U	10 U	5.1 U	2 U	2 U	4.1 U	5.1 U	5.1 U	5.1 U
		12/18/15	11	2 U	2 U	2 U	10 U	5 U	5 U	2 U	10 U	5 U	2 U	2 U	4 U	5 U	5 U	5 U
MW-03		03/10/15	10	2.1 U	2.1 U	2.1 U	11 U	5.3 U	5.3 U	2.1 U	5.3 J	5.3 U	2.1 U	2.1 U	4.2 U	5.3 U	5.3 U	5.3 U
		06/26/15	10	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
		09/30/15	12	1.9 U	1.9 U	1.9 U	9.6 U	4.8 U	4.8 U	1.9 U	1.4 J	4.8 U	1.9 U	1.9 U	3.8 U	4.8 U	4.8 U	4.8 U
		12/18/15	12	2 U	2 U	2 U	10 U	5.1 U	5.1 U	2 U	10 U	5.1 U	2 U	2 U	4.1 U	5.1 U	5.1 U	5.1 U
MW-04		03/10/15	6	2.1 U	2.1 U	2.1 U	10 U	5.2 U	5.2 U	2.1 U	5.1 J	5.2 U	2.1 U	2.1 U	4.1 U	5.2 U	5.2 U	5.2 U
		06/26/15	8	1.9 U	1.9 U	1.9 U	9.5 U	4.8 U	4.8 U	1.9 U	9.5 U	4.8 U	1.9 U	1.9 U	3.8 U	4.8 U	4.8 U	4.8 U
		09/30/15	9	1.9 U	1.9 U	1.9 U	9.5 U	4.7 U	4.7 U	1.9 U	9.5 U	4.7 U	1.9 U	1.9 U	3.8 U	4.7 U	4.7 U	4.7 U
		12/18/15	9	2.1 U	2.1 U	2.1 U	10 U	5.1 U	5.1 U	2.1 U	10 U	5.1 U	2.1 U	2.1 U	4.1 U	5.1 U	5.1 U	5.1 U
MW-05		03/10/15	12	2 U	2 U	2 U	10 U	5.1 U	5.1 U	2 U	4.8 J	5.1 U	2 U	2 U	4 U	5.1 U	5.1 U	5.1 U
		06/26/15	13	2 U	2 U	2 U	9.9 U	5 U	5 U	2 U	9.9 U	5 U	2 U	2 U	4 U	5 U	5 U	5 U
		09/30/15	14	1.9 U	1.9 U	1.9 U	9.6 U	4.8 U	4.8 U	1.9 U	3 J	4.8 U	1.9 U	1.9 U	3.8 U	4.8 U	4.8 U	4.8 U
		12/18/15	14	2.1 U	2.1 U	2.1 U	10 U	5.1 U	5.1 U	2.1 U	10 U	5.1 U	2.1 U	2.1 U	4.1 U	5.1 U	5.1 U	5.1 U

Table 3. Summary of Groundwater Monitoring Sample Results

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Parameter Group:				SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	
Parameter:				Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachloro-benzene	Hexachloro-butadiene	Hexachloro-cyclopentadiene	Hexachloro-ethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-diphenylamine	N-Nitrosodi-n-propylamine	Pentachloro-phenol	Phenanthrene
Groundwater ESL for Drinking Water Source ¹				NE	8	3.9	1	0.86	NE	1.7	0.056	NE	6.1	NE	NE	NE	1	4.6
Location	Notes	Sample Date	Depth (feet bgs)	Analytical Results (µg/L)														
MW-01		03/10/15	8	5.2 U	2.1 U	4.2 UJ	2.1 U	2.1 U	5.2 U	2.1 UJ	2.1 U	4.2 UJ	2.1 U	2.1 UJ	2.1 U	2.1 U	10 U	2.1 U
	FD	03/10/15	8	5.1 U	2 U	4 U	2 U	2 U	5.1 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	10 U	2 U
		06/26/15	8	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 UJ	1.9 U	3.8 U	1.9 U	1.9 UJ	1.9 U	1.9 U	9.5 U	1.9 U
	FD	06/26/15	8	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
		09/30/15	10	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
	FD	09/30/15	10	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
		12/18/15	10	5 U	2 U	4 UJ	2 U	2 U	5 U	2 UJ	2 U	4 U	2 U	2 U	2 U	2 U	10 U	2 U
	FD	12/18/15	10	5.2 U	2.1 U	4.1 U	2.1 U	2.1 U	5.2 U	2.1 U	2.1 U	4.1 U	2.1 U	2.1 U	2.1 U	2.1 U	10 U	2.1 U
MW-02		03/10/15	8	5.2 U	2.1 U	4.2 U	2.1 U	2.1 U	5.2 U	2.1 U	2.1 U	4.2 U	2.1 U	74	2.1 U	2.1 U	2.5 J	2.1 U
		06/26/15	9	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	3.3	1.9 U	1.9 U	9.5 U	1.9 U
		09/30/15	11	5.1 U	2 U	4.1 U	2 U	2 U	5.1 U	2 U	2 U	4.1 U	2 U	2 U	2 U	2 U	10 U	2 U
		12/18/15	11	5 U	2 U	4 U	2 U	2 U	5 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	10 U	2 U
MW-03		03/10/15	10	5.3 U	2.1 U	4.2 U	2.1 U	2.1 U	5.3 U	2.1 U	2.1 U	4.2 U	2.1 U	2.1 U	2.1 U	2.1 U	11 U	2.1 U
		06/26/15	10	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
		09/30/15	12	4.8 U	1.9 U	3.8 U	1.9 U	1.9 U	4.8 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.6 U	1.9 U
		12/18/15	12	5.1 U	2 U	4.1 U	2 U	2 U	5.1 U	2 U	2 U	4.1 U	2 U	2 U	2 U	2 U	10 U	2 U
MW-04		03/10/15	6	5.2 U	2.1 U	4.1 U	2.1 U	2.1 U	5.2 U	2.1 U	2.1 U	4.1 U	2.1 U	2.1 U	2.1 U	2.1 U	10 U	2.1 U
		06/26/15	8	4.8 U	1.9 U	3.8 U	1.9 U	1.9 U	4.8 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
		09/30/15	9	4.7 U	1.9 U	3.8 U	1.9 U	1.9 U	4.7 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	1.9 U
		12/18/15	9	5.1 U	2.1 U	4.1 U	2.1 U	2.1 U	5.1 U	2.1 U	2.1 U	4.1 U	2.1 U	2.1 U	2.1 U	2.1 U	10 U	2.1 U
MW-05		03/10/15	12	5.1 U	2 U	4 U	2 U	2 U	5.1 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	10 U	2 U
		06/26/15	13	5 U	2 U	4 U	2 U	2 U	5 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	9.9 U	2 U
		09/30/15	14	4.8 U	1.9 U	3.8 U	1.9 U	1.9 U	4.8 U	1.9 U	1.9 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	9.6 U	1.9 U
		12/18/15	14	5.1 U	2.1 U	4.1 U	2.1 U	2.1 U	5.1 U	2.1 U	2.1 U	4.1 U	2.1 U	2.1 U	2.1 U	2.1 U	10 U	2.1 U

Table 3. Summary of Groundwater Monitoring Sample Results

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Notes:

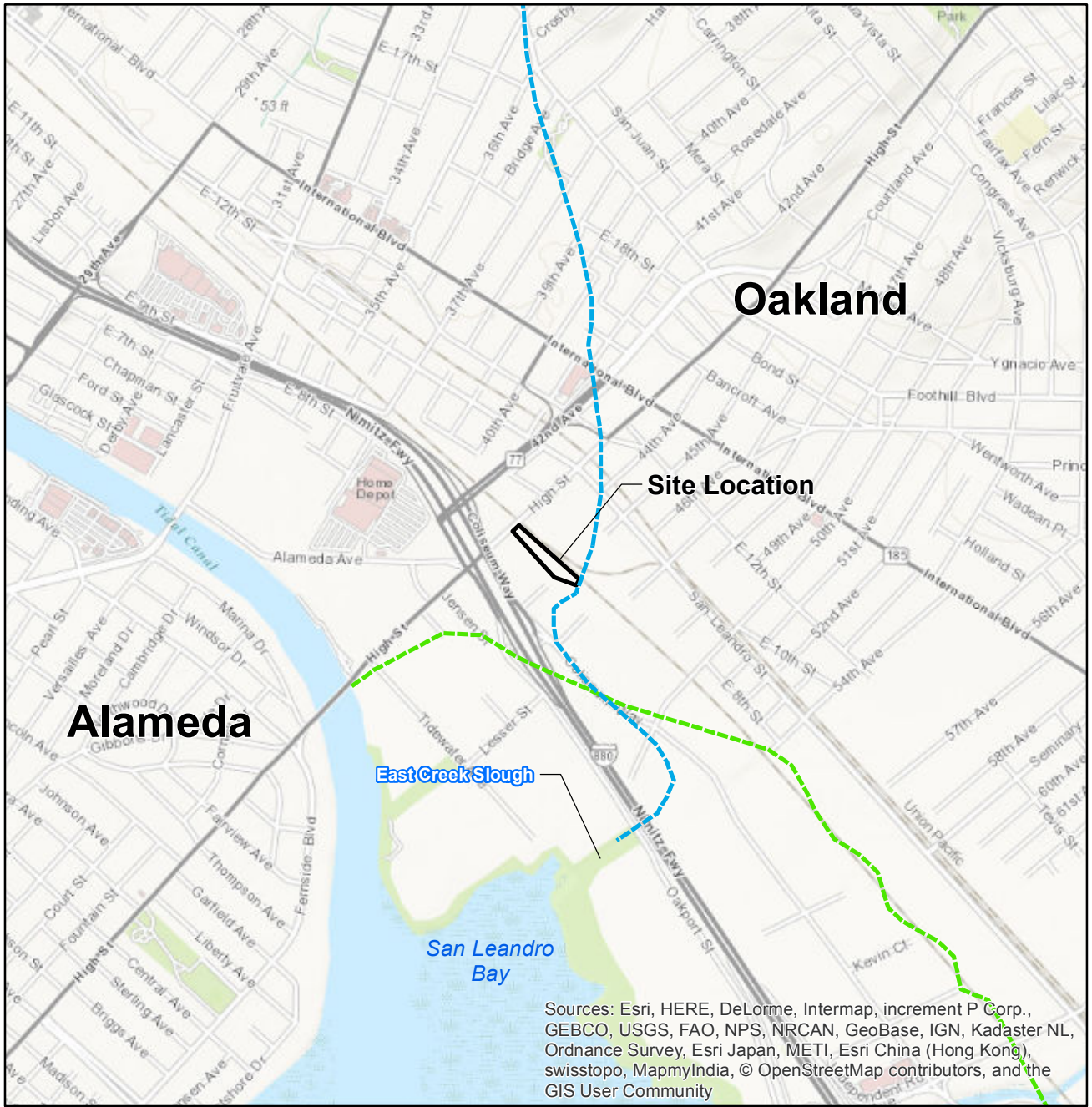
--	not analyzed
µg/L	micrograms per liter
bgs	below ground surface
ESL	environmental screening level
FD	field duplicate
J	estimated result
MET	metal
NE	not established
PCB	polychlorinated biphenyl
SVOC	semivolatile organic compound
TPH	total petroleum hydrocarbon
TPH-d	total petroleum hydrocarbons as diesel
TPH-g	total petroleum hydrocarbons as gasoline
TPH-mo	total petroleum hydrocarbons as motor oil
U	not detected at or above the indicated reporting limit

Detected concentrations exceeding the appropriate screening level are **bold**.

Screening Level Detail:

- 1 ESLs for groundwater where groundwater is a current or potential source of drinking water (California Regional Water Quality Control Board, San Francisco Bay Region, 2013)




Figures



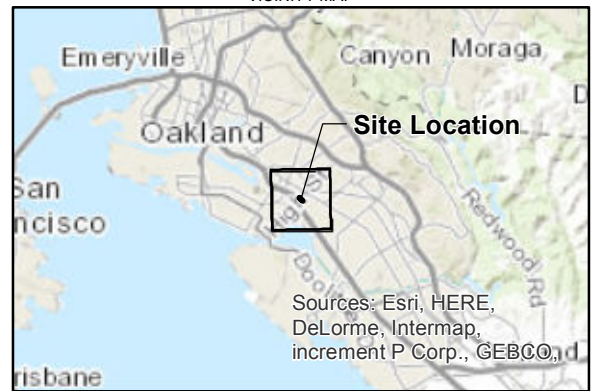
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

VICINITY MAP

LEGEND

-  Site Location
-  Approximate Location of Peralta Creek
-  Approximate Boundary of 1850 Tidal Marshes

Note:
Creek and historical shoreline features from Sowers and Richard (2009)



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, and

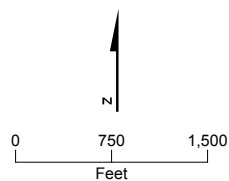


Figure 1.
Site Location Map
2015 Fourth Quarter Groundwater Monitoring Report
744 and 758 High Street, Oakland, California



LEGEND

- Monitoring Well
- Active Rail Line
- Former Rail Spur (1939-1958)
- Former Rail Spur (1944-1989)
- Site Boundary

Note:
 1. The years cited for the rail spurs and fenceline represent the earliest and latest documented dates for the feature.

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

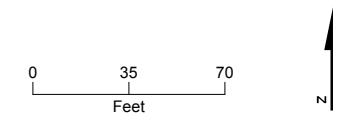
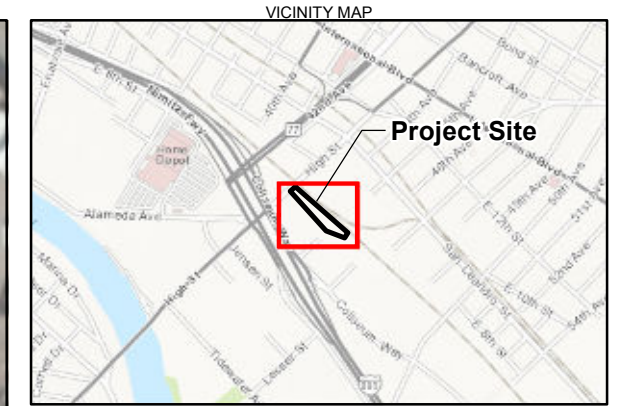


Figure 2.
Monitoring Well Locations
 2015 Fourth Quarter Groundwater Monitoring Report
 744 and 758 High Street, Oakland, California



- LEGEND**
- Monitoring Well
 - Groundwater Contours
 - Active Rail Line
 - Site Boundary

Notes:
 1. Monitoring Date: December 18, 2015.
 Well ID: MW-01
 Elevation: 13.37
 Groundwater elevations in feet above mean sea level

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

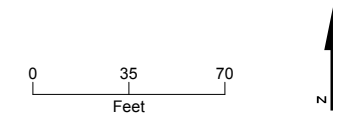
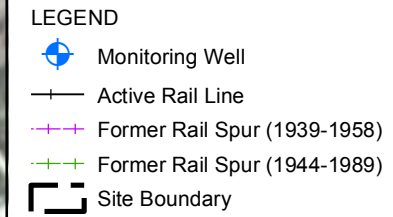
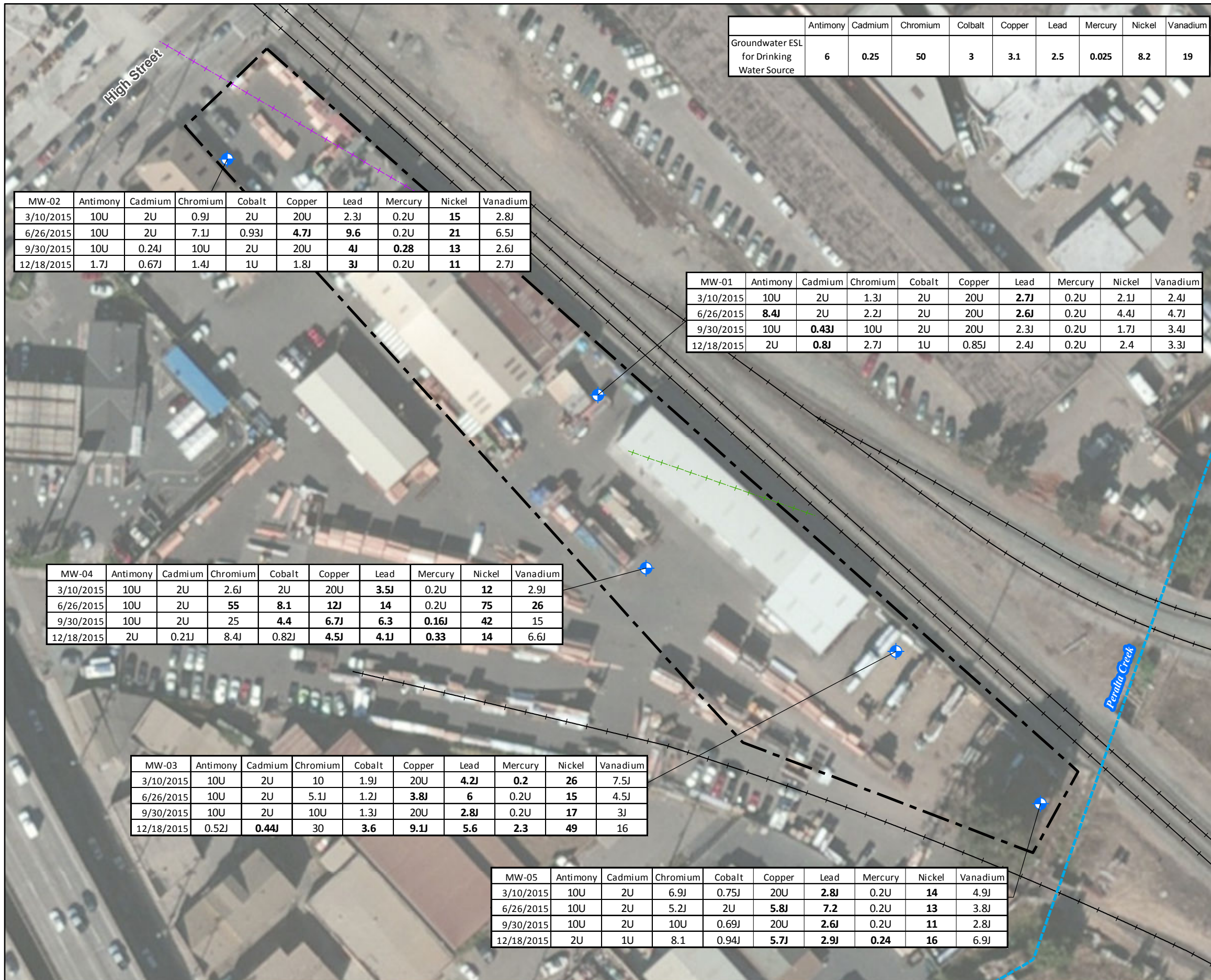


Figure 3.
Groundwater Elevations
 2015 Fourth Quarter Groundwater Monitoring Report
 744 and 758 High Street, Oakland, California



Notes:

- The years cited for the rail spurs and fenceline represent the earliest and latest documented dates for the feature.
- Results in **BOLD** exceed groundwater ESL for drinking water source.
- J = estimated result
- U = not detected above the indicated reporting limit
- Groundwater concentrations in units of micrograms per liter (µg/L)

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

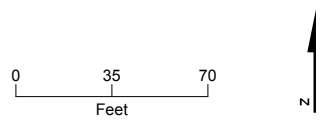


Figure 4.
Groundwater Monitoring Results for Antimony, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, and Vanadium
 2015 Fourth Quarter Groundwater Monitoring Report
 744 and 758 High Street, Oakland, California

Attachment 1
Wellhead Inspection Checklists, Well
Gauging Data Forms, Sample Forms,
and Chain-of-Custody Forms

WELL GAUGING DATA

Project # 151210-DS1 Date 12-16-15 Client [H2M/HIL]

Site 758 High St Oakland, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-01	0831	2	-				6.59	18.08	↓	
MW-02	0854	2	-				7.82	17.67		
MW-03	0839	2	-				9.01	17.91		
MW-04	0834	2	-				6.81	17.70		
MW-05	0827	2	-				11.60	18.14		↓

WELL MONITORING DATA SHEET

Project #: 151218-DS1	Client/Site: CH2MHILL @ UPRR Oakland
Sampler: DS	Start Date: 12/18/2015
Well I.D.: MW-01	Well Diameter: (2) 3 4 6 8
Total Well Depth: 18.00	Depth to Water Pre: 6.59 Post:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556 / YSI Pro Plus

Purge Method: Electric Submersible Peristaltic Pump
 Sampling Method: Dedicated Tubing other _____
 Flow Rate: 0.5 gpm ml/min C.V. = 1.83 Purging Pump Intake Depth: 7.5' ft.

Time	Temp. (°C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1100	18.9	7.63	564.2	220	1.46	228.0	1	6.59
1102	19.2	7.38	552.8	78	1.10	220.6	2	6.50
1104	19.4	7.22	560	37.3	0.85	214.0	3	6.61
1106	19.5	7.12	560	26.	0.76	210.8	4	6.62
1108	19.6	7.09	559	21	0.73	209.7	5	6.63
1110	19.7	7.06	557	19	0.70	210.8	6	6.64

Pump lowered to mid screen for sampling. Pump depth = 131

Did well dewater? Yes No Amount actually evacuated: 6 gals

Sampling Date: 12/18/2015 Sampling Time: 1115

Sample I.D.: MW-01-121815 Laboratory: TA - San Francisco

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.: @ 1120 DUP-1 MS-MSD

WELL MONITORING DATA SHEET

Project #: 151218-DS1	Client/Site: CH2MHILL @ UPRR Oakland
Sampler: DS	Start Date: 12/18/2015
Well I.D.: MW-02	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 17.07	Depth to Water Pre: 7.82 Post: 7.88
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556 / YSI Pro Plus</u>

Purge Method: Electric Submersible Peristaltic Pump
 Sampling Method: Dedicated Tubing other _____

Flow Rate: 0.5 gpm ml/min CV = 1.02 Purging Pump Intake Depth: 8.5' ft.

Time	Temp. (°C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1221	20.7	6.98	823	104	0.0	247.3	1	7.83
1223	21.0	6.92	829	87	0.0	225.0	2	7.84
1225	21.4	6.89	822	76	0.0	213.4	3	7.85
1227	21.6	6.86	814	54	0.0	204.6	4	7.86
1229	21.7	6.84	808	39	0.0	200.8	5	7.87
1231	21.7	6.83	805	34	0.0	200.1	6	7.88

Pump lowered to mid screen for sampling. Pump depth = 12'

Did well dewater? Yes No Amount actually evacuated: 6

Sampling Date: 12/18/2015 Sampling Time: 1240

Sample I.D.: MW-02-121815 Laboratory: TA - San Francisco

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: TB-002615 @ Time Duplicate I.D.:

WELL MONITORING DATA SHEET

Project #: 151218-DS1	Client/Site: CH2MHILL @ UPRR Oakland
Sampler: DS	Start Date: 12/18 12/18/2015
Well I.D.: MW-03	Well Diameter: 2 3 4 6 8 <u> </u>
Total Well Depth: 17.91	Depth to Water Pre: 9.61 Post: 9.66
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556 / YSI Pro Plus</u>

Purge Method: Electric Submersible Peristaltic Pump
 Sampling Method: Dedicated Tubing other _____

Flow Rate: 0.5 gpm ml/min C.V. = 1.32g Purging Pump Intake Depth: 101 ft.

Time	Temp. (°C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1030	19.5	7.06	1573	606	0.03	244.3	0.75	9.62
1032	19.4	7.04	1568	388	0.09	237.2	1.5	9.62
1034	20.2	6.99	1573	153	0.10	221.1	2.25	9.63
1036	20.0	6.98	1572	141	0.08	216.7	3.0	9.64
1038	19.7	6.97	1568	129	0.07	212.3	3.75	9.65
1040	19.6	6.96	1566	126	0.08	210.9	4.5	9.66

Pump lowered to mid screen for sampling. Pump depth = 12'0

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>4.59</u>
Sampling Date: 12/18/2015	Sampling Time: <u>1045</u>
Sample I.D.: <u>MW-03-121815</u>	Laboratory: TA - San Francisco
Analyzed for: TPH-G BTEX MTBE TPH-D	<u>Other:</u> See COC
Equipment Blank I.D.: @ _____	Duplicate I.D.: _____

WELL MONITORING DATA SHEET

Project #: 151218-DS1	Client/Site: CH2MHILL @ UPRR Oakland
Sampler: DS	Start Date: 12/18/2015
Well I.D.: MW-04	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 17.70	Depth to Water Pre: <u>6.81</u> Post: <u>6.88</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556 / YSI Pro Plus</u>

Purge Method: Electric Submersible Peristaltic Pump
 Sampling Method: Dedicated Tubing other _____
 Flow Rate: 1.5 gpm ~~ml/min~~ AV. = 1.75 Purging Pump Intake Depth: 7' ft.

Time	Temp. (°C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1000	22.1	6.92	1427	71000	0.25	255.0	1	6.83
1002	21.9	6.90	1431	71000	0.17	243.2	2	6.84
1004	21.7	6.89	1428	71000	0.16	240.2	3	6.85
1006	22.1	6.88	1424	71000	0.15	229.7	4	6.86
1008	22.0	6.86	1421	963	0.07	219.7	5	6.87
1010	22.1	6.85	1420	934	0.06	218.3	6	6.88

Pump lowered to mid screen for sampling. Pump depth = 12'

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Amount actually evacuated: <u>6</u>
Sampling Date: 12/18/2015	Sampling Time: <u>1015</u>
Sample I.D.: <u>MW-04-12/18/15</u>	Laboratory: TA - San Francisco
Analyzed for: TPH-G BTEX MTBE TPH-D <u>Other:</u> See COC	
Equipment Blank I.D.: @ _____ Time	Duplicate I.D.: _____

WELL MONITORING DATA SHEET

Project #: 151218-DS1	Client/Site: CH2MHILL @ UPRR Oakland
Sampler: DS	Start Date: 12 12/18/2015
Well I.D.: MW-05	Well Diameter: (2) 3 4 6 8
Total Well Depth: 18.14	Depth to Water Pre: 11.40 Post: 11.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556 / YSI Pro Plus

Purge Method: Electric Submersible Peristaltic Pump
 Sampling Method: Dedicated Tubing other _____

Flow Rate: 1/2 gal/min Purging Pump Intake Depth: 12 ft.

Time	Temp. (°C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals or mL)	DTW / Observations
0915	17.8	7.25	916	>1000	1.40	203.5	0.5	11.01
0916	18.4	7.17	903	>1000	0.57	250.0	1.0	11.02
0917	18.3	7.14	892	>1000	0.04	244.7	1.5	11.03
0918	18.5	7.11	864	>1000	0.81	240.3	2.0	11.03
0919	18.4	7.05	828	>1000	1.40	241.0	2.5	11.04
0920	18.4	7.04	803	>1000	1.37	240.3	3.0	11.05
Pump lowered to mid screen for sampling. Pump depth = 12'								

Did well dewater? Yes No Amount actually evacuated: 3.0

Sampling Date: 12/18/2015 Sampling Time: 0925

Sample I.D.: MW-05-12182015 Laboratory: TA - San Francisco

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

WELLHEAD INSPECTION CHECKLIST

Page _____ of _____

Client CH2MHILL Date 12/18/15
 Site Address UPRR 750 High St.
 Job Number 151208-DSY Technician DS

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-01	✓							
MW-02	✓							
MW-03	✓							
MW-04	✓							
MW-05	✓							

NOTES: _____

BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE
 SAN JOSE, CA 95112-1105
 FAX (408) 573-7771
 PHONE (408) 573-0555

CONDUCT ANALYSIS TO DETECT LAB: **TEST AMERICA - SF** DHS #

CHAIN OF CUSTODY

BTS #

CLIENT CH2M Hill

SITE UPRR - Oakland

750 High St.

Oakland, CA

C = COMPOSITE ALL CONTAINERS

TPH-g (8015M)	TPH-d, mo (8015M)	PCB's (8082)	SVOC's (7270C)	California Title 22 Metals (6010B) Field filtered
---------------	-------------------	--------------	----------------	---

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

EPA RWQCB REGION

LIA

OTHER

Client Name/Address:
 David Hodson - CH2M Hill (david.hodson@ch2m.com)
 33 New Montgomery St., Suite 2000
 San Francisco, CA

Project / PO Number: **PEDD-1954-05-Rev0** MS-MSD collected from: **MW-01**

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H ₂ O	CONTAINERS		C = COMPOSITE ALL CONTAINERS	TPH-g (8015M)	TPH-d, mo (8015M)	PCB's (8082)	SVOC's (7270C)	California Title 22 Metals (6010B) Field filtered	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
				TOTAL	TYPE										
MW-01-121815	12/18/2015	1115	W	30	Various		X	X	X	X	X	MS/MSD			
MW-02-121815	12/18/2015	1240	W	10	Various		X	X	X	X	X				
MW-03-121815	12/18/2015	1045	W	10	Various		X	X	X	X	X				
MW-04-121815	12/18/2015	1015	W	10	Various		X	X	X	X	X				
MW-05-121815	12/18/2015	0925	W	10	Various		X	X	X	X	X				
DUP-1	12/18/2015	1120	W	10	Various		X	X	X	X	X				
TB093015	12/18/2015	-	W	2	HCL Voas		X								

SAMPLING COMPLETED *DS* DATE 12/18/15 TIME 1315 SAMPLING PERFORMED BY *Don S...* RESULTS NEEDED NO LATER THAN **Standard TAT**

RELEASED BY <i>[Signature]</i>	DATE 12/18/15	TIME 1500	RECEIVED BY <i>Sample Custodian</i>	DATE 12/18/15	TIME 1500
RELEASED BY <i>[Signature]</i>	DATE	TIME	RECEIVED BY <i>[Signature]</i>	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
SHIPPED VIA	DATE SENT	TIME SENT			

Attachment 2
Laboratory Reports and Data Quality
Assessment and Validation
Memorandum

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

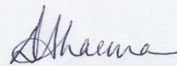
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-67708-1
Client Project/Site: UPRR-Oakland CA-750 High St

For:
CH2M Hill Constructors, Inc.
33 New Montgomery Street
Suite 2000
San Francisco, California 94105

Attn: David Hodson



Authorized for release by:
10/15/2015 4:59:35 PM

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Job ID: 720-67708-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative 720-67708-1

Comments

No additional comments.

Receipt

The samples were received on 10/1/2015 12:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9° C and 3.0° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270C: Surrogate recovery for the following sample was outside control limits: MW-03-093015 (720-67708-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-01-093015

Lab Sample ID: 720-67708-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Indeno[1,2,3-cd]pyrene	0.97	J	1.9	0.37	ug/L	1		8270C	Total/NA
Benzo[g,h,i]perylene	0.80	J	1.9	0.36	ug/L	1		8270C	Total/NA
Dibenz(a,h)anthracene	1.0	J	1.9	0.38	ug/L	1		8270C	Total/NA
Arsenic	0.0042	J	0.010	0.0029	mg/L	1		6010B	Dissolved
Barium	0.011	J	0.050	0.0016	mg/L	1		6010B	Dissolved
Cadmium	0.00043	J	0.0020	0.00021	mg/L	1		6010B	Dissolved
Chromium	0.0026	J B	0.010	0.00070	mg/L	1		6010B	Dissolved
Lead	0.0023	J	0.0050	0.0022	mg/L	1		6010B	Dissolved
Molybdenum	0.0031	J	0.010	0.0029	mg/L	1		6010B	Dissolved
Nickel	0.0017	J	0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.0034	J	0.010	0.00087	mg/L	1		6010B	Dissolved

Client Sample ID: MW-02-093015

Lab Sample ID: 720-67708-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	27	J	50	22	ug/L	1		8015B	Total/NA
Barium	0.080		0.050	0.0016	mg/L	1		6010B	Dissolved
Cadmium	0.00024	J	0.0020	0.00021	mg/L	1		6010B	Dissolved
Chromium	0.0020	J B	0.010	0.00070	mg/L	1		6010B	Dissolved
Lead	0.0040	J	0.0050	0.0022	mg/L	1		6010B	Dissolved
Nickel	0.013		0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.0026	J	0.010	0.00087	mg/L	1		6010B	Dissolved
Mercury	0.00028		0.00020	0.00010	mg/L	1		7470A	Dissolved

Client Sample ID: MW-03-093015

Lab Sample ID: 720-67708-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	200		50	21	ug/L	1		8260B/CA_LUFT MS	Total/NA
Bis(2-ethylhexyl) phthalate	1.4	J	9.6	1.4	ug/L	1		8270C	Total/NA
Diesel Range Organics [C10-C28]	32	J	47	21	ug/L	1		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	56	J	94	39	ug/L	1		8015B	Total/NA
PCB-1260	0.18	J	0.48	0.12	ug/L	1		8082	Total/NA
Barium	0.074		0.050	0.0016	mg/L	1		6010B	Dissolved
Cobalt	0.0013	J	0.0020	0.00068	mg/L	1		6010B	Dissolved
Lead	0.0028	J	0.0050	0.0022	mg/L	1		6010B	Dissolved
Nickel	0.017		0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.0030	J	0.010	0.00087	mg/L	1		6010B	Dissolved

Client Sample ID: MW-04-093015

Lab Sample ID: 720-67708-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	90		48	21	ug/L	1		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	110		95	40	ug/L	1		8015B	Total/NA
Barium	0.11		0.050	0.0016	mg/L	1		6010B	Dissolved
Chromium	0.025	B	0.010	0.00070	mg/L	1		6010B	Dissolved
Cobalt	0.0044		0.0020	0.00068	mg/L	1		6010B	Dissolved
Copper	0.0067	J	0.020	0.0037	mg/L	1		6010B	Dissolved
Lead	0.0063		0.0050	0.0022	mg/L	1		6010B	Dissolved
Nickel	0.042		0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.015		0.010	0.00087	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-04-093015 (Continued)

Lab Sample ID: 720-67708-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	0.016	J	0.020	0.0074	mg/L	1		6010B	Dissolved
Mercury	0.00016	J	0.00020	0.00010	mg/L	1		7470A	Dissolved

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	3.0	J	9.6	1.4	ug/L	1		8270C	Total/NA
Diesel Range Organics [C10-C28]	25	J	47	21	ug/L	1		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	49	J	95	40	ug/L	1		8015B	Total/NA
Barium	0.075		0.050	0.0016	mg/L	1		6010B	Dissolved
Chromium	0.00079	J B	0.010	0.00070	mg/L	1		6010B	Dissolved
Cobalt	0.00069	J	0.0020	0.00068	mg/L	1		6010B	Dissolved
Lead	0.0026	J	0.0050	0.0022	mg/L	1		6010B	Dissolved
Nickel	0.011		0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.0028	J	0.010	0.00087	mg/L	1		6010B	Dissolved

Client Sample ID: DUP-01

Lab Sample ID: 720-67708-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	25	J	47	21	ug/L	1		8015B	Total/NA
Barium	0.010	J	0.050	0.0016	mg/L	1		6010B	Dissolved
Chromium	0.0016	J B	0.010	0.00070	mg/L	1		6010B	Dissolved
Lead	0.0029	J	0.0050	0.0022	mg/L	1		6010B	Dissolved
Nickel	0.0019	J	0.010	0.0010	mg/L	1		6010B	Dissolved
Vanadium	0.0031	J	0.010	0.00087	mg/L	1		6010B	Dissolved
Mercury	0.00020		0.00020	0.00010	mg/L	1		7470A	Dissolved

Client Sample ID: TB093015

Lab Sample ID: 720-67708-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-01-093015

Lab Sample ID: 720-67708-1

Date Collected: 09/30/15 16:20

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/12/15 23:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		67 - 130					10/12/15 23:31	1
1,2-Dichloroethane-d4 (Surr)	92		72 - 130					10/12/15 23:31	1
Toluene-d8 (Surr)	98		70 - 130					10/12/15 23:31	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Bis(2-chloroethyl)ether	ND		1.9	0.28	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Chlorophenol	ND		3.8	0.37	ug/L		10/06/15 08:52	10/06/15 18:09	1
1,3-Dichlorobenzene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
1,4-Dichlorobenzene	ND		1.9	0.25	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzyl alcohol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
1,2-Dichlorobenzene	ND		1.9	0.24	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Methylphenol	ND		3.8	0.36	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Methylphenol	ND		7.6	0.62	ug/L		10/06/15 08:52	10/06/15 18:09	1
N-Nitrosodi-n-propylamine	ND		1.9	0.38	ug/L		10/06/15 08:52	10/06/15 18:09	1
Hexachloroethane	ND		1.9	0.94	ug/L		10/06/15 08:52	10/06/15 18:09	1
Nitrobenzene	ND		1.9	0.34	ug/L		10/06/15 08:52	10/06/15 18:09	1
Isophorone	ND		3.8	0.57	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Nitrophenol	ND		1.9	0.94	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4-Dimethylphenol	ND		2.8	1.8	ug/L		10/06/15 08:52	10/06/15 18:09	1
Bis(2-chloroethoxy)methane	ND		4.7	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4-Dichlorophenol	ND		4.7	0.28	ug/L		10/06/15 08:52	10/06/15 18:09	1
1,2,4-Trichlorobenzene	ND		1.9	0.43	ug/L		10/06/15 08:52	10/06/15 18:09	1
Naphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Chloroaniline	ND		1.9	0.26	ug/L		10/06/15 08:52	10/06/15 18:09	1
Hexachlorobutadiene	ND		1.9	0.48	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Chloro-3-methylphenol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Methylnaphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Hexachlorocyclopentadiene	ND		4.7	1.9	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4,6-Trichlorophenol	ND		1.9	0.48	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4,5-Trichlorophenol	ND		3.8	0.35	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Chloronaphthalene	ND		3.8	0.43	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Nitroaniline	ND		9.5	0.96	ug/L		10/06/15 08:52	10/06/15 18:09	1
Dimethyl phthalate	ND		4.7	0.44	ug/L		10/06/15 08:52	10/06/15 18:09	1
Acenaphthylene	ND		3.8	0.41	ug/L		10/06/15 08:52	10/06/15 18:09	1
3-Nitroaniline	ND		4.7	0.87	ug/L		10/06/15 08:52	10/06/15 18:09	1
Acenaphthene	ND		1.9	0.27	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4-Dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Nitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/06/15 18:09	1
Dibenzofuran	ND		3.8	0.48	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,4-Dinitrotoluene	ND		3.8	0.34	ug/L		10/06/15 08:52	10/06/15 18:09	1
2,6-Dinitrotoluene	ND		4.7	0.40	ug/L		10/06/15 08:52	10/06/15 18:09	1
Diethyl phthalate	ND		4.7	0.54	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Chlorophenyl phenyl ether	ND		4.7	0.36	ug/L		10/06/15 08:52	10/06/15 18:09	1
Fluorene	ND		3.8	0.46	ug/L		10/06/15 08:52	10/06/15 18:09	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-01-093015

Lab Sample ID: 720-67708-1

Date Collected: 09/30/15 16:20

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.5	1.9	ug/L		10/06/15 08:52	10/06/15 18:09	1
2-Methyl-4,6-dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/06/15 18:09	1
N-Nitrosodiphenylamine	ND		1.9	0.34	ug/L		10/06/15 08:52	10/06/15 18:09	1
4-Bromophenyl phenyl ether	ND		4.7	0.26	ug/L		10/06/15 08:52	10/06/15 18:09	1
Hexachlorobenzene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/06/15 18:09	1
Pentachlorophenol	ND		9.5	0.76	ug/L		10/06/15 08:52	10/06/15 18:09	1
Phenanthrene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/06/15 18:09	1
Anthracene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/06/15 18:09	1
Di-n-butyl phthalate	ND		4.7	0.35	ug/L		10/06/15 08:52	10/06/15 18:09	1
Fluoranthene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Pyrene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/06/15 18:09	1
Butyl benzyl phthalate	ND		4.7	0.29	ug/L		10/06/15 08:52	10/06/15 18:09	1
3,3'-Dichlorobenzidine	ND		4.7	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzo[a]anthracene	ND		4.7	0.62	ug/L		10/06/15 08:52	10/06/15 18:09	1
Bis(2-ethylhexyl) phthalate	ND		9.5	1.4	ug/L		10/06/15 08:52	10/06/15 18:09	1
Chrysene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Di-n-octyl phthalate	ND		4.7	0.61	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzo[b]fluoranthene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzo[a]pyrene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzo[k]fluoranthene	ND		1.9	0.29	ug/L		10/06/15 08:52	10/06/15 18:09	1
Indeno[1,2,3-cd]pyrene	0.97	J	1.9	0.37	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzo[g,h,i]perylene	0.80	J	1.9	0.36	ug/L		10/06/15 08:52	10/06/15 18:09	1
Benzoic acid	ND		9.5	1.6	ug/L		10/06/15 08:52	10/06/15 18:09	1
Azobenzene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/06/15 18:09	1
Dibenz(a,h)anthracene	1.0	J	1.9	0.38	ug/L		10/06/15 08:52	10/06/15 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		11 - 92	10/06/15 08:52	10/06/15 18:09	1
2-Fluorobiphenyl	85		10 - 101	10/06/15 08:52	10/06/15 18:09	1
Terphenyl-d14	115		34 - 128	10/06/15 08:52	10/06/15 18:09	1
2-Fluorophenol	34		10 - 65	10/06/15 08:52	10/06/15 18:09	1
Phenol-d5	23		10 - 46	10/06/15 08:52	10/06/15 18:09	1
2,4,6-Tribromophenol	86		17 - 115	10/06/15 08:52	10/06/15 18:09	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		47	21	ug/L		10/06/15 13:47	10/06/15 21:07	1
Motor Oil Range Organics [C24-C36]	ND		94	39	ug/L		10/06/15 13:47	10/06/15 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	94		23 - 156	10/06/15 13:47	10/06/15 21:07	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1
PCB-1221	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1
PCB-1232	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1
PCB-1242	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1
PCB-1248	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1
PCB-1254	ND		0.47	0.065	ug/L		10/05/15 11:18	10/05/15 20:30	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-01-093015

Lab Sample ID: 720-67708-1

Date Collected: 09/30/15 16:20

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND	F1	0.47	0.12	ug/L		10/05/15 11:18	10/05/15 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	67		19 - 98	10/05/15 11:18	10/05/15 20:30	1
DCB Decachlorobiphenyl	38		10 - 122	10/05/15 11:18	10/05/15 20:30	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 20:49	1
Arsenic	0.0042	J	0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:49	1
Barium	0.011	J	0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 20:49	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 20:49	1
Cadmium	0.00043	J	0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 20:49	1
Chromium	0.0026	J B	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 20:49	1
Cobalt	ND		0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:03	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 20:49	1
Lead	0.0023	J	0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 20:49	1
Molybdenum	0.0031	J	0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:49	1
Nickel	0.0017	J	0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 20:49	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 20:49	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 20:49	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 20:49	1
Vanadium	0.0034	J	0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 20:49	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 20:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:38	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-02-093015

Lab Sample ID: 720-67708-2

Date Collected: 09/30/15 16:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/13/15 01:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		67 - 130					10/13/15 01:23	1
1,2-Dichloroethane-d4 (Surr)	90		72 - 130					10/13/15 01:23	1
Toluene-d8 (Surr)	98		70 - 130					10/13/15 01:23	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Bis(2-chloroethyl)ether	ND		2.0	0.31	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Chlorophenol	ND		4.1	0.40	ug/L		10/06/15 08:52	10/07/15 20:47	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzyl alcohol	ND		5.1	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
1,2-Dichlorobenzene	ND		2.0	0.26	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Methylphenol	ND		4.1	0.39	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Methylphenol	ND		8.1	0.66	ug/L		10/06/15 08:52	10/07/15 20:47	1
N-Nitrosodi-n-propylamine	ND		2.0	0.41	ug/L		10/06/15 08:52	10/07/15 20:47	1
Hexachloroethane	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Nitrobenzene	ND		2.0	0.37	ug/L		10/06/15 08:52	10/07/15 20:47	1
Isophorone	ND		4.1	0.61	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Nitrophenol	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4-Dimethylphenol	ND		3.1	2.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Bis(2-chloroethoxy)methane	ND		5.1	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4-Dichlorophenol	ND		5.1	0.30	ug/L		10/06/15 08:52	10/07/15 20:47	1
1,2,4-Trichlorobenzene	ND		2.0	0.46	ug/L		10/06/15 08:52	10/07/15 20:47	1
Naphthalene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Chloroaniline	ND		2.0	0.28	ug/L		10/06/15 08:52	10/07/15 20:47	1
Hexachlorobutadiene	ND		2.0	0.52	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Chloro-3-methylphenol	ND		5.1	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Methylnaphthalene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Hexachlorocyclopentadiene	ND		5.1	2.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4,6-Trichlorophenol	ND		2.0	0.52	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4,5-Trichlorophenol	ND		4.1	0.38	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Chloronaphthalene	ND		4.1	0.46	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Nitroaniline	ND		10	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Dimethyl phthalate	ND		5.1	0.47	ug/L		10/06/15 08:52	10/07/15 20:47	1
Acenaphthylene	ND		4.1	0.44	ug/L		10/06/15 08:52	10/07/15 20:47	1
3-Nitroaniline	ND		5.1	0.94	ug/L		10/06/15 08:52	10/07/15 20:47	1
Acenaphthene	ND		2.0	0.29	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4-Dinitrophenol	ND		10	2.1	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Nitrophenol	ND		10	2.1	ug/L		10/06/15 08:52	10/07/15 20:47	1
Dibenzofuran	ND		4.1	0.52	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,4-Dinitrotoluene	ND		4.1	0.37	ug/L		10/06/15 08:52	10/07/15 20:47	1
2,6-Dinitrotoluene	ND		5.1	0.42	ug/L		10/06/15 08:52	10/07/15 20:47	1
Diethyl phthalate	ND		5.1	0.58	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Chlorophenyl phenyl ether	ND		5.1	0.39	ug/L		10/06/15 08:52	10/07/15 20:47	1
Fluorene	ND		4.1	0.50	ug/L		10/06/15 08:52	10/07/15 20:47	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-02-093015

Lab Sample ID: 720-67708-2

Date Collected: 09/30/15 16:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		10	2.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
2-Methyl-4,6-dinitrophenol	ND		10	2.1	ug/L		10/06/15 08:52	10/07/15 20:47	1
N-Nitrosodiphenylamine	ND		2.0	0.37	ug/L		10/06/15 08:52	10/07/15 20:47	1
4-Bromophenyl phenyl ether	ND		5.1	0.28	ug/L		10/06/15 08:52	10/07/15 20:47	1
Hexachlorobenzene	ND		2.0	0.33	ug/L		10/06/15 08:52	10/07/15 20:47	1
Pentachlorophenol	ND		10	0.82	ug/L		10/06/15 08:52	10/07/15 20:47	1
Phenanthrene	ND		2.0	0.35	ug/L		10/06/15 08:52	10/07/15 20:47	1
Anthracene	ND		2.0	0.30	ug/L		10/06/15 08:52	10/07/15 20:47	1
Di-n-butyl phthalate	ND		5.1	0.38	ug/L		10/06/15 08:52	10/07/15 20:47	1
Fluoranthene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Pyrene	ND		2.0	0.32	ug/L		10/06/15 08:52	10/07/15 20:47	1
Butyl benzyl phthalate	ND		5.1	0.31	ug/L		10/06/15 08:52	10/07/15 20:47	1
3,3'-Dichlorobenzidine	ND		5.1	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzo[a]anthracene	ND		5.1	0.66	ug/L		10/06/15 08:52	10/07/15 20:47	1
Bis(2-ethylhexyl) phthalate	ND		10	1.5	ug/L		10/06/15 08:52	10/07/15 20:47	1
Chrysene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Di-n-octyl phthalate	ND		5.1	0.65	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzo[b]fluoranthene	ND		2.0	0.35	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzo[a]pyrene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzo[k]fluoranthene	ND		2.0	0.32	ug/L		10/06/15 08:52	10/07/15 20:47	1
Indeno[1,2,3-cd]pyrene	ND		2.0	0.40	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzo[g,h,i]perylene	ND		2.0	0.38	ug/L		10/06/15 08:52	10/07/15 20:47	1
Benzoic acid	ND		10	1.8	ug/L		10/06/15 08:52	10/07/15 20:47	1
Azobenzene	ND		2.0	0.30	ug/L		10/06/15 08:52	10/07/15 20:47	1
Dibenz(a,h)anthracene	ND		2.0	0.41	ug/L		10/06/15 08:52	10/07/15 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		11 - 92	10/06/15 08:52	10/07/15 20:47	1
2-Fluorobiphenyl	85		10 - 101	10/06/15 08:52	10/07/15 20:47	1
Terphenyl-d14	82		34 - 128	10/06/15 08:52	10/07/15 20:47	1
2-Fluorophenol	33		10 - 65	10/06/15 08:52	10/07/15 20:47	1
Phenol-d5	22		10 - 46	10/06/15 08:52	10/07/15 20:47	1
2,4,6-Tribromophenol	74		17 - 115	10/06/15 08:52	10/07/15 20:47	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	27	J	50	22	ug/L		10/06/15 13:47	10/06/15 21:31	1
Motor Oil Range Organics [C24-C36]	ND		100	42	ug/L		10/06/15 13:47	10/06/15 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	88		23 - 156	10/06/15 13:47	10/06/15 21:31	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1
PCB-1221	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1
PCB-1232	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1
PCB-1242	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1
PCB-1248	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1
PCB-1254	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 02:46	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-02-093015

Lab Sample ID: 720-67708-2

Date Collected: 09/30/15 16:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.50	0.13	ug/L		10/05/15 11:18	10/06/15 02:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		19 - 98	10/05/15 11:18	10/06/15 02:46	1
DCB Decachlorobiphenyl	37		10 - 122	10/05/15 11:18	10/06/15 02:46	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 20:54	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:54	1
Barium	0.080		0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 20:54	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 20:54	1
Cadmium	0.00024	J	0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 20:54	1
Chromium	0.0020	J B	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 20:54	1
Cobalt	ND		0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:08	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 20:54	1
Lead	0.0040	J	0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 20:54	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:54	1
Nickel	0.013		0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 20:54	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 20:54	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 20:54	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 20:54	1
Vanadium	0.0026	J	0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 20:54	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 20:54	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00028		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:41	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-03-093015

Lab Sample ID: 720-67708-3

Date Collected: 09/30/15 14:40

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	200		50	21	ug/L			10/13/15 01:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		67 - 130					10/13/15 01:51	1
1,2-Dichloroethane-d4 (Surr)	89		72 - 130					10/13/15 01:51	1
Toluene-d8 (Surr)	98		70 - 130					10/13/15 01:51	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Bis(2-chloroethyl)ether	ND		1.9	0.29	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Chlorophenol	ND		3.8	0.37	ug/L		10/06/15 08:52	10/07/15 21:09	1
1,3-Dichlorobenzene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzyl alcohol	ND		4.8	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
1,2-Dichlorobenzene	ND		1.9	0.24	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Methylphenol	ND		3.8	0.36	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Methylphenol	ND		7.6	0.62	ug/L		10/06/15 08:52	10/07/15 21:09	1
N-Nitrosodi-n-propylamine	ND		1.9	0.38	ug/L		10/06/15 08:52	10/07/15 21:09	1
Hexachloroethane	ND		1.9	0.95	ug/L		10/06/15 08:52	10/07/15 21:09	1
Nitrobenzene	ND		1.9	0.34	ug/L		10/06/15 08:52	10/07/15 21:09	1
Isophorone	ND		3.8	0.57	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Nitrophenol	ND		1.9	0.95	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4-Dimethylphenol	ND		2.9	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
Bis(2-chloroethoxy)methane	ND		4.8	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4-Dichlorophenol	ND		4.8	0.28	ug/L		10/06/15 08:52	10/07/15 21:09	1
1,2,4-Trichlorobenzene	ND		1.9	0.43	ug/L		10/06/15 08:52	10/07/15 21:09	1
Naphthalene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Chloroaniline	ND		1.9	0.26	ug/L		10/06/15 08:52	10/07/15 21:09	1
Hexachlorobutadiene	ND		1.9	0.49	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Chloro-3-methylphenol	ND		4.8	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Methylnaphthalene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Hexachlorocyclopentadiene	ND		4.8	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4,6-Trichlorophenol	ND		1.9	0.49	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4,5-Trichlorophenol	ND		3.8	0.35	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Chloronaphthalene	ND		3.8	0.43	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Nitroaniline	ND		9.6	0.97	ug/L		10/06/15 08:52	10/07/15 21:09	1
Dimethyl phthalate	ND		4.8	0.44	ug/L		10/06/15 08:52	10/07/15 21:09	1
Acenaphthylene	ND		3.8	0.41	ug/L		10/06/15 08:52	10/07/15 21:09	1
3-Nitroaniline	ND		4.8	0.88	ug/L		10/06/15 08:52	10/07/15 21:09	1
Acenaphthene	ND		1.9	0.27	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4-Dinitrophenol	ND		9.6	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Nitrophenol	ND		9.6	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
Dibenzofuran	ND		3.8	0.49	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,4-Dinitrotoluene	ND		3.8	0.34	ug/L		10/06/15 08:52	10/07/15 21:09	1
2,6-Dinitrotoluene	ND		4.8	0.40	ug/L		10/06/15 08:52	10/07/15 21:09	1
Diethyl phthalate	ND		4.8	0.55	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Chlorophenyl phenyl ether	ND		4.8	0.36	ug/L		10/06/15 08:52	10/07/15 21:09	1
Fluorene	ND		3.8	0.47	ug/L		10/06/15 08:52	10/07/15 21:09	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-03-093015

Lab Sample ID: 720-67708-3

Date Collected: 09/30/15 14:40

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.6	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
2-Methyl-4,6-dinitrophenol	ND		9.6	1.9	ug/L		10/06/15 08:52	10/07/15 21:09	1
N-Nitrosodiphenylamine	ND		1.9	0.34	ug/L		10/06/15 08:52	10/07/15 21:09	1
4-Bromophenyl phenyl ether	ND		4.8	0.26	ug/L		10/06/15 08:52	10/07/15 21:09	1
Hexachlorobenzene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/07/15 21:09	1
Pentachlorophenol	ND		9.6	0.76	ug/L		10/06/15 08:52	10/07/15 21:09	1
Phenanthrene	ND		1.9	0.33	ug/L		10/06/15 08:52	10/07/15 21:09	1
Anthracene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/07/15 21:09	1
Di-n-butyl phthalate	ND		4.8	0.35	ug/L		10/06/15 08:52	10/07/15 21:09	1
Fluoranthene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Pyrene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/07/15 21:09	1
Butyl benzyl phthalate	ND		4.8	0.29	ug/L		10/06/15 08:52	10/07/15 21:09	1
3,3'-Dichlorobenzidine	ND		4.8	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzo[a]anthracene	ND		4.8	0.62	ug/L		10/06/15 08:52	10/07/15 21:09	1
Bis(2-ethylhexyl) phthalate	1.4	J	9.6	1.4	ug/L		10/06/15 08:52	10/07/15 21:09	1
Chrysene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Di-n-octyl phthalate	ND		4.8	0.61	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzo[b]fluoranthene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzo[a]pyrene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzo[k]fluoranthene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/07/15 21:09	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.37	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzo[g,h,i]perylene	ND		1.9	0.36	ug/L		10/06/15 08:52	10/07/15 21:09	1
Benzoic acid	ND		9.6	1.6	ug/L		10/06/15 08:52	10/07/15 21:09	1
Azobenzene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/07/15 21:09	1
Dibenz(a,h)anthracene	ND		1.9	0.38	ug/L		10/06/15 08:52	10/07/15 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	50		11 - 92	10/06/15 08:52	10/07/15 21:09	1
2-Fluorobiphenyl	53		10 - 101	10/06/15 08:52	10/07/15 21:09	1
Terphenyl-d14	28	X	34 - 128	10/06/15 08:52	10/07/15 21:09	1
2-Fluorophenol	25		10 - 65	10/06/15 08:52	10/07/15 21:09	1
Phenol-d5	17		10 - 46	10/06/15 08:52	10/07/15 21:09	1
2,4,6-Tribromophenol	71		17 - 115	10/06/15 08:52	10/07/15 21:09	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	32	J	47	21	ug/L		10/06/15 13:47	10/06/15 21:56	1
Motor Oil Range Organics [C24-C36]	56	J	94	39	ug/L		10/06/15 13:47	10/06/15 21:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	91		23 - 156	10/06/15 13:47	10/06/15 21:56	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1
PCB-1221	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1
PCB-1232	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1
PCB-1242	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1
PCB-1248	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1
PCB-1254	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:02	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-03-093015

Lab Sample ID: 720-67708-3

Date Collected: 09/30/15 14:40

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	0.18	J	0.48	0.12	ug/L		10/05/15 11:18	10/06/15 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	47		19 - 98	10/05/15 11:18	10/06/15 03:02	1
<i>DCB Decachlorobiphenyl</i>	20		10 - 122	10/05/15 11:18	10/06/15 03:02	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 20:59	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:59	1
Barium	0.074		0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 20:59	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 20:59	1
Cadmium	ND		0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 20:59	1
Chromium	ND		0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 20:59	1
Cobalt	0.0013	J	0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:14	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 20:59	1
Lead	0.0028	J	0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 20:59	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:59	1
Nickel	0.017		0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 20:59	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 20:59	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 20:59	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 20:59	1
Vanadium	0.0030	J	0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 20:59	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 20:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:43	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-04-093015

Lab Sample ID: 720-67708-4

Date Collected: 09/30/15 12:15

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/13/15 02:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		67 - 130					10/13/15 02:19	1
1,2-Dichloroethane-d4 (Surr)	89		72 - 130					10/13/15 02:19	1
Toluene-d8 (Surr)	98		70 - 130					10/13/15 02:19	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Bis(2-chloroethyl)ether	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Chlorophenol	ND		3.8	0.37	ug/L		10/06/15 08:52	10/09/15 17:58	1
1,3-Dichlorobenzene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
1,4-Dichlorobenzene	ND		1.9	0.25	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzyl alcohol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
1,2-Dichlorobenzene	ND		1.9	0.24	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Methylphenol	ND		3.8	0.36	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Methylphenol	ND		7.6	0.62	ug/L		10/06/15 08:52	10/09/15 17:58	1
N-Nitrosodi-n-propylamine	ND		1.9	0.38	ug/L		10/06/15 08:52	10/09/15 17:58	1
Hexachloroethane	ND		1.9	0.94	ug/L		10/06/15 08:52	10/09/15 17:58	1
Nitrobenzene	ND		1.9	0.34	ug/L		10/06/15 08:52	10/09/15 17:58	1
Isophorone	ND		3.8	0.57	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Nitrophenol	ND		1.9	0.94	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4-Dimethylphenol	ND		2.8	1.8	ug/L		10/06/15 08:52	10/09/15 17:58	1
Bis(2-chloroethoxy)methane	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4-Dichlorophenol	ND		4.7	0.28	ug/L		10/06/15 08:52	10/09/15 17:58	1
1,2,4-Trichlorobenzene	ND		1.9	0.43	ug/L		10/06/15 08:52	10/09/15 17:58	1
Naphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Chloroaniline	ND		1.9	0.26	ug/L		10/06/15 08:52	10/09/15 17:58	1
Hexachlorobutadiene	ND		1.9	0.48	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Chloro-3-methylphenol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Methylnaphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Hexachlorocyclopentadiene	ND		4.7	1.9	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4,6-Trichlorophenol	ND		1.9	0.48	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4,5-Trichlorophenol	ND		3.8	0.35	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Chloronaphthalene	ND		3.8	0.43	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Nitroaniline	ND		9.5	0.96	ug/L		10/06/15 08:52	10/09/15 17:58	1
Dimethyl phthalate	ND		4.7	0.44	ug/L		10/06/15 08:52	10/09/15 17:58	1
Acenaphthylene	ND		3.8	0.41	ug/L		10/06/15 08:52	10/09/15 17:58	1
3-Nitroaniline	ND		4.7	0.87	ug/L		10/06/15 08:52	10/09/15 17:58	1
Acenaphthene	ND		1.9	0.27	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4-Dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Nitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 17:58	1
Dibenzofuran	ND		3.8	0.48	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,4-Dinitrotoluene	ND		3.8	0.34	ug/L		10/06/15 08:52	10/09/15 17:58	1
2,6-Dinitrotoluene	ND		4.7	0.40	ug/L		10/06/15 08:52	10/09/15 17:58	1
Diethyl phthalate	ND		4.7	0.54	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Chlorophenyl phenyl ether	ND		4.7	0.36	ug/L		10/06/15 08:52	10/09/15 17:58	1
Fluorene	ND		3.8	0.47	ug/L		10/06/15 08:52	10/09/15 17:58	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-04-093015

Lab Sample ID: 720-67708-4

Date Collected: 09/30/15 12:15

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 17:58	1
2-Methyl-4,6-dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 17:58	1
N-Nitrosodiphenylamine	ND		1.9	0.34	ug/L		10/06/15 08:52	10/09/15 17:58	1
4-Bromophenyl phenyl ether	ND		4.7	0.26	ug/L		10/06/15 08:52	10/09/15 17:58	1
Hexachlorobenzene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/09/15 17:58	1
Pentachlorophenol	ND		9.5	0.76	ug/L		10/06/15 08:52	10/09/15 17:58	1
Phenanthrene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/09/15 17:58	1
Anthracene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 17:58	1
Di-n-butyl phthalate	ND		4.7	0.35	ug/L		10/06/15 08:52	10/09/15 17:58	1
Fluoranthene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Pyrene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/09/15 17:58	1
Butyl benzyl phthalate	ND		4.7	0.29	ug/L		10/06/15 08:52	10/09/15 17:58	1
3,3'-Dichlorobenzidine	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzo[a]anthracene	ND		4.7	0.62	ug/L		10/06/15 08:52	10/09/15 17:58	1
Bis(2-ethylhexyl) phthalate	ND		9.5	1.4	ug/L		10/06/15 08:52	10/09/15 17:58	1
Chrysene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Di-n-octyl phthalate	ND		4.7	0.61	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzo[b]fluoranthene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzo[a]pyrene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzo[k]fluoranthene	ND		1.9	0.29	ug/L		10/06/15 08:52	10/09/15 17:58	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.37	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzo[g,h,i]perylene	ND		1.9	0.36	ug/L		10/06/15 08:52	10/09/15 17:58	1
Benzoic acid	ND		9.5	1.6	ug/L		10/06/15 08:52	10/09/15 17:58	1
Azobenzene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 17:58	1
Dibenz(a,h)anthracene	ND		1.9	0.38	ug/L		10/06/15 08:52	10/09/15 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	60		11 - 92	10/06/15 08:52	10/09/15 17:58	1
2-Fluorobiphenyl	72		10 - 101	10/06/15 08:52	10/09/15 17:58	1
Terphenyl-d14	50		34 - 128	10/06/15 08:52	10/09/15 17:58	1
2-Fluorophenol	27		10 - 65	10/06/15 08:52	10/09/15 17:58	1
Phenol-d5	18		10 - 46	10/06/15 08:52	10/09/15 17:58	1
2,4,6-Tribromophenol	80		17 - 115	10/06/15 08:52	10/09/15 17:58	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	90		48	21	ug/L		10/06/15 13:47	10/07/15 03:11	1
Motor Oil Range Organics [C24-C36]	110		95	40	ug/L		10/06/15 13:47	10/07/15 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	86		23 - 156	10/06/15 13:47	10/07/15 03:11	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1
PCB-1221	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1
PCB-1232	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1
PCB-1242	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1
PCB-1248	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1
PCB-1254	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:18	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-04-093015

Lab Sample ID: 720-67708-4

Date Collected: 09/30/15 12:15

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.48	0.12	ug/L		10/05/15 11:18	10/06/15 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	67		19 - 98	10/05/15 11:18	10/06/15 03:18	1
DCB Decachlorobiphenyl	27		10 - 122	10/05/15 11:18	10/06/15 03:18	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 21:04	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:04	1
Barium	0.11		0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 21:04	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 21:04	1
Cadmium	ND		0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 21:04	1
Chromium	0.025	B	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 21:04	1
Cobalt	0.0044		0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:19	1
Copper	0.0067	J	0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 21:04	1
Lead	0.0063		0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 21:04	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:04	1
Nickel	0.042		0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 21:04	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 21:04	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 21:04	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 21:04	1
Vanadium	0.015		0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 21:04	1
Zinc	0.016	J	0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 21:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00016	J	0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:46	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Date Collected: 09/30/15 17:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/13/15 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		67 - 130					10/13/15 02:47	1
1,2-Dichloroethane-d4 (Surr)	91		72 - 130					10/13/15 02:47	1
Toluene-d8 (Surr)	97		70 - 130					10/13/15 02:47	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Bis(2-chloroethyl)ether	ND		1.9	0.29	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Chlorophenol	ND		3.8	0.38	ug/L		10/06/15 08:52	10/09/15 18:20	1
1,3-Dichlorobenzene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzyl alcohol	ND		4.8	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
1,2-Dichlorobenzene	ND		1.9	0.25	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Methylphenol	ND		3.8	0.37	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Methylphenol	ND		7.7	0.63	ug/L		10/06/15 08:52	10/09/15 18:20	1
N-Nitrosodi-n-propylamine	ND		1.9	0.39	ug/L		10/06/15 08:52	10/09/15 18:20	1
Hexachloroethane	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:20	1
Nitrobenzene	ND		1.9	0.35	ug/L		10/06/15 08:52	10/09/15 18:20	1
Isophorone	ND		3.8	0.58	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Nitrophenol	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4-Dimethylphenol	ND		2.9	1.9	ug/L		10/06/15 08:52	10/09/15 18:20	1
Bis(2-chloroethoxy)methane	ND		4.8	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4-Dichlorophenol	ND		4.8	0.28	ug/L		10/06/15 08:52	10/09/15 18:20	1
1,2,4-Trichlorobenzene	ND		1.9	0.43	ug/L		10/06/15 08:52	10/09/15 18:20	1
Naphthalene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Chloroaniline	ND		1.9	0.26	ug/L		10/06/15 08:52	10/09/15 18:20	1
Hexachlorobutadiene	ND		1.9	0.49	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Chloro-3-methylphenol	ND		4.8	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Methylnaphthalene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Hexachlorocyclopentadiene	ND		4.8	1.9	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4,6-Trichlorophenol	ND		1.9	0.49	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4,5-Trichlorophenol	ND		3.8	0.36	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Chloronaphthalene	ND		3.8	0.43	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Nitroaniline	ND		9.6	0.97	ug/L		10/06/15 08:52	10/09/15 18:20	1
Dimethyl phthalate	ND		4.8	0.44	ug/L		10/06/15 08:52	10/09/15 18:20	1
Acenaphthylene	ND		3.8	0.41	ug/L		10/06/15 08:52	10/09/15 18:20	1
3-Nitroaniline	ND		4.8	0.88	ug/L		10/06/15 08:52	10/09/15 18:20	1
Acenaphthene	ND		1.9	0.27	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4-Dinitrophenol	ND		9.6	1.9	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Nitrophenol	ND		9.6	2.0	ug/L		10/06/15 08:52	10/09/15 18:20	1
Dibenzofuran	ND		3.8	0.49	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,4-Dinitrotoluene	ND		3.8	0.35	ug/L		10/06/15 08:52	10/09/15 18:20	1
2,6-Dinitrotoluene	ND		4.8	0.40	ug/L		10/06/15 08:52	10/09/15 18:20	1
Diethyl phthalate	ND		4.8	0.55	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Chlorophenyl phenyl ether	ND		4.8	0.37	ug/L		10/06/15 08:52	10/09/15 18:20	1
Fluorene	ND		3.8	0.47	ug/L		10/06/15 08:52	10/09/15 18:20	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Date Collected: 09/30/15 17:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.6	1.9	ug/L		10/06/15 08:52	10/09/15 18:20	1
2-Methyl-4,6-dinitrophenol	ND		9.6	1.9	ug/L		10/06/15 08:52	10/09/15 18:20	1
N-Nitrosodiphenylamine	ND		1.9	0.35	ug/L		10/06/15 08:52	10/09/15 18:20	1
4-Bromophenyl phenyl ether	ND		4.8	0.26	ug/L		10/06/15 08:52	10/09/15 18:20	1
Hexachlorobenzene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/09/15 18:20	1
Pentachlorophenol	ND		9.6	0.77	ug/L		10/06/15 08:52	10/09/15 18:20	1
Phenanthrene	ND		1.9	0.33	ug/L		10/06/15 08:52	10/09/15 18:20	1
Anthracene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 18:20	1
Di-n-butyl phthalate	ND		4.8	0.36	ug/L		10/06/15 08:52	10/09/15 18:20	1
Fluoranthene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Pyrene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/09/15 18:20	1
Butyl benzyl phthalate	ND		4.8	0.29	ug/L		10/06/15 08:52	10/09/15 18:20	1
3,3'-Dichlorobenzidine	ND		4.8	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzo[a]anthracene	ND		4.8	0.63	ug/L		10/06/15 08:52	10/09/15 18:20	1
Bis(2-ethylhexyl) phthalate	3.0	J	9.6	1.4	ug/L		10/06/15 08:52	10/09/15 18:20	1
Chrysene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Di-n-octyl phthalate	ND		4.8	0.62	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzo[b]fluoranthene	ND		1.9	0.33	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzo[a]pyrene	ND		1.9	0.96	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzo[k]fluoranthene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/09/15 18:20	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.37	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzo[g,h,i]perylene	ND		1.9	0.36	ug/L		10/06/15 08:52	10/09/15 18:20	1
Benzoic acid	ND		9.6	1.7	ug/L		10/06/15 08:52	10/09/15 18:20	1
Azobenzene	ND		1.9	0.29	ug/L		10/06/15 08:52	10/09/15 18:20	1
Dibenz(a,h)anthracene	ND		1.9	0.38	ug/L		10/06/15 08:52	10/09/15 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	48		11 - 92	10/06/15 08:52	10/09/15 18:20	1
2-Fluorobiphenyl	55		10 - 101	10/06/15 08:52	10/09/15 18:20	1
Terphenyl-d14	42		34 - 128	10/06/15 08:52	10/09/15 18:20	1
2-Fluorophenol	21		10 - 65	10/06/15 08:52	10/09/15 18:20	1
Phenol-d5	15		10 - 46	10/06/15 08:52	10/09/15 18:20	1
2,4,6-Tribromophenol	79		17 - 115	10/06/15 08:52	10/09/15 18:20	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	25	J	47	21	ug/L		10/06/15 13:47	10/07/15 01:58	1
Motor Oil Range Organics [C24-C36]	49	J	95	40	ug/L		10/06/15 13:47	10/07/15 01:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	88		23 - 156	10/06/15 13:47	10/07/15 01:58	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1
PCB-1221	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1
PCB-1232	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1
PCB-1242	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1
PCB-1248	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1
PCB-1254	ND		0.48	0.066	ug/L		10/05/15 11:18	10/06/15 03:35	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Date Collected: 09/30/15 17:35

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.48	0.12	ug/L		10/05/15 11:18	10/06/15 03:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	52		19 - 98	10/05/15 11:18	10/06/15 03:35	1
DCB Decachlorobiphenyl	20		10 - 122	10/05/15 11:18	10/06/15 03:35	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 21:19	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:19	1
Barium	0.075		0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 21:19	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 21:19	1
Cadmium	ND		0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 21:19	1
Chromium	0.00079	J B	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 21:19	1
Cobalt	0.00069	J	0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:34	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 21:19	1
Lead	0.0026	J	0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 21:19	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:19	1
Nickel	0.011		0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 21:19	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 21:19	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 21:19	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 21:19	1
Vanadium	0.0028	J	0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 21:19	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 21:19	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:48	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: DUP-01

Date Collected: 09/30/15 00:00

Date Received: 10/01/15 12:00

Lab Sample ID: 720-67708-6

Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/13/15 03:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		67 - 130					10/13/15 03:15	1
1,2-Dichloroethane-d4 (Surr)	91		72 - 130					10/13/15 03:15	1
Toluene-d8 (Surr)	97		70 - 130					10/13/15 03:15	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Bis(2-chloroethyl)ether	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Chlorophenol	ND		3.8	0.37	ug/L		10/06/15 08:52	10/09/15 18:43	1
1,3-Dichlorobenzene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
1,4-Dichlorobenzene	ND		1.9	0.25	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzyl alcohol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
1,2-Dichlorobenzene	ND		1.9	0.24	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Methylphenol	ND		3.8	0.36	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Methylphenol	ND		7.6	0.62	ug/L		10/06/15 08:52	10/09/15 18:43	1
N-Nitrosodi-n-propylamine	ND		1.9	0.38	ug/L		10/06/15 08:52	10/09/15 18:43	1
Hexachloroethane	ND		1.9	0.94	ug/L		10/06/15 08:52	10/09/15 18:43	1
Nitrobenzene	ND		1.9	0.34	ug/L		10/06/15 08:52	10/09/15 18:43	1
Isophorone	ND		3.8	0.57	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Nitrophenol	ND		1.9	0.94	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4-Dimethylphenol	ND		2.8	1.8	ug/L		10/06/15 08:52	10/09/15 18:43	1
Bis(2-chloroethoxy)methane	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4-Dichlorophenol	ND		4.7	0.28	ug/L		10/06/15 08:52	10/09/15 18:43	1
1,2,4-Trichlorobenzene	ND		1.9	0.43	ug/L		10/06/15 08:52	10/09/15 18:43	1
Naphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Chloroaniline	ND		1.9	0.26	ug/L		10/06/15 08:52	10/09/15 18:43	1
Hexachlorobutadiene	ND		1.9	0.48	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Chloro-3-methylphenol	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Methylnaphthalene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Hexachlorocyclopentadiene	ND		4.7	1.9	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4,6-Trichlorophenol	ND		1.9	0.48	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4,5-Trichlorophenol	ND		3.8	0.35	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Chloronaphthalene	ND		3.8	0.43	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Nitroaniline	ND		9.5	0.96	ug/L		10/06/15 08:52	10/09/15 18:43	1
Dimethyl phthalate	ND		4.7	0.44	ug/L		10/06/15 08:52	10/09/15 18:43	1
Acenaphthylene	ND		3.8	0.41	ug/L		10/06/15 08:52	10/09/15 18:43	1
3-Nitroaniline	ND		4.7	0.87	ug/L		10/06/15 08:52	10/09/15 18:43	1
Acenaphthene	ND		1.9	0.27	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4-Dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Nitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 18:43	1
Dibenzofuran	ND		3.8	0.48	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,4-Dinitrotoluene	ND		3.8	0.34	ug/L		10/06/15 08:52	10/09/15 18:43	1
2,6-Dinitrotoluene	ND		4.7	0.40	ug/L		10/06/15 08:52	10/09/15 18:43	1
Diethyl phthalate	ND		4.7	0.54	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Chlorophenyl phenyl ether	ND		4.7	0.36	ug/L		10/06/15 08:52	10/09/15 18:43	1
Fluorene	ND		3.8	0.47	ug/L		10/06/15 08:52	10/09/15 18:43	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: DUP-01

Lab Sample ID: 720-67708-6

Date Collected: 09/30/15 00:00

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 18:43	1
2-Methyl-4,6-dinitrophenol	ND		9.5	1.9	ug/L		10/06/15 08:52	10/09/15 18:43	1
N-Nitrosodiphenylamine	ND		1.9	0.34	ug/L		10/06/15 08:52	10/09/15 18:43	1
4-Bromophenyl phenyl ether	ND		4.7	0.26	ug/L		10/06/15 08:52	10/09/15 18:43	1
Hexachlorobenzene	ND		1.9	0.31	ug/L		10/06/15 08:52	10/09/15 18:43	1
Pentachlorophenol	ND		9.5	0.76	ug/L		10/06/15 08:52	10/09/15 18:43	1
Phenanthrene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/09/15 18:43	1
Anthracene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 18:43	1
Di-n-butyl phthalate	ND		4.7	0.35	ug/L		10/06/15 08:52	10/09/15 18:43	1
Fluoranthene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Pyrene	ND		1.9	0.30	ug/L		10/06/15 08:52	10/09/15 18:43	1
Butyl benzyl phthalate	ND		4.7	0.29	ug/L		10/06/15 08:52	10/09/15 18:43	1
3,3'-Dichlorobenzidine	ND		4.7	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzo[a]anthracene	ND		4.7	0.62	ug/L		10/06/15 08:52	10/09/15 18:43	1
Bis(2-ethylhexyl) phthalate	ND		9.5	1.4	ug/L		10/06/15 08:52	10/09/15 18:43	1
Chrysene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Di-n-octyl phthalate	ND		4.7	0.61	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzo[b]fluoranthene	ND		1.9	0.32	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzo[a]pyrene	ND		1.9	0.95	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzo[k]fluoranthene	ND		1.9	0.29	ug/L		10/06/15 08:52	10/09/15 18:43	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.37	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzo[g,h,i]perylene	ND		1.9	0.36	ug/L		10/06/15 08:52	10/09/15 18:43	1
Benzoic acid	ND		9.5	1.6	ug/L		10/06/15 08:52	10/09/15 18:43	1
Azobenzene	ND		1.9	0.28	ug/L		10/06/15 08:52	10/09/15 18:43	1
Dibenz(a,h)anthracene	ND		1.9	0.38	ug/L		10/06/15 08:52	10/09/15 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	71		11 - 92	10/06/15 08:52	10/09/15 18:43	1
2-Fluorobiphenyl	87		10 - 101	10/06/15 08:52	10/09/15 18:43	1
Terphenyl-d14	103		34 - 128	10/06/15 08:52	10/09/15 18:43	1
2-Fluorophenol	30		10 - 65	10/06/15 08:52	10/09/15 18:43	1
Phenol-d5	20		10 - 46	10/06/15 08:52	10/09/15 18:43	1
2,4,6-Tribromophenol	97		17 - 115	10/06/15 08:52	10/09/15 18:43	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	25	J	47	21	ug/L		10/06/15 13:47	10/07/15 02:23	1
Motor Oil Range Organics [C24-C36]	ND		94	39	ug/L		10/06/15 13:47	10/07/15 02:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	94		23 - 156	10/06/15 13:47	10/07/15 02:23	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1
PCB-1221	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1
PCB-1232	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1
PCB-1242	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1
PCB-1248	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1
PCB-1254	ND		0.47	0.065	ug/L		10/05/15 11:18	10/06/15 03:51	1

TestAmerica Pleasanton

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: DUP-01

Lab Sample ID: 720-67708-6

Date Collected: 09/30/15 00:00

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.47	0.12	ug/L		10/05/15 11:18	10/06/15 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	73		19 - 98	10/05/15 11:18	10/06/15 03:51	1
DCB Decachlorobiphenyl	55		10 - 122	10/05/15 11:18	10/06/15 03:51	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 21:24	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:24	1
Barium	0.010	J	0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 21:24	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 21:24	1
Cadmium	ND		0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 21:24	1
Chromium	0.0016	J B	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 21:24	1
Cobalt	ND		0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 12:39	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 21:24	1
Lead	0.0029	J	0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 21:24	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 21:24	1
Nickel	0.0019	J	0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 21:24	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 21:24	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 21:24	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 21:24	1
Vanadium	0.0031	J	0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 21:24	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 21:24	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:55	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: TB093015

Lab Sample ID: 720-67708-7

Date Collected: 09/30/15 16:20

Matrix: Water

Date Received: 10/01/15 12:00

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L			10/12/15 23:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		67 - 130					10/12/15 23:03	1
1,2-Dichloroethane-d4 (Surr)	91		72 - 130					10/12/15 23:03	1
Toluene-d8 (Surr)	98		70 - 130					10/12/15 23:03	1



Surrogate Summary

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (67-130)	12DCE (72-130)	TOL (70-130)
720-67708-1	MW-01-093015	95	92	98
720-67708-1 MS	MW-01-093015	97	92	99
720-67708-1 MSD	MW-01-093015	97	92	100
720-67708-2	MW-02-093015	94	90	98
720-67708-3	MW-03-093015	94	89	98
720-67708-4	MW-04-093015	95	89	98
720-67708-5	MW-05-093015	94	91	97
720-67708-6	DUP-01	94	91	97
720-67708-7	TB093015	96	91	98
LCS 720-190630/9	Lab Control Sample	98	91	100
LCSD 720-190630/10	Lab Control Sample Dup	96	89	99
MB 720-190630/6	Method Blank	94	89	98

Surrogate Legend

BFB = 4-Bromofluorobenzene
 12DCE = 1,2-Dichloroethane-d4 (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NBZ (11-92)	FBP (10-101)	TPH (34-128)	2FP (10-65)	PHL (10-46)	TBP (17-115)
720-67708-1	MW-01-093015	64	85	115	34	23	86
720-67708-1 MS	MW-01-093015	70	85	112	31	21	92
720-67708-1 MSD	MW-01-093015	69	85	116	36	24	92
720-67708-2	MW-02-093015	64	85	82	33	22	74
720-67708-3	MW-03-093015	50	53	28 X	25	17	71
720-67708-4	MW-04-093015	60	72	50	27	18	80
720-67708-5	MW-05-093015	48	55	42	21	15	79
720-67708-6	DUP-01	71	87	103	30	20	97
LCS 720-190227/2-A	Lab Control Sample	64	78	114	36	25	91
MB 720-190227/1-A	Method Blank	65	85	118	37	24	84

Surrogate Legend

NBZ = Nitrobenzene-d5
 FBP = 2-Fluorobiphenyl
 TPH = Terphenyl-d14
 2FP = 2-Fluorophenol
 PHL = Phenol-d5
 TBP = 2,4,6-Tribromophenol

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PTP1 (23-156)
720-67708-1	MW-01-093015	94

TestAmerica Pleasanton

Surrogate Summary

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PTP1 (23-156)
720-67708-1 MS	MW-01-093015	83
720-67708-1 MSD	MW-01-093015	95
720-67708-2	MW-02-093015	88
720-67708-3	MW-03-093015	91
720-67708-4	MW-04-093015	86
720-67708-5	MW-05-093015	88
720-67708-6	DUP-01	94
LCS 720-190252/2-A	Lab Control Sample	99
MB 720-190252/1-A	Method Blank	96

Surrogate Legend

PTP = p-Terphenyl

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (19-98)	DCB1 (10-122)
720-67708-1	MW-01-093015	67	38
720-67708-1 MS	MW-01-093015	77	54
720-67708-1 MSD	MW-01-093015	73	53
720-67708-2	MW-02-093015	75	37
720-67708-3	MW-03-093015	47	20
720-67708-4	MW-04-093015	67	27
720-67708-5	MW-05-093015	52	20
720-67708-6	DUP-01	73	55
LCS 720-190149/2-A	Lab Control Sample	70	90
MB 720-190149/1-A	Method Blank	68	84

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

QC Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-190630/6

Matrix: Water

Analysis Batch: 190630

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50	21	ug/L	-		10/12/15 19:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		67 - 130		10/12/15 19:46	1
1,2-Dichloroethane-d4 (Surr)	89		72 - 130		10/12/15 19:46	1
Toluene-d8 (Surr)	98		70 - 130		10/12/15 19:46	1

Lab Sample ID: LCS 720-190630/9

Matrix: Water

Analysis Batch: 190630

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	460		ug/L	-	92	62 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	91		72 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: LCSD 720-190630/10

Matrix: Water

Analysis Batch: 190630

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	500	465		ug/L	-	93	62 - 120	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	96		67 - 130
1,2-Dichloroethane-d4 (Surr)	89		72 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: 720-67708-1 MS

Matrix: Water

Analysis Batch: 190630

Client Sample ID: MW-01-093015

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	ND		500	420		ug/L	-	84	60 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	92		72 - 130
Toluene-d8 (Surr)	99		70 - 130

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QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: 720-67708-1 MSD

Matrix: Water

Analysis Batch: 190630

Client Sample ID: MW-01-093015

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	ND		500	429		ug/L		86	60 - 140	2	20
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
4-Bromofluorobenzene	97			67 - 130							
1,2-Dichloroethane-d4 (Surr)	92			72 - 130							
Toluene-d8 (Surr)	100			70 - 130							

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-190227/1-A

Matrix: Water

Analysis Batch: 190229

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Bis(2-chloroethyl)ether	ND		2.0	0.30	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Chlorophenol	ND		4.0	0.39	ug/L		10/06/15 08:52	10/06/15 17:01	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzyl alcohol	ND		5.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
1,2-Dichlorobenzene	ND		2.0	0.26	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Methylphenol	ND		4.0	0.38	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Methylphenol	ND		8.0	0.65	ug/L		10/06/15 08:52	10/06/15 17:01	1
N-Nitrosodi-n-propylamine	ND		2.0	0.40	ug/L		10/06/15 08:52	10/06/15 17:01	1
Hexachloroethane	ND		2.0	0.99	ug/L		10/06/15 08:52	10/06/15 17:01	1
Nitrobenzene	ND		2.0	0.36	ug/L		10/06/15 08:52	10/06/15 17:01	1
Isophorone	ND		4.0	0.60	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Nitrophenol	ND		2.0	0.99	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4-Dimethylphenol	ND		3.0	1.9	ug/L		10/06/15 08:52	10/06/15 17:01	1
Bis(2-chloroethoxy)methane	ND		5.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4-Dichlorophenol	ND		5.0	0.29	ug/L		10/06/15 08:52	10/06/15 17:01	1
1,2,4-Trichlorobenzene	ND		2.0	0.45	ug/L		10/06/15 08:52	10/06/15 17:01	1
Naphthalene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Chloroaniline	ND		2.0	0.27	ug/L		10/06/15 08:52	10/06/15 17:01	1
Hexachlorobutadiene	ND		2.0	0.51	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Chloro-3-methylphenol	ND		5.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Methylnaphthalene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Hexachlorocyclopentadiene	ND		5.0	2.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4,6-Trichlorophenol	ND		2.0	0.51	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4,5-Trichlorophenol	ND		4.0	0.37	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Chloronaphthalene	ND		4.0	0.45	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Nitroaniline	ND		10	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Dimethyl phthalate	ND		5.0	0.46	ug/L		10/06/15 08:52	10/06/15 17:01	1
Acenaphthylene	ND		4.0	0.43	ug/L		10/06/15 08:52	10/06/15 17:01	1
3-Nitroaniline	ND		5.0	0.92	ug/L		10/06/15 08:52	10/06/15 17:01	1
Acenaphthene	ND		2.0	0.28	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4-Dinitrophenol	ND		10	2.0	ug/L		10/06/15 08:52	10/06/15 17:01	1

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-190227/1-A
Matrix: Water
Analysis Batch: 190229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		10	2.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Dibenzofuran	ND		4.0	0.51	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,4-Dinitrotoluene	ND		4.0	0.36	ug/L		10/06/15 08:52	10/06/15 17:01	1
2,6-Dinitrotoluene	ND		5.0	0.42	ug/L		10/06/15 08:52	10/06/15 17:01	1
Diethyl phthalate	ND		5.0	0.57	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Chlorophenyl phenyl ether	ND		5.0	0.38	ug/L		10/06/15 08:52	10/06/15 17:01	1
Fluorene	ND		4.0	0.49	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Nitroaniline	ND		10	2.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
2-Methyl-4,6-dinitrophenol	ND		10	2.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
N-Nitrosodiphenylamine	ND		2.0	0.36	ug/L		10/06/15 08:52	10/06/15 17:01	1
4-Bromophenyl phenyl ether	ND		5.0	0.27	ug/L		10/06/15 08:52	10/06/15 17:01	1
Hexachlorobenzene	ND		2.0	0.32	ug/L		10/06/15 08:52	10/06/15 17:01	1
Pentachlorophenol	ND		10	0.80	ug/L		10/06/15 08:52	10/06/15 17:01	1
Phenanthrene	ND		2.0	0.34	ug/L		10/06/15 08:52	10/06/15 17:01	1
Anthracene	ND		2.0	0.29	ug/L		10/06/15 08:52	10/06/15 17:01	1
Di-n-butyl phthalate	ND		5.0	0.37	ug/L		10/06/15 08:52	10/06/15 17:01	1
Fluoranthene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Pyrene	ND		2.0	0.32	ug/L		10/06/15 08:52	10/06/15 17:01	1
Butyl benzyl phthalate	ND		5.0	0.30	ug/L		10/06/15 08:52	10/06/15 17:01	1
3,3'-Dichlorobenzidine	ND		5.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzo[a]anthracene	ND		5.0	0.65	ug/L		10/06/15 08:52	10/06/15 17:01	1
Bis(2-ethylhexyl) phthalate	ND		10	1.5	ug/L		10/06/15 08:52	10/06/15 17:01	1
Chrysene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Di-n-octyl phthalate	ND		5.0	0.64	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzo[b]fluoranthene	ND		2.0	0.34	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzo[a]pyrene	ND		2.0	1.0	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzo[k]fluoranthene	ND		2.0	0.31	ug/L		10/06/15 08:52	10/06/15 17:01	1
Indeno[1,2,3-cd]pyrene	ND		2.0	0.39	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzo[g,h,i]perylene	ND		2.0	0.38	ug/L		10/06/15 08:52	10/06/15 17:01	1
Benzoic acid	ND		10	1.7	ug/L		10/06/15 08:52	10/06/15 17:01	1
Azobenzene	ND		2.0	0.30	ug/L		10/06/15 08:52	10/06/15 17:01	1
Dibenz(a,h)anthracene	ND		2.0	0.40	ug/L		10/06/15 08:52	10/06/15 17:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		11 - 92	10/06/15 08:52	10/06/15 17:01	1
2-Fluorobiphenyl	85		10 - 101	10/06/15 08:52	10/06/15 17:01	1
Terphenyl-d14	118		34 - 128	10/06/15 08:52	10/06/15 17:01	1
2-Fluorophenol	37		10 - 65	10/06/15 08:52	10/06/15 17:01	1
Phenol-d5	24		10 - 46	10/06/15 08:52	10/06/15 17:01	1
2,4,6-Tribromophenol	84		17 - 115	10/06/15 08:52	10/06/15 17:01	1

Lab Sample ID: LCS 720-190227/2-A
Matrix: Water
Analysis Batch: 190229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Phenol	40.0	10.8		ug/L		27	10 - 115
Bis(2-chloroethyl)ether	40.0	29.4		ug/L		73	12 - 115

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-190227/2-A

Matrix: Water

Analysis Batch: 190229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	40.0	27.4		ug/L		69	14 - 115
1,3-Dichlorobenzene	40.0	27.4		ug/L		68	13 - 115
1,4-Dichlorobenzene	40.0	27.9		ug/L		70	14 - 115
Benzyl alcohol	40.0	25.7		ug/L		64	19 - 115
1,2-Dichlorobenzene	40.0	29.1		ug/L		73	10 - 115
2-Methylphenol	40.0	25.5		ug/L		64	13 - 115
4-Methylphenol	40.0	23.5		ug/L		59	10 - 115
N-Nitrosodi-n-propylamine	40.0	31.2		ug/L		78	17 - 115
Hexachloroethane	40.0	24.7		ug/L		62	9 - 115
Nitrobenzene	40.0	29.2		ug/L		73	18 - 115
Isophorone	40.0	29.6		ug/L		74	18 - 134
2-Nitrophenol	40.0	29.8		ug/L		74	14 - 115
2,4-Dimethylphenol	40.0	28.3		ug/L		71	10 - 119
Bis(2-chloroethoxy)methane	40.0	29.0		ug/L		73	10 - 119
2,4-Dichlorophenol	40.0	31.3		ug/L		78	13 - 118
1,2,4-Trichlorobenzene	40.0	28.6		ug/L		72	10 - 115
Naphthalene	40.0	29.8		ug/L		74	12 - 115
4-Chloroaniline	40.0	30.9		ug/L		77	26 - 115
Hexachlorobutadiene	40.0	28.6		ug/L		71	12 - 115
4-Chloro-3-methylphenol	40.0	32.2		ug/L		80	19 - 128
2-Methylnaphthalene	40.0	30.7		ug/L		77	16 - 115
Hexachlorocyclopentadiene	40.0	9.21		ug/L		23	10 - 115
2,4,6-Trichlorophenol	40.0	33.1		ug/L		83	20 - 120
2,4,5-Trichlorophenol	40.0	34.1		ug/L		85	22 - 117
2-Chloronaphthalene	40.0	32.2		ug/L		81	17 - 115
2-Nitroaniline	40.0	35.0		ug/L		87	37 - 119
Dimethyl phthalate	40.0	34.5		ug/L		86	48 - 127
Acenaphthylene	40.0	32.2		ug/L		80	29 - 129
3-Nitroaniline	40.0	32.9		ug/L		82	40 - 115
Acenaphthene	40.0	33.6		ug/L		84	25 - 115
2,4-Dinitrophenol	80.0	35.3		ug/L		44	44 - 116
4-Nitrophenol	80.0	30.6		ug/L		38	20 - 115
Dibenzofuran	40.0	33.2		ug/L		83	28 - 115
2,4-Dinitrotoluene	40.0	35.7		ug/L		89	42 - 115
2,6-Dinitrotoluene	40.0	35.2		ug/L		88	46 - 119
Diethyl phthalate	40.0	36.0		ug/L		90	44 - 115
4-Chlorophenyl phenyl ether	40.0	33.9		ug/L		85	32 - 115
Fluorene	40.0	34.8		ug/L		87	39 - 115
4-Nitroaniline	40.0	35.2		ug/L		88	46 - 115
2-Methyl-4,6-dinitrophenol	80.0	43.2		ug/L		54	42 - 135
N-Nitrosodiphenylamine	68.5	65.5		ug/L		96	41 - 115
4-Bromophenyl phenyl ether	40.0	35.2		ug/L		88	42 - 115
Hexachlorobenzene	40.0	35.8		ug/L		90	49 - 115
Pentachlorophenol	80.0	64.8		ug/L		81	42 - 121
Phenanthrene	40.0	36.7		ug/L		92	54 - 115
Anthracene	40.0	37.2		ug/L		93	54 - 115
Di-n-butyl phthalate	40.0	38.7		ug/L		97	58 - 115
Fluoranthene	40.0	35.0		ug/L		88	65 - 115

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-190227/2-A
Matrix: Water
Analysis Batch: 190229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Pyrene	40.0	42.6		ug/L		107	53 - 115
Butyl benzyl phthalate	40.0	46.0		ug/L		115	37 - 115
3,3'-Dichlorobenzidine	40.0	35.3		ug/L		88	24 - 110
Benzo[a]anthracene	40.0	37.4		ug/L		94	56 - 115
Bis(2-ethylhexyl) phthalate	40.0	45.6		ug/L		114	59 - 115
Chrysene	40.0	36.0		ug/L		90	50 - 115
Di-n-octyl phthalate	40.0	45.3		ug/L		113	12 - 115
Benzo[b]fluoranthene	40.0	39.0		ug/L		98	50 - 115
Benzo[a]pyrene	40.0	35.3		ug/L		88	55 - 115
Benzo[k]fluoranthene	40.0	37.7		ug/L		94	60 - 115
Indeno[1,2,3-cd]pyrene	40.0	28.0		ug/L		70	49 - 117
Benzo[g,h,i]perylene	40.0	32.7		ug/L		82	54 - 115
Benzoic acid	40.0	9.32	J	ug/L		23	10 - 115
Azobenzene	40.0	33.5		ug/L		84	42 - 115
Dibenz(a,h)anthracene	40.0	25.5		ug/L		64	47 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	64		11 - 92
2-Fluorobiphenyl	78		10 - 101
Terphenyl-d14	114		34 - 128
2-Fluorophenol	36		10 - 65
Phenol-d5	25		10 - 46
2,4,6-Tribromophenol	91		17 - 115

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190229

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190227

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Phenol	ND		37.9	8.32		ug/L		22	12 - 115
Bis(2-chloroethyl)ether	ND		37.9	28.1		ug/L		74	43 - 126
2-Chlorophenol	ND		37.9	25.3		ug/L		67	23 - 134
1,3-Dichlorobenzene	ND		37.9	25.4		ug/L		67	17 - 153
1,4-Dichlorobenzene	ND		37.9	25.9		ug/L		68	36 - 115
Benzyl alcohol	ND		37.9	22.8		ug/L		60	10 - 130
1,2-Dichlorobenzene	ND		37.9	26.9		ug/L		71	49 - 115
2-Methylphenol	ND		37.9	22.0		ug/L		58	10 - 130
4-Methylphenol	ND		37.9	19.5		ug/L		51	10 - 130
N-Nitrosodi-n-propylamine	ND		37.9	29.6		ug/L		78	10 - 130
Hexachloroethane	ND		37.9	23.0		ug/L		61	55 - 100
Nitrobenzene	ND		37.9	30.2		ug/L		80	55 - 157
Isophorone	ND		37.9	29.2		ug/L		77	47 - 180
2-Nitrophenol	ND		37.9	30.5		ug/L		80	45 - 166
2,4-Dimethylphenol	ND		37.9	27.7		ug/L		73	42 - 109
Bis(2-chloroethoxy)methane	ND		37.9	29.4		ug/L		78	43 - 164
2,4-Dichlorophenol	ND		37.9	30.5		ug/L		81	53 - 121
1,2,4-Trichlorobenzene	ND		37.9	27.7		ug/L		73	44 - 142
Naphthalene	ND		37.9	29.5		ug/L		78	36 - 119

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-67708-1 MS

Matrix: Water

Analysis Batch: 190229

Client Sample ID: MW-01-093015

Prep Type: Total/NA

Prep Batch: 190227

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
4-Chloroaniline	ND		37.9	28.4		ug/L		75	10 - 130
Hexachlorobutadiene	ND		37.9	26.1		ug/L		69	38 - 115
4-Chloro-3-methylphenol	ND		37.9	30.2		ug/L		80	22 - 147
2-Methylnaphthalene	ND		37.9	29.7		ug/L		78	10 - 130
Hexachlorocyclopentadiene	ND		37.9	12.6		ug/L		33	10 - 130
2,4,6-Trichlorophenol	ND		37.9	34.0		ug/L		90	55 - 129
2,4,5-Trichlorophenol	ND		37.9	35.0		ug/L		92	20 - 120
2-Chloronaphthalene	ND		37.9	32.3		ug/L		85	10 - 130
2-Nitroaniline	ND		37.9	34.5		ug/L		91	10 - 130
Dimethyl phthalate	ND		37.9	34.2		ug/L		90	10 - 130
Acenaphthylene	ND		37.9	32.2		ug/L		85	54 - 126
3-Nitroaniline	ND		37.9	31.1		ug/L		82	10 - 130
Acenaphthene	ND		37.9	33.6		ug/L		89	56 - 118
2,4-Dinitrophenol	ND		75.8	42.7		ug/L		56	10 - 130
4-Nitrophenol	ND		75.8	24.4		ug/L		32	1 - 132
Dibenzofuran	ND		37.9	33.3		ug/L		88	10 - 130
2,4-Dinitrotoluene	ND		37.9	34.9		ug/L		92	39 - 139
2,6-Dinitrotoluene	ND		37.9	34.0		ug/L		90	10 - 130
Diethyl phthalate	ND		37.9	34.9		ug/L		92	10 - 130
4-Chlorophenyl phenyl ether	ND		37.9	33.1		ug/L		87	39 - 144
Fluorene	ND		37.9	34.1		ug/L		90	72 - 115
4-Nitroaniline	ND		37.9	33.6		ug/L		89	10 - 130
2-Methyl-4,6-dinitrophenol	ND		75.8	50.2		ug/L		66	53 - 115
N-Nitrosodiphenylamine	ND		64.9	63.7		ug/L		98	14 - 170
4-Bromophenyl phenyl ether	ND		37.9	33.9		ug/L		89	10 - 130
Hexachlorobenzene	ND		37.9	34.4		ug/L		91	8 - 140
Pentachlorophenol	ND		75.8	64.9		ug/L		86	45 - 125
Phenanthrene	ND		37.9	35.7		ug/L		94	44 - 125
Anthracene	ND		37.9	36.2		ug/L		96	44 - 118
Di-n-butyl phthalate	ND		37.9	37.1		ug/L		98	9 - 115
Fluoranthene	ND		37.9	34.6		ug/L		91	43 - 121
Pyrene	ND		37.9	39.9		ug/L		105	52 - 115
Butyl benzyl phthalate	ND		37.9	42.9		ug/L		113	10 - 139
3,3'-Dichlorobenzidine	ND		37.9	31.6		ug/L		83	9 - 150
Benzo[a]anthracene	ND		37.9	36.5		ug/L		96	42 - 133
Bis(2-ethylhexyl) phthalate	ND		37.9	42.5		ug/L		112	29 - 136
Chrysene	ND		37.9	35.4		ug/L		93	42 - 139
Di-n-octyl phthalate	ND		37.9	43.0		ug/L		113	10 - 130
Benzo[b]fluoranthene	ND		37.9	37.0		ug/L		98	42 - 140
Benzo[a]pyrene	ND		37.9	34.3		ug/L		91	32 - 148
Benzo[k]fluoranthene	ND		37.9	36.5		ug/L		96	26 - 145
Indeno[1,2,3-cd]pyrene	0.97	J	37.9	27.9		ug/L		71	10 - 150
Benzo[g,h,i]perylene	0.80	J	37.9	32.3		ug/L		83	10 - 140
Benzoic acid	ND		37.9	9.08	J	ug/L		24	10 - 130
Azobenzene	ND		37.9	32.6		ug/L		86	12 - 115
Dibenz(a,h)anthracene	1.0	J	37.9	25.8		ug/L		65	10 - 130

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-67708-1 MS

Matrix: Water

Analysis Batch: 190229

Client Sample ID: MW-01-093015

Prep Type: Total/NA

Prep Batch: 190227

Surrogate	MS %Recovery	MS Qualifier	Limits
Nitrobenzene-d5	70		11 - 92
2-Fluorobiphenyl	85		10 - 101
Terphenyl-d14	112		34 - 128
2-Fluorophenol	31		10 - 65
Phenol-d5	21		10 - 46
2,4,6-Tribromophenol	92		17 - 115

Lab Sample ID: 720-67708-1 MSD

Matrix: Water

Analysis Batch: 190229

Client Sample ID: MW-01-093015

Prep Type: Total/NA

Prep Batch: 190227

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	ND		37.9	9.78		ug/L		26	12 - 115	16	35
Bis(2-chloroethyl)ether	ND		37.9	29.1		ug/L		77	43 - 126	3	35
2-Chlorophenol	ND		37.9	27.0		ug/L		71	23 - 134	7	25
1,3-Dichlorobenzene	ND		37.9	26.4		ug/L		70	17 - 153	4	35
1,4-Dichlorobenzene	ND		37.9	26.9		ug/L		71	36 - 115	4	30
Benzyl alcohol	ND		37.9	24.4		ug/L		64	10 - 130	7	35
1,2-Dichlorobenzene	ND		37.9	28.2		ug/L		74	49 - 115	5	35
2-Methylphenol	ND		37.9	24.1		ug/L		63	10 - 130	9	35
4-Methylphenol	ND		37.9	22.0		ug/L		58	10 - 130	12	35
N-Nitrosodi-n-propylamine	ND		37.9	30.3		ug/L		80	10 - 130	2	34
Hexachloroethane	ND		37.9	23.5		ug/L		62	55 - 100	2	35
Nitrobenzene	ND		37.9	30.2		ug/L		80	55 - 157	0	35
Isophorone	ND		37.9	29.5		ug/L		78	47 - 180	1	35
2-Nitrophenol	ND		37.9	31.1		ug/L		82	45 - 166	2	35
2,4-Dimethylphenol	ND		37.9	28.8		ug/L		76	42 - 109	4	35
Bis(2-chloroethoxy)methane	ND		37.9	30.0		ug/L		79	43 - 164	2	35
2,4-Dichlorophenol	ND		37.9	31.4		ug/L		83	53 - 121	3	35
1,2,4-Trichlorobenzene	ND		37.9	28.1		ug/L		74	44 - 142	1	35
Naphthalene	ND		37.9	30.1		ug/L		79	36 - 119	2	35
4-Chloroaniline	ND		37.9	29.3		ug/L		77	10 - 130	3	35
Hexachlorobutadiene	ND		37.9	26.6		ug/L		70	38 - 115	2	35
4-Chloro-3-methylphenol	ND		37.9	31.0		ug/L		82	22 - 147	3	31
2-Methylnaphthalene	ND		37.9	30.4		ug/L		80	10 - 130	2	35
Hexachlorocyclopentadiene	ND		37.9	9.33		ug/L		25	10 - 130	30	35
2,4,6-Trichlorophenol	ND		37.9	33.8		ug/L		89	55 - 129	1	35
2,4,5-Trichlorophenol	ND		37.9	34.4		ug/L		91	20 - 120	2	35
2-Chloronaphthalene	ND		37.9	32.6		ug/L		86	10 - 130	1	35
2-Nitroaniline	ND		37.9	34.5		ug/L		91	10 - 130	0	35
Dimethyl phthalate	ND		37.9	33.7		ug/L		89	10 - 130	1	35
Acenaphthylene	ND		37.9	32.3		ug/L		85	54 - 126	0	35
3-Nitroaniline	ND		37.9	30.8		ug/L		81	10 - 130	1	35
Acenaphthene	ND		37.9	33.6		ug/L		89	56 - 118	0	30
2,4-Dinitrophenol	ND		75.9	34.7		ug/L		46	10 - 130	21	35
4-Nitrophenol	ND		75.9	27.7		ug/L		37	1 - 132	13	35
Dibenzofuran	ND		37.9	32.7		ug/L		86	10 - 130	2	35
2,4-Dinitrotoluene	ND		37.9	34.5		ug/L		91	39 - 139	1	35

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190229

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190227

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
2,6-Dinitrotoluene	ND		37.9	34.3		ug/L		90	10 - 130	1	35
Diethyl phthalate	ND		37.9	34.6		ug/L		91	10 - 130	1	35
4-Chlorophenyl phenyl ether	ND		37.9	32.7		ug/L		86	39 - 144	1	35
Fluorene	ND		37.9	34.0		ug/L		90	72 - 115	0	35
4-Nitroaniline	ND		37.9	33.3		ug/L		88	10 - 130	1	35
2-Methyl-4,6-dinitrophenol	ND		75.9	41.2		ug/L		54	53 - 115	19	35
N-Nitrosodiphenylamine	ND		65.0	63.4		ug/L		98	14 - 170	0	35
4-Bromophenyl phenyl ether	ND		37.9	34.3		ug/L		90	10 - 130	1	35
Hexachlorobenzene	ND		37.9	35.3		ug/L		93	8 - 140	3	35
Pentachlorophenol	ND		75.9	65.3		ug/L		86	45 - 125	1	35
Phenanthrene	ND		37.9	35.8		ug/L		94	44 - 125	0	35
Anthracene	ND		37.9	36.4		ug/L		96	44 - 118	1	35
Di-n-butyl phthalate	ND		37.9	37.1		ug/L		98	9 - 115	0	35
Fluoranthene	ND		37.9	34.6		ug/L		91	43 - 121	0	35
Pyrene	ND		37.9	41.7		ug/L		110	52 - 115	4	35
Butyl benzyl phthalate	ND		37.9	44.5		ug/L		117	10 - 139	4	35
3,3'-Dichlorobenzidine	ND		37.9	32.6		ug/L		86	9 - 150	3	35
Benzo[a]anthracene	ND		37.9	37.0		ug/L		97	42 - 133	1	35
Bis(2-ethylhexyl) phthalate	ND		37.9	43.8		ug/L		115	29 - 136	3	35
Chrysene	ND		37.9	35.8		ug/L		94	42 - 139	1	35
Di-n-octyl phthalate	ND		37.9	43.9		ug/L		116	10 - 130	2	35
Benzo[b]fluoranthene	ND		37.9	38.0		ug/L		100	42 - 140	3	35
Benzo[a]pyrene	ND		37.9	34.7		ug/L		92	32 - 148	1	35
Benzo[k]fluoranthene	ND		37.9	37.1		ug/L		98	26 - 145	2	35
Indeno[1,2,3-cd]pyrene	0.97	J	37.9	27.2		ug/L		69	10 - 150	3	35
Benzo[g,h,i]perylene	0.80	J	37.9	31.5		ug/L		81	10 - 140	2	35
Benzoic acid	ND		37.9	10.8		ug/L		28	10 - 130	17	35
Azobenzene	ND		37.9	32.2		ug/L		85	12 - 115	1	35
Dibenz(a,h)anthracene	1.0	J	37.9	25.1		ug/L		63	10 - 130	3	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Nitrobenzene-d5	69		11 - 92
2-Fluorobiphenyl	85		10 - 101
Terphenyl-d14	116		34 - 128
2-Fluorophenol	36		10 - 65
Phenol-d5	24		10 - 46
2,4,6-Tribromophenol	92		17 - 115

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-190252/1-A
Matrix: Water
Analysis Batch: 190212

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190252

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics [C10-C28]	ND		50	22	ug/L		10/06/15 13:47	10/07/15 04:48	1
Motor Oil Range Organics [C24-C36]	ND		99	42	ug/L		10/06/15 13:47	10/07/15 04:48	1

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 720-190252/1-A
Matrix: Water
Analysis Batch: 190212

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190252

Surrogate	<i>MB</i> %Recovery	<i>MB</i> Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>p</i> -Terphenyl	96		23 - 156	10/06/15 13:47	10/07/15 04:48	1

Lab Sample ID: LCS 720-190252/2-A
Matrix: Water
Analysis Batch: 190212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	2500	2140		ug/L		86	34 - 115

Surrogate	<i>LCS</i> %Recovery	<i>LCS</i> Qualifier	Limits
<i>p</i> -Terphenyl	99		23 - 156

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190211

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		2380	1810		ug/L		76	50 - 150

Surrogate	<i>MS</i> %Recovery	<i>MS</i> Qualifier	Limits
<i>p</i> -Terphenyl	83		23 - 156

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190211

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics [C10-C28]	ND		2380	2070		ug/L		87	50 - 150	13	30

Surrogate	<i>MSD</i> %Recovery	<i>MSD</i> Qualifier	Limits
<i>p</i> -Terphenyl	95		23 - 156

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-190149/1-A
Matrix: Water
Analysis Batch: 190136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190149

Analyte	<i>MB</i> Result	<i>MB</i> Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1
PCB-1221	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1
PCB-1232	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1
PCB-1242	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1
PCB-1248	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1
PCB-1254	ND		0.50	0.069	ug/L		10/05/15 11:18	10/06/15 05:13	1

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 720-190149/1-A
Matrix: Water
Analysis Batch: 190136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190149

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.50	0.13	ug/L		10/05/15 11:18	10/06/15 05:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		19 - 98	10/05/15 11:18	10/06/15 05:13	1
DCB Decachlorobiphenyl	84		10 - 122	10/05/15 11:18	10/06/15 05:13	1

Lab Sample ID: LCS 720-190149/2-A
Matrix: Water
Analysis Batch: 190136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	4.00	3.36		ug/L		84	40 - 115
PCB-1260	4.00	3.22		ug/L		80	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	70		19 - 98
DCB Decachlorobiphenyl	90		10 - 122

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190136

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	ND		3.79	3.37		ug/L		89	65 - 135
PCB-1260	ND	F1	3.79	2.60		ug/L		69	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	77		19 - 98
DCB Decachlorobiphenyl	54		10 - 122

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190136

Client Sample ID: MW-01-093015
Prep Type: Total/NA
Prep Batch: 190149

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016	ND		3.79	3.41		ug/L		90	65 - 135	1	20
PCB-1260	ND	F1	3.79	2.32	F1	ug/L		61	65 - 135	11	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	73		19 - 98
DCB Decachlorobiphenyl	53		10 - 122

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-190253/1-A
Matrix: Water
Analysis Batch: 190828

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0041	mg/L		10/06/15 13:55	10/14/15 20:20	1
Arsenic	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:20	1
Barium	ND		0.050	0.0016	mg/L		10/06/15 13:55	10/14/15 20:20	1
Beryllium	ND		0.0020	0.00059	mg/L		10/06/15 13:55	10/14/15 20:20	1
Cadmium	ND		0.0020	0.00021	mg/L		10/06/15 13:55	10/14/15 20:20	1
Chromium	0.00228	J	0.010	0.00070	mg/L		10/06/15 13:55	10/14/15 20:20	1
Copper	ND		0.020	0.0037	mg/L		10/06/15 13:55	10/14/15 20:20	1
Lead	ND		0.0050	0.0022	mg/L		10/06/15 13:55	10/14/15 20:20	1
Molybdenum	ND		0.010	0.0029	mg/L		10/06/15 13:55	10/14/15 20:20	1
Nickel	ND		0.010	0.0010	mg/L		10/06/15 13:55	10/14/15 20:20	1
Selenium	ND		0.020	0.0046	mg/L		10/06/15 13:55	10/14/15 20:20	1
Silver	ND		0.0050	0.0020	mg/L		10/06/15 13:55	10/14/15 20:20	1
Thallium	ND		0.010	0.0035	mg/L		10/06/15 13:55	10/14/15 20:20	1
Vanadium	ND		0.010	0.00087	mg/L		10/06/15 13:55	10/14/15 20:20	1
Zinc	ND		0.020	0.0074	mg/L		10/06/15 13:55	10/14/15 20:20	1

Lab Sample ID: MB 720-190253/1-A
Matrix: Water
Analysis Batch: 190858

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.0020	0.00068	mg/L		10/06/15 13:55	10/15/15 11:34	1

Lab Sample ID: LCS 720-190253/2-A
Matrix: Water
Analysis Batch: 190828

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	1.00	1.02		mg/L		102	80 - 120
Arsenic	1.00	1.03		mg/L		103	80 - 120
Barium	1.00	0.950		mg/L		95	80 - 120
Beryllium	1.00	0.928		mg/L		93	80 - 120
Cadmium	1.00	0.958		mg/L		96	80 - 120
Chromium	1.00	0.890		mg/L		89	80 - 120
Copper	1.00	0.907		mg/L		91	80 - 120
Lead	1.00	0.928		mg/L		93	80 - 120
Molybdenum	1.00	0.987		mg/L		99	80 - 120
Nickel	1.00	1.00		mg/L		100	80 - 120
Selenium	1.00	1.00		mg/L		100	80 - 120
Silver	0.500	0.472		mg/L		94	80 - 120
Thallium	1.00	1.00		mg/L		100	80 - 120
Vanadium	1.00	0.951		mg/L		95	80 - 120
Zinc	1.00	0.971		mg/L		97	80 - 120

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-190253/2-A
Matrix: Water
Analysis Batch: 190858

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	1.00	0.955		mg/L		95	80 - 120

Lab Sample ID: LCSD 720-190253/3-A
Matrix: Water
Analysis Batch: 190828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	1.00	1.01		mg/L		101	80 - 120	1	20
Arsenic	1.00	1.03		mg/L		103	80 - 120	0	20
Barium	1.00	0.960		mg/L		96	80 - 120	1	20
Beryllium	1.00	0.939		mg/L		94	80 - 120	1	20
Cadmium	1.00	0.961		mg/L		96	80 - 120	0	20
Chromium	1.00	0.895		mg/L		89	80 - 120	1	20
Copper	1.00	0.908		mg/L		91	80 - 120	0	20
Lead	1.00	0.934		mg/L		93	80 - 120	1	20
Molybdenum	1.00	0.992		mg/L		99	80 - 120	1	20
Nickel	1.00	1.00		mg/L		100	80 - 120	0	20
Selenium	1.00	1.01		mg/L		101	80 - 120	1	20
Silver	0.500	0.473		mg/L		95	80 - 120	0	20
Thallium	1.00	1.00		mg/L		100	80 - 120	0	20
Vanadium	1.00	0.957		mg/L		96	80 - 120	1	20
Zinc	1.00	0.972		mg/L		97	80 - 120	0	20

Lab Sample ID: LCSD 720-190253/3-A
Matrix: Water
Analysis Batch: 190858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 190253

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	1.00	0.959		mg/L		96	80 - 120	0	20

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190828

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		1.00	1.04		mg/L		104	75 - 125
Arsenic	0.0042	J	1.00	1.07		mg/L		106	75 - 125
Barium	0.011	J	1.00	0.964		mg/L		95	75 - 125
Beryllium	ND		1.00	0.933		mg/L		93	75 - 125
Cadmium	0.00043	J	1.00	0.961		mg/L		96	75 - 125
Chromium	0.0026	J B	1.00	0.911		mg/L		91	75 - 125
Copper	ND		1.00	0.910		mg/L		91	75 - 125
Lead	0.0023	J	1.00	0.912		mg/L		91	75 - 125
Molybdenum	0.0031	J	1.00	1.01		mg/L		101	75 - 125
Nickel	0.0017	J	1.00	0.993		mg/L		99	75 - 125
Selenium	ND		1.00	1.02		mg/L		102	75 - 125
Silver	ND		0.500	0.483		mg/L		97	75 - 125
Thallium	ND		1.00	0.976		mg/L		98	75 - 125
Vanadium	0.0034	J	1.00	1.01		mg/L		101	75 - 125

TestAmerica Pleasanton

QC Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190828

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Zinc	ND		1.00	0.972		mg/L		97	75 - 125

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190858

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cobalt	ND		1.00	0.950		mg/L		95	75 - 125

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190828

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190253

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		1.00	1.03		mg/L		103	75 - 125	2	20
Arsenic	0.0042	J	1.00	1.06		mg/L		105	75 - 125	1	20
Barium	0.011	J	1.00	0.966		mg/L		96	75 - 125	0	20
Beryllium	ND		1.00	0.934		mg/L		93	75 - 125	0	20
Cadmium	0.00043	J	1.00	0.956		mg/L		96	75 - 125	1	20
Chromium	0.0026	J B	1.00	0.899		mg/L		90	75 - 125	1	20
Copper	ND		1.00	0.897		mg/L		90	75 - 125	1	20
Lead	0.0023	J	1.00	0.914		mg/L		91	75 - 125	0	20
Molybdenum	0.0031	J	1.00	1.01		mg/L		100	75 - 125	1	20
Nickel	0.0017	J	1.00	0.982		mg/L		98	75 - 125	1	20
Selenium	ND		1.00	1.01		mg/L		101	75 - 125	1	20
Silver	ND		0.500	0.472		mg/L		94	75 - 125	2	20
Thallium	ND		1.00	0.969		mg/L		97	75 - 125	1	20
Vanadium	0.0034	J	1.00	0.978		mg/L		97	75 - 125	3	20
Zinc	ND		1.00	0.967		mg/L		97	75 - 125	1	20

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190858

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190253

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cobalt	ND		1.00	0.959		mg/L		96	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 720-190148/1-A
Matrix: Water
Analysis Batch: 190196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190148

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/05/15 11:08	10/05/15 16:26	1

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QC Sample Results

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 720-190148/2-A
Matrix: Water
Analysis Batch: 190196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190148

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.0100	0.00988		mg/L		99	85 - 115

Lab Sample ID: LCSD 720-190148/3-A
Matrix: Water
Analysis Batch: 190196

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190148

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.0100	0.00956		mg/L		96	85 - 115	3	20

Lab Sample ID: 720-67708-1 MS
Matrix: Water
Analysis Batch: 190196

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190148

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.0100	0.00954		mg/L		95	70 - 130

Lab Sample ID: 720-67708-1 MSD
Matrix: Water
Analysis Batch: 190196

Client Sample ID: MW-01-093015
Prep Type: Dissolved
Prep Batch: 190148

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.0100	0.00954		mg/L		95	70 - 130	0	20

QC Association Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

GC/MS VOA

Analysis Batch: 190630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-1 MS	MW-01-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-1 MSD	MW-01-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-2	MW-02-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-3	MW-03-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-4	MW-04-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-5	MW-05-093015	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-6	DUP-01	Total/NA	Water	8260B/CA_LUFT MS	
720-67708-7	TB093015	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-190630/9	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-190630/10	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-190630/6	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

GC/MS Semi VOA

Prep Batch: 190227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MS	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MSD	MW-01-093015	Total/NA	Water	3510C	
720-67708-2	MW-02-093015	Total/NA	Water	3510C	
720-67708-3	MW-03-093015	Total/NA	Water	3510C	
720-67708-4	MW-04-093015	Total/NA	Water	3510C	
720-67708-5	MW-05-093015	Total/NA	Water	3510C	
720-67708-6	DUP-01	Total/NA	Water	3510C	
LCS 720-190227/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 720-190227/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 190229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	8270C	190227
720-67708-1 MS	MW-01-093015	Total/NA	Water	8270C	190227
720-67708-1 MSD	MW-01-093015	Total/NA	Water	8270C	190227
LCS 720-190227/2-A	Lab Control Sample	Total/NA	Water	8270C	190227
MB 720-190227/1-A	Method Blank	Total/NA	Water	8270C	190227

Analysis Batch: 190324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-2	MW-02-093015	Total/NA	Water	8270C	190227
720-67708-3	MW-03-093015	Total/NA	Water	8270C	190227

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QC Association Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

GC/MS Semi VOA (Continued)

Analysis Batch: 190504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-4	MW-04-093015	Total/NA	Water	8270C	190227
720-67708-5	MW-05-093015	Total/NA	Water	8270C	190227
720-67708-6	DUP-01	Total/NA	Water	8270C	190227

GC Semi VOA

Analysis Batch: 190136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	8082	190149
720-67708-1 MS	MW-01-093015	Total/NA	Water	8082	190149
720-67708-1 MSD	MW-01-093015	Total/NA	Water	8082	190149
720-67708-2	MW-02-093015	Total/NA	Water	8082	190149
720-67708-3	MW-03-093015	Total/NA	Water	8082	190149
720-67708-4	MW-04-093015	Total/NA	Water	8082	190149
720-67708-5	MW-05-093015	Total/NA	Water	8082	190149
720-67708-6	DUP-01	Total/NA	Water	8082	190149
LCS 720-190149/2-A	Lab Control Sample	Total/NA	Water	8082	190149
MB 720-190149/1-A	Method Blank	Total/NA	Water	8082	190149

Prep Batch: 190149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MS	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MSD	MW-01-093015	Total/NA	Water	3510C	
720-67708-2	MW-02-093015	Total/NA	Water	3510C	
720-67708-3	MW-03-093015	Total/NA	Water	3510C	
720-67708-4	MW-04-093015	Total/NA	Water	3510C	
720-67708-5	MW-05-093015	Total/NA	Water	3510C	
720-67708-6	DUP-01	Total/NA	Water	3510C	
LCS 720-190149/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 720-190149/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 190211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	8015B	190252
720-67708-1 MS	MW-01-093015	Total/NA	Water	8015B	190252
720-67708-1 MSD	MW-01-093015	Total/NA	Water	8015B	190252
720-67708-2	MW-02-093015	Total/NA	Water	8015B	190252
720-67708-3	MW-03-093015	Total/NA	Water	8015B	190252
720-67708-4	MW-04-093015	Total/NA	Water	8015B	190252
720-67708-5	MW-05-093015	Total/NA	Water	8015B	190252
720-67708-6	DUP-01	Total/NA	Water	8015B	190252

Analysis Batch: 190212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-190252/2-A	Lab Control Sample	Total/NA	Water	8015B	190252
MB 720-190252/1-A	Method Blank	Total/NA	Water	8015B	190252

TestAmerica Pleasanton

QC Association Summary

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

GC Semi VOA (Continued)

Prep Batch: 190252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MS	MW-01-093015	Total/NA	Water	3510C	
720-67708-1 MSD	MW-01-093015	Total/NA	Water	3510C	
720-67708-2	MW-02-093015	Total/NA	Water	3510C	
720-67708-3	MW-03-093015	Total/NA	Water	3510C	
720-67708-4	MW-04-093015	Total/NA	Water	3510C	
720-67708-5	MW-05-093015	Total/NA	Water	3510C	
720-67708-6	DUP-01	Total/NA	Water	3510C	
LCS 720-190252/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 720-190252/1-A	Method Blank	Total/NA	Water	3510C	

Metals

Prep Batch: 190148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Dissolved	Water	7470A	
720-67708-1 MS	MW-01-093015	Dissolved	Water	7470A	
720-67708-1 MSD	MW-01-093015	Dissolved	Water	7470A	
720-67708-2	MW-02-093015	Dissolved	Water	7470A	
720-67708-3	MW-03-093015	Dissolved	Water	7470A	
720-67708-4	MW-04-093015	Dissolved	Water	7470A	
720-67708-5	MW-05-093015	Dissolved	Water	7470A	
720-67708-6	DUP-01	Dissolved	Water	7470A	
LCS 720-190148/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 720-190148/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 720-190148/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 190196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Dissolved	Water	7470A	190148
720-67708-1 MS	MW-01-093015	Dissolved	Water	7470A	190148
720-67708-1 MSD	MW-01-093015	Dissolved	Water	7470A	190148
720-67708-2	MW-02-093015	Dissolved	Water	7470A	190148
720-67708-3	MW-03-093015	Dissolved	Water	7470A	190148
720-67708-4	MW-04-093015	Dissolved	Water	7470A	190148
720-67708-5	MW-05-093015	Dissolved	Water	7470A	190148
720-67708-6	DUP-01	Dissolved	Water	7470A	190148
LCS 720-190148/2-A	Lab Control Sample	Total/NA	Water	7470A	190148
LCSD 720-190148/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	190148
MB 720-190148/1-A	Method Blank	Total/NA	Water	7470A	190148

Prep Batch: 190253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Dissolved	Water	3005A	
720-67708-1 MS	MW-01-093015	Dissolved	Water	3005A	
720-67708-1 MSD	MW-01-093015	Dissolved	Water	3005A	
720-67708-2	MW-02-093015	Dissolved	Water	3005A	
720-67708-3	MW-03-093015	Dissolved	Water	3005A	
720-67708-4	MW-04-093015	Dissolved	Water	3005A	
720-67708-5	MW-05-093015	Dissolved	Water	3005A	

TestAmerica Pleasanton

QC Association Summary

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Metals (Continued)

Prep Batch: 190253 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-6	DUP-01	Dissolved	Water	3005A	
LCS 720-190253/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 720-190253/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 720-190253/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 190828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-1 MS	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-1 MSD	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-2	MW-02-093015	Dissolved	Water	6010B	190253
720-67708-3	MW-03-093015	Dissolved	Water	6010B	190253
720-67708-4	MW-04-093015	Dissolved	Water	6010B	190253
720-67708-5	MW-05-093015	Dissolved	Water	6010B	190253
720-67708-6	DUP-01	Dissolved	Water	6010B	190253
LCS 720-190253/2-A	Lab Control Sample	Total Recoverable	Water	6010B	190253
LCSD 720-190253/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	190253
MB 720-190253/1-A	Method Blank	Total Recoverable	Water	6010B	190253

Analysis Batch: 190858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-67708-1	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-1 MS	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-1 MSD	MW-01-093015	Dissolved	Water	6010B	190253
720-67708-2	MW-02-093015	Dissolved	Water	6010B	190253
720-67708-3	MW-03-093015	Dissolved	Water	6010B	190253
720-67708-4	MW-04-093015	Dissolved	Water	6010B	190253
720-67708-5	MW-05-093015	Dissolved	Water	6010B	190253
720-67708-6	DUP-01	Dissolved	Water	6010B	190253
LCS 720-190253/2-A	Lab Control Sample	Total Recoverable	Water	6010B	190253
LCSD 720-190253/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	190253
MB 720-190253/1-A	Method Blank	Total Recoverable	Water	6010B	190253

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
 Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-01-093015
Date Collected: 09/30/15 16:20
Date Received: 10/01/15 12:00

Lab Sample ID: 720-67708-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/12/15 23:31	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190229	10/06/15 18:09	JZT	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/06/15 21:07	JXL	TAL PLS
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/05/15 20:30	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 20:49	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190858	10/15/15 12:03	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:38	SLK	TAL PLS

Client Sample ID: MW-02-093015
Date Collected: 09/30/15 16:35
Date Received: 10/01/15 12:00

Lab Sample ID: 720-67708-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/13/15 01:23	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190324	10/07/15 20:47	JZT	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/06/15 21:31	JXL	TAL PLS
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/06/15 02:46	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 20:54	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190858	10/15/15 12:08	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:41	SLK	TAL PLS

Client Sample ID: MW-03-093015
Date Collected: 09/30/15 14:40
Date Received: 10/01/15 12:00

Lab Sample ID: 720-67708-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/13/15 01:51	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190324	10/07/15 21:09	JZT	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/06/15 21:56	JXL	TAL PLS

TestAmerica Pleasanton

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-03-093015

Lab Sample ID: 720-67708-3

Date Collected: 09/30/15 14:40

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/06/15 03:02	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 20:59	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190858	10/15/15 12:14	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:43	SLK	TAL PLS

Client Sample ID: MW-04-093015

Lab Sample ID: 720-67708-4

Date Collected: 09/30/15 12:15

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/13/15 02:19	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190504	10/09/15 17:58	MQL	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/07/15 03:11	JXL	TAL PLS
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/06/15 03:18	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 21:04	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190858	10/15/15 12:19	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:46	SLK	TAL PLS

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Date Collected: 09/30/15 17:35

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/13/15 02:47	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190504	10/09/15 18:20	MQL	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/07/15 01:58	JXL	TAL PLS
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/06/15 03:35	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 21:19	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS

TestAmerica Pleasanton

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Client Sample ID: MW-05-093015

Lab Sample ID: 720-67708-5

Date Collected: 09/30/15 17:35

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	6010B		1	190858	10/15/15 12:34	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:48	SLK	TAL PLS

Client Sample ID: DUP-01

Lab Sample ID: 720-67708-6

Date Collected: 09/30/15 00:00

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/13/15 03:15	YB1	TAL PLS
Total/NA	Prep	3510C			190227	10/06/15 08:52	NVP	TAL PLS
Total/NA	Analysis	8270C		1	190504	10/09/15 18:43	MQL	TAL PLS
Total/NA	Prep	3510C			190252	10/06/15 13:47	DFR	TAL PLS
Total/NA	Analysis	8015B		1	190211	10/07/15 02:23	JXL	TAL PLS
Total/NA	Prep	3510C			190149	10/05/15 11:18	NDU	TAL PLS
Total/NA	Analysis	8082		1	190136	10/06/15 03:51	DCH	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190828	10/14/15 21:24	CAM	TAL PLS
Dissolved	Prep	3005A			190253	10/06/15 13:55	ASB	TAL PLS
Dissolved	Analysis	6010B		1	190858	10/15/15 12:39	EFH	TAL PLS
Dissolved	Prep	7470A			190148	10/05/15 11:08	ASB	TAL PLS
Dissolved	Analysis	7470A		1	190196	10/05/15 16:55	SLK	TAL PLS

Client Sample ID: TB093015

Lab Sample ID: 720-67708-7

Date Collected: 09/30/15 16:20

Matrix: Water

Date Received: 10/01/15 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	190630	10/12/15 23:03	YB1	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

- 1
- 2
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Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTM S	8260B / CA LUFT MS	SW846	TAL PLS
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
7470A	Mercury (CVAA)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919



Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: UPRR-Oakland CA-750 High St

TestAmerica Job ID: 720-67708-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-67708-1	MW-01-093015	Water	09/30/15 16:20	10/01/15 12:00
720-67708-2	MW-02-093015	Water	09/30/15 16:35	10/01/15 12:00
720-67708-3	MW-03-093015	Water	09/30/15 14:40	10/01/15 12:00
720-67708-4	MW-04-093015	Water	09/30/15 12:15	10/01/15 12:00
720-67708-5	MW-05-093015	Water	09/30/15 17:35	10/01/15 12:00
720-67708-6	DUP-01	Water	09/30/15 00:00	10/01/15 12:00
720-67708-7	TB093015	Water	09/30/15 16:20	10/01/15 12:00

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- 14
- 15

BLAINE
 TECH SERVICES, INC.
 1680 ROGERS AVENUE
 SAN JOSE, CA 95112-1105
 FAX (408) 573-7771
 PHONE (408) 573-0555

720-67708

WJH # 104090

LAB: **TEST AMERICA - SF** DHS #
 ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
 EPA
 LIA
 OTHER
 RWQCB REGION

Client Name/Address:
 David Hodson - CH2M Hill (david.hodson@ch2m.com)
 33 New Montgomery St., Suite 2000
 San Francisco, CA

Project / PO Number:
PEDD-1954-05-Rev0
 MS-MSD collected from:
MW-01

SAMPLE ID.	DATE	TIME	MATRIX	CONTAINERS	TOTAL	TYPE	CONDUCT ANALYSIS TO DETECT				LAB INFORMATION	STATUS	CONDITION	LAB SAMPLE #						
							TPH-g (8015M)	TPH-d, mo (8015M)	PCB's (8082)	SVOC's (7270C)										
MW-01-093015	9/30/2015	1620	W	10	Various	X	X	X	X	California Title 22 Metals (6010B) Field filtered	ADDL INFORMATION									
MW-02-093015	9/30/2015	1635	W	10	Various	X	X	X	X											
MW-03-093015	9/30/2015	1440	W	10	Various	X	X	X	X											
MW-04-093015	9/30/2015	1215	W	10	Various	X	X	X	X											
MW-05-093015	9/30/2015	1735	W	10	Various	X	X	X	X											
MW-01MS/MSD	9/30/2015	1620	W	20	Various	X	X	X	X											
DUP-1	9/30/2015	1620	W	10	Various	X	X	X	X											
TB093015	9/30/2015	1620	W	2	HCL Vial	X														



RESULTS NEEDED
 NO LATER THAN
Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
<i>[Signature]</i>	9/30/15	1913	<i>[Signature]</i>	9/30/15	1918
<i>[Signature]</i>	10/1/15	1000	<i>[Signature]</i>	10/1/15	10:00
SHIPPED VIA	DATE SENT	TIME SENT	RECEIVED BY	DATE	TIME
	10-1-15	12:00	Dennis Alvarez	10-1-15	12:00

30,2.9°C

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 720-67708-1

Login Number: 67708
List Number: 1
Creator: Arauz, Dennis

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Memorandum

To: David Hodson Ref. No.: 058324-1954

From: Jeffrey Cloud/eew/669-NF *JC* Date: November 23, 2015

CC: Jesse Orth, Julie Lidstone

**Re: Analytical Results and Reduced Validation of Report J67708
Groundwater Sampling
Union Pacific Railroad (UPRR) – 744 High St.
Oakland, California
September 2015**

1. Introduction

This document details a reduced validation of analytical results for groundwater samples collected in support of the Groundwater Sampling at the 744 High St. site in Oakland, California during September 2015. Samples were submitted to TestAmerica Laboratories, located in Pleasanton, California. A sample collection and analysis summary is presented in Table 1. A summary of the analytical methodology is presented in Table 2. The validated analytical results are summarized in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS) and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 2 and applicable guidance from the documents entitled:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-10-011, January 2010

These items will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in the methods. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation with the exception of chromium present at a low concentration. The associated sample results with concentrations similar to the blank were qualified as non-detect due to contamination as evidenced by the blank (see Table 4).

4. Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for semi-volatile organic compound (SVOC), gasoline range organics (GRO), diesel range organics (DRO/motor oil range organics (ORO) and polychlorinated biphenyl (PCB) analysis were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the associated control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against the control limits. All surrogate recoveries met the associated criteria.

5. Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

5.1 Organic Analyses

The LCS/LCSD contained all analytes of interest. All LCS recoveries and RPDs were within associated control limits, demonstrating acceptable analytical accuracy and precision (where applicable).

5.2 Inorganic Analyses

The LCS/LCSD contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries and RPDs were within the control limits, demonstrating acceptable analytical accuracy and precision.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1. If only the MS or MSD was outside of the control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD.

6.1 Organic Analyses

The MS/MSD samples were spiked with the analytes of interest. All percent recoveries and RPD values were within the associated control limits, demonstrating acceptable analytical accuracy and precision.

6.2 Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample one field duplicate sample set.

7.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank submitted to the laboratory for analysis. All results were non-detect for the analytes of interest.

7.2 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 3 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 3.

9. Conclusion

Based on the assessment detailed in the foregoing, the summarized data are acceptable with the specific qualifications noted herein.

Table 1

**Sample Collection and Analysis Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis/Parameters</u>						Comments
					Metals	Mercury	DRO/ORO	PCBs	GRO	SVOCs	
MW-01-093015	MW-01	Water	09/30/2015	16:20	X	X	X	X	X	X	MS/MSD
DUP-01	MW-01	Water	09/30/2015	--	X	X	X	X	X	X	FD(MW-01-093015)
MW-02-093015	MW-02	Water	09/30/2015	16:35	X	X	X	X	X	X	
MW-03-093015	MW-03	Water	09/30/2015	14:40	X	X	X	X	X	X	
MW-04-093015	MW-04	Water	09/30/2015	12:15	X	X	X	X	X	X	
MW-05-093015	MW-05	Water	09/30/2015	17:35	X	X	X	X	X	X	
TB093015	--	Water	09/30/2015	--						X	Trip Blank

Notes:

- FD - Field Duplicate sample of sample in parenthesis
- MS/MSD - Matrix Spike/Matrix Spike Duplicate
- SVOCs - Semivolatile Organic Compounds
- GRO - Gasoline Range Organics
- DRO/ORO - Diesel Range Organics/Motor Oil Range Organics
- PCBs - Polychlorinated Biphenyls
- - Not Applicable

Table 2

**Analytical Methods
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Parameter	Method	Matrix
Semivolatile Organic Compounds (SVOCs)	SW-846 8270C ⁽¹⁾	Water
Gasoline Range Organics (GRO)	SW-846 8260B ⁽¹⁾	Water
Diesel Range Organics (DRO)/Motor Oil Range Organics (ORO)	SW-846 8015B ⁽¹⁾	Water
Polychlorinated Biphenyls (PCBs)	SW-846 8082 ⁽¹⁾	Water
Metals	SW-846 6010B ⁽¹⁾	Water
Mercury	SW-846 7470A ⁽¹⁾	Water

Notes:**Method References:**

- ⁽¹⁾ - SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 3

**Analytical Results Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Location ID:	MW-01	MW-01	MW-02	MW-03	MW-04	MW-05	
Sample Name:	MW-01-093015	DUP-01	MW-02-093015	MW-03-093015	MW-04-093015	MW-05-093015	
Sample Date:	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	
Depth:	--	--	--	--	--	--	
	Duplicate						
Parameters	Unit						
Volatile Organic Compounds							
Total Petroleum Hydrocarbons (C5-C12) GRO	µg/L	<50	<50	<50	200	<50	<50
Semi-volatile Organic Compounds							
1,2,4-Trichlorobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
1,2-Dichlorobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
1,3-Dichlorobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
1,4-Dichlorobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
2,4,5-Trichlorophenol	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
2,4,6-Trichlorophenol	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
2,4-Dichlorophenol	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
2,4-Dimethylphenol	µg/L	<2.8	<2.8	<3.1	<2.9	<2.8	<2.9
2,4-Dinitrophenol	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
2,4-Dinitrotoluene	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
2,6-Dinitrotoluene	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
2-Chloronaphthalene	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
2-Chlorophenol	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
2-Methylnaphthalene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
2-Methylphenol	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
2-Nitroaniline	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
2-Nitrophenol	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
3,3'-Dichlorobenzidine	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
3-Nitroaniline	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
4,6-Dinitro-2-methylphenol	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
4-Bromophenyl phenyl ether	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8

Table 3

**Analytical Results Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Location ID:	MW-01	MW-01	MW-02	MW-03	MW-04	MW-05
Sample Name:	MW-01-093015	DUP-01	MW-02-093015	MW-03-093015	MW-04-093015	MW-05-093015
Sample Date:	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015
Depth:	--	--	--	--	--	--
		Duplicate				

Parameters	Unit						
Semi-volatile Organic Compounds (Continued)							
4-Chloro-3-methylphenol	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
4-Chloroaniline	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
4-Chlorophenyl phenyl ether	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
4-Methylphenol	µg/L	<7.6	<7.6	<8.1	<7.6	<7.6	<7.7
4-Nitroaniline	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
4-Nitrophenol	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
Acenaphthene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Acenaphthylene	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
Anthracene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Azobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Benzo(a)anthracene	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Benzo(a)pyrene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Benzo(b)fluoranthene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Benzo(g,h,i)perylene	µg/L	0.80 J	<1.9	<2.0	<1.9	<1.9	<1.9
Benzo(k)fluoranthene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Benzoic acid	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
Benzyl alcohol	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
bis(2-Chloroethoxy)methane	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
bis(2-Chloroethyl)ether	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	<9.5	<9.5	<10	1.4 J	<9.5	3.0 J
Butyl benzylphthalate (BBP)	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Chrysene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Di-n-butylphthalate (DBP)	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Di-n-octyl phthalate (DnOP)	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8

Table 3

**Analytical Results Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Location ID:	MW-01	MW-01	MW-02	MW-03	MW-04	MW-05
Sample Name:	MW-01-093015	DUP-01	MW-02-093015	MW-03-093015	MW-04-093015	MW-05-093015
Sample Date:	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015
Depth:	--	--	--	--	--	--
		Duplicate				

Parameters	Unit						
Semi-volatile Organic Compounds (Continued)							
Dibenz(a,h)anthracene	µg/L	1.0 J	<1.9	<2.0	<1.9	<1.9	<1.9
Dibenzofuran	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
Diethyl phthalate	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Dimethyl phthalate	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Fluoranthene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Fluorene	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
Hexachlorobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Hexachlorobutadiene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Hexachlorocyclopentadiene	µg/L	<4.7	<4.7	<5.1	<4.8	<4.7	<4.8
Hexachloroethane	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Indeno(1,2,3-cd)pyrene	µg/L	0.97 J	<1.9	<2.0	<1.9	<1.9	<1.9
Isophorone	µg/L	<3.8	<3.8	<4.1	<3.8	<3.8	<3.8
N-Nitrosodi-n-propylamine	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
N-Nitrosodiphenylamine	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Naphthalene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Nitrobenzene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Pentachlorophenol	µg/L	<9.5	<9.5	<10	<9.6	<9.5	<9.6
Phenanthrene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Phenol	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Pyrene	µg/L	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9
Metals							
Antimony (dissolved)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (dissolved)	mg/L	0.0042 J	<0.010	<0.010	<0.010	<0.010	<0.010

**Analytical Results Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Location ID:	MW-01	MW-01	MW-02	MW-03	MW-04	MW-05
Sample Name:	MW-01-093015	DUP-01	MW-02-093015	MW-03-093015	MW-04-093015	MW-05-093015
Sample Date:	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015
Depth:	--	--	--	--	--	--
		Duplicate				

Parameters	Unit						
Metals (Continued)							
Barium (dissolved)	mg/L	0.011 J	0.010 J	0.080	0.074	0.11	0.075
Beryllium (dissolved)	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cadmium (dissolved)	mg/L	0.00043 J	<0.0020	0.00024 J	<0.0020	<0.0020	<0.0020
Chromium (dissolved)	mg/L	<0.010	<0.010	<0.010	<0.010	0.025	<0.010
Cobalt (dissolved)	mg/L	<0.0020	<0.0020	<0.0020	0.0013 J	0.0044	0.00069 J
Copper (dissolved)	mg/L	<0.020	<0.020	<0.020	<0.020	0.0067 J	<0.020
Lead (dissolved)	mg/L	0.0023 J	0.0029 J	0.0040 J	0.0028 J	0.0063	0.0026 J
Mercury (dissolved)	mg/L	<0.00020	0.00020	0.00028	<0.00020	0.00016 J	<0.00020
Molybdenum (dissolved)	mg/L	0.0031 J	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel (dissolved)	mg/L	0.0017 J	0.0019 J	0.013	0.017	0.042	0.011
Selenium (dissolved)	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Silver (dissolved)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Thallium (dissolved)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vanadium (dissolved)	mg/L	0.0034 J	0.0031 J	0.0026 J	0.0030 J	0.015	0.0028 J
Zinc (dissolved)	mg/L	<0.020	<0.020	<0.020	<0.020	0.016 J	<0.020
Pesticides/PCBs							
Aroclor-1016 (PCB-1016)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1221 (PCB-1221)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1232 (PCB-1232)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1242 (PCB-1242)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1248 (PCB-1248)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1254 (PCB-1254)	µg/L	<0.47	<0.47	<0.50	<0.48	<0.48	<0.48
Aroclor-1260 (PCB-1260)	µg/L	<0.47	<0.47	<0.50	0.18 J	<0.48	<0.48

**Analytical Results Summary
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Location ID:	MW-01	MW-01	MW-02	MW-03	MW-04	MW-05
Sample Name:	MW-01-093015	DUP-01	MW-02-093015	MW-03-093015	MW-04-093015	MW-05-093015
Sample Date:	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015	09/30/2015
Depth:	--	-- Duplicate	--	--	--	--

Parameters	Unit						
Total Petroleum Hydrocarbons (TPH)							
Total Petroleum Hydrocarbons (C10-C28) DRO	µg/L	<47	25 J	27 J	32 J	90	25 J
Total Petroleum Hydrocarbons (C24-C36) Motor Oil	µg/L	<94	<94	<100	56 J	110	49 J

Notes:

- DRO - Diesel Range Organics
- GRO - Gasoline Range Organics
- PCBs - Polychlorinated Biphenyls
- J - Estimated concentration
- < - Not detected at the associated reporting limit

Table 4

**Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
Groundwater Sampling
Union Pacific Railroad (UPRR) - 744 High St
Oakland, California
September 2015**

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
Metals	Chromium (dissolved)	10/14/2015	0.00228 J	MW-01-093015	0.0026 J	0.010 U	mg/L
				MW-02-093015	0.0020 J	0.010 U	mg/L
				MW-05-093015	0.00079 J	0.010 U	mg/L
				DUP-01	0.0016 J	0.010 U	mg/L

Notes:

- * - Blank result adjusted for sample factors where applicable
- U - Not detected at the associated reporting limit
- J - Estimated concentration