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SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Fifth Sampling Event, December 2013

For the Site Located at:

2145 35TH Avenue

Oakland, California 94601

Prepared for:

Salisbury Avenue Associates LLC

PO Box 27428

Oakland CA 94602-0925

Prepared by:

Eagle Environmental Construction (EEC)

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December 23, 2013

Table of Contents

1.0	Introduction	. 1
2.0	Groundwater Sampling Activities	. 1
3.0	Groundwater Elevations and Flow Direction	. 2
4.0	Groundwater Samples Laboratory Results	. 2
5.0	Waste Management	. 3
6.0	Conclusions and Recommendations	. 3

TABLES

TABLE 1	WELL DATA AND GROUNDWATER ELEVATIONS
TABLE 2	SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS –PETROLEUM HYDROCARBONS-BTEX, MTBE, AND NAPHTHALENE
TABLE 3	SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS –POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)
TABLE 5	SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS –LUFT FIVE METALS

FIGURES

- FIGURE 1 SITE LOCATION
- FIGURE 2 WELL LOCATIONS AND GROUNDWATER FLOW DIRECTIONS AND GRADIENT

APPENDICES

APPENDIX A WELL PURGING AND SAMPLING LOGS

APPENDIX B LABORATORY REPORT

1.0 Introduction

This semi-annual groundwater monitoring report is for the former gasoline service station located at 2145 35th Avenue, Oakland, California (Figure 1). This is the fifth sampling event since the four monitoring wells were installed in July 2012. For background information about the subject site and an update of the activities performed through July 2012, review the August 2012 report titled "Phase II Environmental Investigation Report and Supplemental Investigation Workplan" and the recent November 2013 submitted report on the offsite subsurface investigation titled "Soil and Groundwater Investigation."

In this fifth monitoring event and previous sampling event, the following was implemented:

- Eliminated the full suite analysis of Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270sim due to the fact that only Naphthalene was detected. The remaining PAHs were non-detected in past analysis. Resumed the analysis of Naphthalene by using EPA Method 8260B.
- Lead was not detected in any of the wells. Maximum Nickel concentration to date was detected below the drinking water MCL of 100 µg/l. Nickel was detected in the three sampling events at 6.6 µg/l, 9.7 µg/l, and 8.7 µg/l, in Monitoring well MW-4. No other contaminant was detected in monitoring well MW-4. It appears that Nickel at this site is not related to the fuel leak and may be naturally occurring. Therefore, we discontinued the analysis for metals in the monitoring wells at this site.
- Updated Environmental Screening Levels (ESLs) in the Tables to the revised May 2013 version.

2.0 Groundwater Sampling Activities

The wells were purged and sampled on December 10, 2013. EEC Engineer, Sami Malaeb, performed the well purging and sampling. The well sampling logs are presented in Appendix A. The depth to water in the wells was measured and recorded after removing the well caps and letting the wells stabilize for approximately 15 minutes. Subsequently, each well was purged of at least three casing volumes and until conductivity, temperature, and pH stabilized. The well purge water was transferred to 55-gallon, DOT-approved, steel drums. The drums were temporarily stored onsite pending transport and disposal to a licensed facility.

After purging the wells, groundwater samples were collected by using disposable bailers. The water samples were discharged directly into laboratory cleaned 40-millileter volatile organic analysis (VOA) vials with HCL preservative to prevent loss of any volatile constituents. The vials were filled slowly and in such a manner that the meniscus extended above the top of the VOA

vial. After the vials were filled and capped, they were inverted to ensure there is no headspace or entrapped air bubbles. The groundwater VOAs were labeled and placed in a cooler chilled to approximately 4°C. Equipment wash and rinse water were transferred to a 55-gallon storage drum. The drum was sealed with a steel lid and labeled. All containers, VOAs and amber jars were obtained from the laboratory and filled with water from the bailer for the analyses.

The water samples were placed on ice, in an ice cooler, accompanied by a completed chain of custody. The samples were sent to Curtis & Tompkins Laboratory in Berkeley and analyzed for the following:

- Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA Method 8015B;
- Total Petroleum Hydrocarbons as Stoddard Solvent (TPHss) by EPA Method 8015B;
- Total Petroleum Hydrocarbons as Diesel (TPH-D) by EPA Method 8015B;
- Total Recoverable Petroleum Hydrocarbons (TRPH) as Motor Oil and Hydraulic Oil, EPA Method 8015;
- Volatile Organics by the GC/MS EPA Method 8260B, MTBE, BTEX, and Naphthalene (no other chlorinated organic compounds were considered for analysis because all previous results from sampling the boreholes did not detect chlorinated solvents).

3.0 Groundwater Elevations and Flow Direction

The groundwater flow direction and gradient were calculated based on the depth to groundwater from top of casing in each well and the surveyed top of casing elevations. The well data are presented in the attached Table 1. The calculated groundwater flow direction was to the south at a gradient of 0.76% (Figure 2).

4.0 Groundwater Samples Laboratory Results

The laboratory report is included in Appendix B. Tables 2 through 4 summarize the analytical results. Laboratory analyses of groundwater samples collected from the monitoring wells indicated the following:

- Floating product or sheen was not observed in any of the wells.
- Similar to the previous sampling events, all the analyzed petroleum hydrocarbons were either non-detected or non-significant in monitoring wells MW-1, MW-3, and MW-4.
- Consistent with the previous sampling events, the most petroleum hydrocarbon impact was detected in monitoring well MW-2, and to a lesser extent in monitoring well MW-3, downgradient from the former sources onsite; USTs, piping, and fuel dispenser.

Benzene and Naphthalene were detected at their lowest concentrations to date in MW-2. Benzene was detected at 40 μ g/l and Naphthalene was detected at 6.7 μ g/l (Table 2).

• None of the analyzed contaminants in the groundwater at this site exceeded its limit for Groundwater Screening Levels, Low-Threat Underground Storage Tank Case Closure Policy, Appendix 3, Figure A.

5.0 Waste Management

A total of two (2) purge water drums were generated from the purging and sampling activities onsite. These drums are stored onsite pending profiling and disposal. These drums are expected to be transported offsite with non-hazardous waste manifest within the next 30-days.

6.0 Conclusions and Recommendations

Based on the analytical findings EEC presents the following conclusions and recommendations:

Conclusions

It appears that the petroleum hydrocarbon plume is stable and limited to the area of the sources onsite, and within ~100 feet downgradient from these sources. BTEX were not detected in Monitoring Well MW-3 in this sampling event or previous sampling event. BTEX and Naphthalene concentrations were detected the lowest in this sampling event, compared to the previous events in Monitoring Well MW-2. BTEX and Naphthalene concentrations are on the decrease for the last three consecutive events (Table 2). This indicates stable or bio-attenuated plume.

Recommendations

 Due to the fact that non-significant to non-detected concentrations were detected in Monitoring wells MW-1, MW-3, and MW-4, EEC recommends discontinuing sampling and analysis of groundwater from these wells. EEC recommends continuing sampling and analysis of groundwater from monitoring well MW-2 on a semi-annual basis. Gauging all wells for depth to water and calculating groundwater flow direction and gradient should continue during sampling MW-2, semi-annually. Thank you for your cooperation. If you have any questions, please call at (925) 858-9608 or email Sami Malaeb at <u>s.malaeb@comcast.net</u>.

All engineering information, conclusions, and recommendations contained in this report have been prepared by a California Professional Engineer.

Muilalas Sami Malaeb, P.E.,QS **Project Manager**

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

Exer Roberton.

Salisbury Avenue Associates LLC Peter Robertson Property Owner

TABLES

- TABLE 1WELL DATA AND GROUNDWATER ELEVATIONS
- TABLE 2
 SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED

 FROM THE MONITORING WELLS –PETROLEUM HYDROCARBONS-BTEX AND

 MTBE
- TABLE 3
 SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED

 FROM THE MONITORING WELLS –POLYCYCLIC AROMATIC HYDROCARBONS
 (PAHs)
- TABLE 5SUMMARY OF CHEMICAL ANALYSES OF GROUNWATER SAMPLES COLLECTED
FROM THE MONITORING WELLS –LUFT FIVE METALS

TABLE 1 WELL DATA AND GROUNDWATER ELEVATIONS 2145 35th Avenue Oakland, California

DATE	WELL INFORMATION	MW-1	MW-2	MW-3	MW-4
	Casing Diameter (in)	2	4	4	2
	Total Well Depth (ft)	18	16	18	18
07/18/2012	Depth to Water (ft)	10.13	10.92	11.01	10.85
	Top of Casing Elevation	94.21	94.43	94.61	94.91
	Top of Water Elevation	84.08	83.51	83.60	84.06
	Casing Diameter (in)	2	4	4	2
	Total Well Depth (ft)	18	16	18	18
12/06/2012	Depth to Water (ft)	7.98	10.40	10.40	9.25
	Top of Casing Elevation	94.21	94.43	94.61	94.91
	Top of Water Elevation	86.23	84.03	84.21	85.66
03/21/2013	Casing Diameter (in)	2	4	4	2
	Total Well Depth (ft)	18	16	18	18
	Depth to Water (ft)	9.88	10.77	10.83	10.66
	Top of Casing Elevation	94.21	94.43	94.61	94.91
	Top of Water Elevation	84.33	83.66	83.78	84.25
06/21/2013	Casing Diameter (in)	2	4	4	2
	Total Well Depth (ft)	18	16	18	18
	Depth to Water (ft)	10.09	10.87	10.95	10.84
	Top of Casing Elevation	94.21	94.43	94.61	94.91
	Top of Water Elevation	84.12	83.56	83.66	84.07
12/10/2013	Casing Diameter (in)	2	4	4	2
	Total Well Depth (ft)	18	16	18	18
	Depth to Water (ft)	9.84	10.70	10.79	10.64
	Top of Casing Elevation	94.21	94.43	94.61	94.91
	Top of Water Elevation	84.37	83.73	83.82	84.27

TABLE 2

SUMMARY OF CHEMICAL ANALYSES GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS PETROLEUM HYDROCARBONS, BTEX, and MTBE 2145 35th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-G ⁽¹⁾	TPH-ss ⁽³⁾	TPH-D ⁽⁴⁾	TPH as Motor Oil	TPH as Hydraulic Oil	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE ⁽⁵⁾	Naphthalene
	07/09/2012	<50	<50	<50	<300	<300	< 0.5	<0.5	<0.5	<1.0	<0.5	<2.0
	12/06/2012	<50	<50	<50	<300	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0
MW-1	03/21/2013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0
	06/21/2013	<50	<50	$100(Y)^{(6)}$	<290	<290	<0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	12/10/2013	<50	<50	<49	<290	<290	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	07/09/2012	3,800	3,900 (Y)	1,200 (Y)	<300	660 (Y)	82	42	350	189.4	< 0.5	44
	12/06/2012	5,000	3,300 (Y)	2,300	<300	1,500 (Y)	92	42	460	179.6	< 0.5	62
MW-2	03/21/2013	4,500	3,000	1,800 Y	<290	1,000(Y)	77	31	230	115.4	<1.7	25
	06/21/2013	4,300	2,900	1,700 (Y)	<290	1,100 (Y)	50	24	210	96	<1.7	21
	12/10/2013	3,300	2,300 (Y)	1,500 (Y)	<290	710 (Y)	40	21	140	63	<1.7	6.7
	07/09/2012	85Y	86Y	180 (Y)	<300	<300	0.8	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	12/06/2012	1,200	800Y	2,000	<300	1,600 (Y)	36	0.8	9.2	1.1	< 0.5	120
MW-3	03/21/2013	130 (Y)	91Y	140 (Y)	<290	<290	1.8	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	06/21/2013	<50	<50	210 (Y)	<290	340 (Y)	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	12/10/2013	<50	<50	54 (Y)	<290	<290	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	07/09/2012	<50	<50	<50	<300	<300	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	12/06/2012	<50	<50	<50	<300	<300	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
MW-4	03/21/2013	<50	<50	<49	<290	<290	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	06/21/2013	<50	<50	76 (Y)	<290	<290	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
	12/10/2013	<50	<50	<51	<310	<310	< 0.5	< 0.5	< 0.5	<1.0	< 0.5	<2.0
Groundwater Screening Levels, Low- Threat Underground Storage Tank Case Closure Policy, Appendix 3, Figure A ⁽⁷⁾		NA ⁽⁷⁾	NA	NA	NA	NA	100	NA	NA	NA	NA	NA

TPH-G⁽¹⁾ = Total petroleum hydrocarbons as gasoline by EPA Method 8015B

Microgram per liter

 $(\mu g/l)^{(2)} =$ TPH-ss⁽³⁾ = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8015B

TPH-D⁽⁴⁾ = Total petroleum hydrocarbons as diesel by EPA Method 8015B

MTBE ⁽⁵⁾ = Methyl Tertiary Butyl Ether

 $(Y)^{(6)} =$ Sample exhibits chromatographic pattern which does not resemble standard;

NA $^{(7)}$ = Not Applicable

TABLE 3 SUMMARY OF CHEMICAL ANALYSES GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) 2145 35th Avenue

Oakland, California

Benzo Benzo Benzo Benzo (a) Sample ID Date Sampled Naphtha Chry-Dibenz Acena-Acena-Fluo-Phenan Anth-Fluo-Anth-Indeno Benzo (b) (k) (a) -lene phthylene phtene rene -threne racene ranthene Pyrene racene sene Fluo-Fluopyrene (1,2,3-cd) (a,h) (g,h,i) ranthene pyrene Anthracene ranthene Perylene $(\mu g/l)^{(1)}$ $(\mu g/l)$ (µg/l) $(\mu g/l)$ $(\mu g/l)$ $(\mu g/l)$ $(\mu g/l)$ (µg/l) N/A (2) 07/09/2012 <2.0 N/A 12/06/2012 N/A <2.0 N/A MW-1 03/21/2013 <2.0 N/A 06/21/2013 <2.0 N/A 12/10/2013 <2.0 N/A 07/09/2012 44 N/A 12/06/2012 62 N/A MW-2 03/21/2013 27 < 0.3 < 0.3 < 0.3 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 N/A 06/21/2013 21 N/A* N/A 12/10/2013 N/A 6.7 N/A 07/09/2012 <2.0 N/A 12/06/2012 N/A 120 N/A MW-3 03/21/2013 0.6 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 < 0.09 N/A 06/21/2013 <2.0 N/A* N/A 12/10/2013 N/A <2.0 N/A 07/09/2012 N/A <2.0 N/A 12/06/2012 <2.0 N/A MW-4 03/21/2013 N/A <2.0 N/A 06/21/2013 N/A N/A N/A N/A N/A <2.0 N/A 12/10/2013 <2.0 N/A Groundwater Screening Levels, non-drinking water 8.2 30 23 3.9 4.6 0.73 8.0 2.0 0.027 0.35 0.056 0.40 0.014 0.056 0.25 0.10 resource (Final Groundwater Screening Level)⁽³⁾

*Stopped analyzing for full suite PAHs due to the fact only Naphthalene was detected in previous sampling and analysis.

 $(\mu g/l)^{(1)} =$ Microgram per liter

 $N/A^{(2)}$ = Not applicable or not analyzed for.

- ⁽³⁾ = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is not Current or Potential Source of Drinking Water (Table F-1b), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).
- **Bold** = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs) listed

TABLE 4 SUMMARY OF CHEMICAL ANALYSES GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS LUFT FIVE METALS 2145 35th Avenue Oakland, California

Sample ID	Date Sampled	Cadmium (Cd) (µg/l) ⁽¹⁾	Chromium (Cr) (µg/l)	Lead (Pb) (µg/l)	Nickel (Ni) (µg/l)	Zinc (Zn) (µg/l)
	07/09/2012	<5.0	<5.0	<5.0	<5.0	<20
MXX/1	12/06/2012	<5.0	<5.0	<5.0	7.6	<20
IVI VV - 1	03/21/2013	N/A ⁽²⁾	N/A	<5.0	5.5	NA
	06/21/2013*	N/A	N/A	N/A	N/A	N/A
	07/09/2012	<5.0	<5.0	<5.0	<5.0	<20
MXX 2	12/06/2012	<5.0	<5.0	<5.0	<5.0	<20
IVI W -2	03/21/2013	N/A	N/A	<5.0	<5.0	NA
	06/21/2013*	N/A	N/A	N/A	N/A	N/A
	07/09/2012	<5.0	<5.0	<5.0	<5.0	<20
MXV 2	12/06/2012	<5.0	<5.0	<5.0	6.1	<20
IVI W - 3	03/21/2013	N/A	N/A	<5.0	5.1	NA
	06/21/2013*	N/A	N/A	N/A	N/A	N/A
	07/09/2012	<5.0	<5.0	<5.0	6.6	<20
MXX 4	12/06/2012	<5.0	<5.0	<5.0	9.7	<20
IVI VV -4	03/21/2013	N/A	N/A	<5.0	8.7	NA
	06/21/2013*	N/A	N/A	N/A	N/A	N/A
Groundwater Screening Level	s, drinking water Toxicity (3)	5.0	50	15	100	5,000

*Stopped analyzing for LUFT 5 metals due to non-detected to non-significant levels in the water. $(\mu g/l)^{(1)} = Microgram per liter$ $N/A^{(2)} = Not applicable or not analyzed for the indicated compound Tier 1 Environment$

Not applicable or not analyzed for the indicated compoundTier 1 Environmental Screening Levels (ESLs), Groundwater (3)

Screening Levels, Groundwater is Current or Potential Source of Drinking Water (3) =

(Table F-3), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

FIGURES

- FIGURE 1 SITE LOCATION
- FIGURE 2 WELL LOCATIONS AND GROUNDWATER FLOW DIRECTIONS AND GRADIENT

OAKLAND EAST QUADRANGLE CALIFORNIA 7.5-MINUTE SERIES OAKLAND EAST, CA 2012





APPENDIX A WELL PURGING AND SAMPLING LOGS

Project No. :	Well ID:	MW-1
Project Name: SALISBURY	Sampled by:	FFC P.M.
Location: 2145 35th Avenue	Date:	12/10/13

2" Well Diameter: 17.70 Total Well Depth: 9.84' Depth to Water: 2.86' Water Column: **Calculated Purge:** 3.84 4.5 sella **Actual Purge:** Free Product: Non-e **Product Sheen:** non

Oakland, CA

Purge Volume Calculations						
for Three Casing Volume Purge						
Volume Per One Foot of Well: 0,/632 99						
π r ² x 1						
Volume of One Casing: N2474 1.282 selles						
Volume of Three Casings: 3.749 gcl/ovil						
5.05						

Purge Method:

porge and semple

Did Well go dry?

Post Purge Depth to Water (DTW)

Post Purge Depth to Water (DTW)					
Time	DTW				
10:28 cm	9.87/				

Sample Time:	10:30 91-
Analyze for:	

Time	Conductivity	Temperature	рН	Salinity	Volume Purged
10:04 Gm	474 45	18.3 ° C	6,94		1 GAL
10:08 am	460NG	18.9°C	6.94		1.5 GAL
10:15 am	473 15	18.7.0	6.93		3.0 GAL
10:18 cm	462 Mg	18.7°c	6.92		3.5 GAL
10:22 an	457 MS	18.700	6.88		4.0 BAL
10:27 0-	459 45	18.600	6.90		4.5 GAL
Comments:	Comments:				

Sampling Method:

From boiler

Project No. :		Well ID:		MW	1-2
Project Name:	SALISBURY	Sampled b	oy:	FEC	S.M.
Location: 2145 35th	/ Avenue	Date:		12/10/	13
Oakland (Δ				
Oakiana, e					
Well Diameter:	4"		Purge V	olume Calc	ulations
Total Well Depth:	15.4'		for Three	Casing Volu	ime Purge
Depth to Water:	10.70'	Volume Po	er One Foot d	of Well:	0.653 gella
Water Column:	4.70'	$\pi r^2 \times 1$			
Calculated Purge:	9.20 20 L	Volume of	One Casing:	3.07 2	AN Sollog
Actual Purge:	9.75 Fall				
Free Product:	none	Volume o	Three Casin	gs:	50 Sellow
Product Sheen:	Noka			7	.20
Purge Method: Did Well go dry?	purse and scorps	Sampling Sample Ti	Method: me:	 1:40	n boiler Pe
Post Purge Depth to V	Vater (DTW)	Analyze for	or:		
Time	DTW				
1:45 8-					
			<u></u>		
Time	Conductivity	Temperature	рН	Salinity	Volume Purged
Time	Conductivity	Temperature	pH	Salinity	Volume Purged
Time //JS A	Conductivity 626 Jus 628 Jus	Temperature <u>19.7° c</u> <u>19.7° c</u>	рН 6.59 6.67	Salinity	Volume Purged 2: Sellung 5: Sellung
Time /: 05 A /: 15 A /: 20 A	$\begin{array}{c} \text{Conductivity} \\ 626 $	Temperature $(9,7 \circ c)$ $19.7 \circ c$ $19.7 \circ c$ $19.6 \circ c$	рн 6.59 6.67 6.71	Salinity	Volume Purged 2: Sellury 5: Sellury 7: Sellury
Time // J5 A // J5 P // 20 P / 25 P	Conductivity 626 MJ 628 MJ 615 MC 615 MC	Temperature 19.7° c 19.7° c 19.6° c 19.6° c 14.6° c	рн 6.59 6.67 6.71 6.74	Salinity	Volume Purged 2: Sellury 5: Sc Ilary 7: Sc Ilary 8: Sc Ilary
Time [i] 05 P [:15 P [:20 P - [:25 P - [:3.0 P -]:3.0 P -]]]	Conductivity $626\mu_{1}$ $628\mu_{2}$ $615\mu_{2}$ $615\mu_{2}$ $609\mu_{5}$	Temperature /9.7° c /9.7° c /9.6° c /9.6° c /4.6° c /9.6° c	рН 6.59 6.67 6.71 6.74 6.74	Salinity	Volume Purged 2: Sellurs 5: Sellurs 7: Sellurs 8: Sellurs 7: Sell

Comments:

Well ID:

Date:

Sampled by:

Project No. :

Project Name:

SALISBURY Location: 2145 35th Avenue

Oakland, CA

Well Diameter:	41
Total Well Depth:	17.68'
Depth to Water:	10.79'
Water Column:	6.89
Calculated Purge:	13.50 cella
Actual Purge:	
Free Product:	NE
Product Sheen:	NO

Purge Volu	me Calo	ulatio	ons	
for Three Cas	ing Vol	ume P	urge	
Volume Per One Foot of W	Vell:	0.6	53	901/61
π r ² x 1				
Volume of One Casing:	4.5	0	<u>ç e[[</u>	
Volume of Three Casings:	13.	50	301	163

Purge Method:

purge and say a

Did Well go dry?

NO

Post Purge Depth to Water (DTW)

10:80'

Sampling Method:

Frm bailer 12:30 8-

MW-3

FFC S.M. 12/10/13

Analyze for:

Sample Time:

Time	Conductivity	Temperature	pH	Salinity	Volume Purged
11:54 0	430 45	20.0 00	6.72		2 gallong
12:00 p.m	427	20.0°C	6.80		5 Sc/lun
12:13 p.m	426	20.1°c	6.81		10 selloly
12:17 P	423 -	20.0-0	6.80		12 sellas
12:21 p	424 -	19.8'2	6.84		13 gallon
12.250 P	.420 x	19.800	6.87		18:50 gellas
Comments:					

Project No. :			Well ID:		MW	- 4	
Project Name:	CAITCRIAN		Sampled b	y:	FEC	, p.m.	
Location: 2145 35th	Avenue		Date:		12/10	13	
	CA.						
Uakland,	CA						
Well Diameter:	2"			Purge	Volume Cale	culations	
Total Well Depth:	17.72			for Three	Casing Vol	ume Purge	
Depth to Water:	10.64'	1	Volume Pe	er One Foot	of Well: ၂	0.163~	
Water Column:	7.68]	π r ² x 1				
Calculated Purge:	3.50 Sall	>	Volume of	One Casing	: Lal	42 1.16	
Actual Purge:	3.50 solla	ŀ					
Free Product:	None		Volume of	Three Casir	ngs: 3-7	5 gellors	
Product Sheen:	11.5-				3.5	0	
Purge Method: Did Well go dry?	purge and say	-	Sampling Sample Ti	Method: me:	From	boiler ·/Sau	-
Post Purge Depth to	Water (DTW)		Analyze fo	or:			
Time	DTW						
11:20	10.65						
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Time	Conductivity	Ten	nerature	nH	Salinity	Volume Purgeo	
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11:00010	197 MJ	20	n • c	6.72		2	.0
11:0364	UR7. NC	20	1.	6.68		2.5 4	
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10:55 a.m	485 MI	20.1-6	6.72		GALLON
11:00G.n	490 45	20.0°C	6.73	2	10
11:03EL	482 MG	20.0 ° c	6.68	2	5 6
11:06a -	485 145	19.8-c	6.71	114	0 1
11:10 m	481 45	19.800	6.72	3	· Seller
Comments:					

APPENDIX B LABORATORY REPORT



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Laboratory Job Number 251504 ANALYTICAL REPORT

Eagle Env	. Co	onstruction
3150 Hillt	cop	Road
Richmond,	CA	94806

Project : SALISBURY PROJECT Location : Salisbury Project Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	251504-001
MW-2	251504-002
MW-3	251504-003
MW-4	251504-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:

Tra

Tracy Babjar Project Manager tracy.babjar@ctberk.com (510) 204-2226

Date: <u>12/17/2013</u>

NELAP # 01107CA



CASE NARRATIVE

Laboratory number: Client: Project: Location: Request Date: Samples Received: 251504 Eagle Env. Construction SALISBURY PROJECT Salisbury Project 12/10/13 12/10/13

This data package contains sample and QC results for four water samples, requested for the above referenced project on 12/10/13. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

MW-2 (lab # 251504-002) was diluted due to high non-target analytes. No other analytical problems were encountered.

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COOLER RECEIPT CHECKLIST

ct	Curtis &	Tompk
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10gm # 351507 Date Received 121013 Number	er of coolers
Client <u>EEC</u> Project SAUTSPURY PROJ	ECT
Date Opened $12 10 13$ By (print) A: $(sign)$	makarka
1. Did cooler come with a shipping slip (airbill, etc) Shipping info	YES No
2A. Were custody seals present? □ YES (circle) on cooler on How many Name Date	samples 🙇 NO
3 Were custody papers dry and integet when received?	YES NO ONA
4. Were custody papers filled out properly (ink signed sta)?	NO
5. Is the project identifiable from custody papers? (If so fill out top of form	VES NO
6. Indicate the packing in cooler: (if other, describe)	n) (YES NO
☐ Bubble Wrap ☐ Cloth material ☐ Cardboard ☐ Styrofoam 7. Temperature documentation: * Notify PM if temperature exceeds 6	□ None □ Paper towels 5°C
Type of ice used: 🗙 Wet 🗌 Blue/Gel 🗌 None Temp	(°С) <u>д.Ц</u>
Samples Received on ice & cold without a temperature blank: te	mn taken with IR oun
☐ Samples Received on ice & cold without a temperature blank; te	mp. taken with IR gun had begun
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? 	mp. taken with IR gun had begun
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 	mp. taken with IR gun had begun YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 	mp. taken with IR gun had begun YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 	mp. taken with IR gun had begun YES NO YES NO YES MO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 	mp. taken with IR gun had begun YES NO YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 	mp. taken with IR gun had begun YES NO YES NO YES NO YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 	mp. taken with IR gun had begun YES NO YES NO YES NO YES NO YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 	mp. taken with IR gun had begun YES NO YES NO YES NO YES NO YES NO YES NO YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each second. 	mp. taken with IR gun had begun YES NO YES NO YES NO YES NO YES NO YES NO YES NO YES NO YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 	mp. taken with IR gun had begun YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 18. Did you change the hold time in LIMS for unpreserved VOAcc2 	mp. taken with IR gun had begun YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 18. Did you change the hold time in LIMS for unpreserved VOAs? 19. Did you change the hold time in LIMS for preserved terracores? 	mp. taken with IR gun had begun YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 18. Did you change the hold time in LIMS for unpreserved VOAs? 19. Did you change the hold time in LIMS for preserved terracores? 20. Are bubbles > 6mm absent in VOA samples? 	mp. taken with IR gun had begun YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 18. Did you change the hold time in LIMS for unpreserved VOAs? 19. Did you change the hold time in LIMS for preserved terracores? 20. Are bubbles > 6mm absent in VOA samples? 21. Was the client contacted concerning this sample delivery? 	mp. taken with IR gun had begun YES NO YES NO
 Samples Received on ice & cold without a temperature blank; te Samples received on ice directly from the field. Cooling process 8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are there any missing / extra samples? 11. Are samples in the appropriate containers for indicated tests? 12. Are sample labels present, in good condition and complete? 13. Do the sample labels agree with custody papers? 14. Was sufficient amount of sample sent for tests requested? 15. Are the samples appropriately preserved? 16. Did you check preservatives for all bottles for each sample? 17. Did you document your preservative check? 18. Did you change the hold time in LIMS for unpreserved VOAs? 19. Did you change the hold time in LIMS for preserved terracores? 20. Are bubbles > 6mm absent in VOA samples? 21. Was the client contacted concerning this sample delivery? If YES, Who was called? 	mp. taken with IR gun had begun YES NO YES NO

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COMMENTS

Rev 10, 11/11

5 of 30



		Total	Volatil	e Hydrocar	bons	
Lab #:	251504			Location:		Salisbury Project
Client:	Eagle Env.	Construct	cion	Prep:		EPA 5030B
Project#:	SALISBURY P	ROJECT		Analysis:		EPA 8015B
Matrix:	Water			Sampled:		12/10/13
Units:	ug/L			Received:		12/10/13
Diln Fac:	1.000			Analyzed:		12/16/13
Batch#:	206194					
Field ID:	MW-1			Lab ID:		251504-001
Туре:	SAMPLE					
Analy	yte		Result		RL	
Gasoline C7-C12		NE)		50	
Stoddard Solven	t C7-C12	NI)		50	
Surrog	gate	%REC	Limits			
Bromofluorobenze	ene (FID)	108	77-128			
Field ID: Type:	MW-2 SAMPLE			Lab ID:		251504-002
Anal	yte		Result		RL	
Gasoline C7-C12	_		3,300		50	
Stoddard Solven	t C7-C12		2,300 Y		50	
		0.5.5.5				
Surrog	gate	%REC	Limits			
Bromotluorobenze	ene (FID)	110	77-128			
Field ID: Type:	MW-3 SAMPLE			Lab ID:		251504-003
Analy	yte		Result		RL	
Gasoline C7-C12		NE)		50	
Stoddard Solven	t C7-C12	NI)		50	
Surro	gate	%REC	Limits			
Bromofluorobenze	ene (FID)	102	77-128			

Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected RL= Reporting Limit Page 1 of 2



		Total	Volatil	.e Hydrocar	bons	
Lab #:	251504			Location:		Salisbury Project
Client:	Eagle Env. C	Construct	ion	Prep:		EPA 5030B
Project#:	SALISBURY PR	OJECT		Analysis:		EPA 8015B
Matrix:	Water			Sampled:		12/10/13
Units:	ug/L			Received:		12/10/13
Diln Fac:	1.000			Analyzed:		12/16/13
Batch#:	206194					
Field ID: Type:	MW-4 SAMPLE			Lab ID:		251504-004
Ana	alyte		Result		RL	
Gasoline C7-C	12	ND)		50	
Stoddard Solve	ent C7-C12	ND)		50	
		A				
Sur	rogate	%REC	Limits			
Bromoliuorope	nzene (FID)	107	//-128			
Туре:	BLANK			Lab ID:		QC720675
Ana	alyte		Result		RL	
Gasoline C7-C	12	ND	1		50	
Stoddard Solve	ent C7-C12	ND	1		50	
Sur:	rogate	%REC	Limits			



Total Volatile Hydrocarbons					
Lab #:	251504	Location:	Salisbury Project		
Client:	Eagle Env. Construction	Prep:	EPA 5030B		
Project#:	SALISBURY PROJECT	Analysis:	EPA 8015B		
Туре:	LCS	Diln Fac:	1.000		
Lab ID:	QC720674	Batch#:	206194		
Matrix:	Water	Analyzed:	12/16/13		
Units:	ug/L				

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,052	105	80-120

Surrogate	%REC	Limits	
Bromofluorobenzene (FID)	107	77-128	



Total Volatile Hydrocarbons						
Lab #:	251504	Location:	Salisbury Project			
Client:	Eagle Env. Construction	Prep:	EPA 5030B			
Project#:	SALISBURY PROJECT	Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZ	Batch#:	206194			
MSS Lab ID:	251565-001	Sampled:	12/11/13			
Matrix:	Water	Received:	12/11/13			
Units:	ug/L	Analyzed:	12/17/13			
Diln Fac:	1.000					

MS			Lab ID:	QC720676		
Analyte	MSS Re	sult	Spiked	Result	%REC	Limits
27-C12	2	6.65	2,000	1,828	90	74-120
Surrogate	%REC	Limits				
obenzene (FID)	108	77-128				
	MS Analyte 27-C12 Surrogate robenzene (FID)	MS Analyte MSS Re 7-C12 2 Surrogate %REC cobenzene (FID) 108	MS Analyte MSS Result 27-C12 26.65 Surrogate %REC Limits robenzene (FID) 108 77-128	MS Lab ID: Analyte MSS Result Spiked 27-C12 26.65 2,000 Surrogate %REC Limits robenzene (FID) 108 77-128	MS Lab ID: QC720676 Analyte MSS Result Spiked Result 27-C12 26.65 2,000 1,828 Surrogate %REC Limits cobenzene (FID) 108 77-128	MS Lab ID: QC720676 Analyte MSS Result Spiked Result %REC 27-C12 26.65 2,000 1,828 90 Surrogate %REC Limits cobenzene (FID) 108 77-128

Type:	MSD			Lab ID:		QC720677			
	Analyte		Spiked		Result	%REC	Limits	RPD	Lim
Gasoline	C7-C12		2,000		1,829	90	74-120	0	27
	Surrogate	%REC	Limits						
Bromoflue	probenzene (FID)	110	77-128						



mVolt



mVolt



mVolt



		Total H	Ixtracta	ble Hydroc	arbo	ns	
Lab #:	251504			Location:		Salisbury Project	
Client:	Eagle Env.	. Construct	ion	Prep:		EPA 3520C	
Project#:	SALISBURY	PROJECT		Analysis:		EPA 8015B	
Matrix:	Water			Sampled:		12/10/13	
Units:	ug/L			Received:		12/10/13	
Diln Fac:	1.000			Prepared:		12/12/13	
Batch#:	206070			Analyzed:		12/13/13	
Field ID:	MW-1			Lab ID:		251504-001	
Туре:	SAMPLE						
A	nalvte		Result		RL		
Diesel C10-C	24	ND)		49		
Motor Oil C2	4-C36	ND)		290		
Hydraulic Fl	uid, C12-40	ND)		290		
		*DEC	Timita				
Su:	rrogate	*REC					
Field ID: Type:	MW-2 SAMPLE			Lab ID:		251504-002	
A	nalyte		Result		RL		
Diesel C10-C	24		1,500 Y		49		
Motor Oil C2	4-036						
Hydraulic Fl		NE)		290		
	uid, C12-40	NE) 710 Y		290 290		
Su	uid, C12-40	ND 	710 Y		290 290		
	uid, C12-40	NE %REC 101	710 Y Limits 66-129		290 290		
Su: o-Terphenyl	rrogate	NE %REC 101	710 Y Limits 66-129		290 290		
Su: o-Terphenyl	nrogate	NE %REC 101	710 Y Limits 66-129	Lab ID:	290 290	251504-003	
Su o-Terphenyl Field ID: Type:	MW-3 SAMPLE	NE %REC 101	710 Y Limits 66-129	Lab ID:	290 290	251504-003	
Su o-Terphenyl Field ID: Type:	MW-3 SAMPLE	NE %REC 101	710 Y Limits 66-129	Lab ID:	290 290	251504-003	
Su: o-Terphenyl Field ID: Type:	MW-3 SAMPLE	NE %REC 101	710 Y Limits 66-129 Result	Lab ID:	290 290	251504-003	
Su: o-Terphenyl Field ID: Type: Diesel C10-C	MW-3 SAMPLE nalyte	NE %REC 101	710 Y Limits 66-129 Result 54 Y	Lab ID:	290 290 RL 49	251504-003	
Su: o-Terphenyl Field ID: Type: Diesel C10-C Motor Oil C2	MW-3 SAMPLE MW-2 SAMPLE	NE %REC 101	710 Y Limits 66-129 Result 54 Y	Lab ID:	290 290 RL 49 290	251504-003	
Su: o-Terphenyl Field ID: Type: Diesel C10-C Motor Oil C2 Hydraulic F1	MW-3 SAMPLE MW-3 SAMPLE Malyte 24 4-C36 uid, C12-40	NE %REC 101 ND ND	710 Y Limits 66-129 Result 54 Y	Lab ID:	290 290 RL 49 290 290	251504-003	
Su: o-Terphenyl Field ID: Type: Diesel C10-C Motor Oil C2 Hydraulic Fl:	MW-3 SAMPLE nalyte 24 4-C36 uid, C12-40 rrogate	NE %REC 101 ND ND %REC	710 Y Limits 66-129 Result 54 Y Limits	Lab ID:	290 290 RL 49 290 290	251504-003	

Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected

RL= Reporting Limit

Page 1 of 2



		Total 1	Extracta	able Hydroc	arbo	ns
Lab #:	251504			Location:		Salisbury Project
Client:	Eagle Env. Co	onstruct	cion	Prep:		EPA 3520C
Project#:	SALISBURY PRO	OJECT		Analysis:		EPA 8015B
Matrix:	Water			Sampled:		12/10/13
Units:	ug/L			Received:		12/10/13
Diln Fac:	1.000			Prepared:		12/12/13
Batch#:	206070			Analyzed:		12/13/13
Field ID: Type:	MW-4 SAMPLE			Lab ID:		251504-004
	Analyte		Result		RL	
Diesel C10-	-C24	NI)		51	
Motor Oil C	C24-C36	NI)		310	
Hydraulic H	Fluid, C12-40	NI)		310	
5	Surrogate	%REC	Limits			
o-Terphenyl	1	103	66-129			
Туре:	BLANK			Lab ID:		QC720156
	Analyte		Result		RL	
Diesel C10-	-C24	NI)		50	
Motor Oil (C24-C36	NI)		300	
Hydraulic H	Fluid, C12-40	NI)		300	
2	Surrogate	%REC	Limits			
o-Terpheny]	1	98	66-129			



	2	otal 1	Extracta	ble Hydro	ocarbor	າຮ			
Lab #:	251504			Location:		Salisbury Pro	ject		
Client:	Eagle Env. Co	nstruct	cion	Prep:		EPA 3520C			
Project#:	SALISBURY PRO	JECT		Analysis:		EPA 8015B			
Matrix:	Water			Batch#:		206070			
Units:	ug/L			Prepared:		12/12/13			
Diln Fac:	1.000			Analyzed:		12/13/13			
Type:	BS			Lab ID:		QC720157			
Ana	lyte		Spiked		Result	%REC	Limits		
Diesel C10-C24			2,500		2,176	87	61-120		
Gumm		%DE(Timita						
o-Terphenyl	ogale	101	66-129						
Туре:	BSD			Lab ID:		QC720158			
Ana	lyte		Spiked		Result	%REC	Limits	RPD	Lim
Diesel C10-C24			2,500		2,063	83	61-120	5	45
Surre	ogate	%REC	Limits						
o-Terphenyl		99	66-129						



-\\Lims\gdrive\ezchrom\Projects\GC17A\Data\347a012, A



-\\Lims\gdrive\ezchrom\Projects\GC17A\Data\347a013, A



-\\Lims\gdrive\ezchrom\Projects\GC15B\Data\346b040, B



-\\Lims\gdrive\ezchrom\Projects\GC17A\Data\347a006, A



-\\Lims\gdrive\ezchrom\Projects\GC15B\Data\346b039, B



Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	206090
Lab ID:	251504-001	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL	
MTBE	ND	0.5	
Benzene	ND	0.5	
Toluene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Naphthalene	ND	2.0	

Surrogate	%REC	Limits
Dibromofluoromethane	106	77-136
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	206056
Lab ID:	251504-002	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/12/13
Diln Fac:	3.333		

Analyte	Result	RL	
MTBE	ND	1.7	
Benzene	40	1.7	
Toluene	21	1.7	
Ethylbenzene	140	1.7	
m,p-Xylenes	59	1.7	
o-Xylene	4.0	1.7	
Naphthalene	21	6.7	

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	206090
Lab ID:	251504-003	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL	
MTBE	ND	0.5	
Benzene	ND	0.5	
Toluene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Naphthalene	ND	2.0	

Surrogate	%REC	Limits
Dibromofluoromethane	107	77-136
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	206090
Lab ID:	251504-004	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL	
MTBE	ND	0.5	
Benzene	ND	0.5	
Toluene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Naphthalene	ND	2.0	

Surrogate	%REC	Limits
Dibromofluoromethane	108	77-136
1,2-Dichloroethane-d4	115	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



Purgeable Aromatics by GC/MS				
Lab #:	251504	Location:	Salisbury Project	
Client:	Eagle Env. Construction	Prep:	EPA 5030B	
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B	
Matrix:	Water	Batch#:	206056	
Units:	ug/L	Analyzed:	12/12/13	
Diln Fac:	1.000			

Type:

BS

Lab ID:

QC720091

Analyte	Spiked	Result	%REC	Limits
MTBE	12.50	11.98	96	64-121
Benzene	12.50	13.05	104	80-124
Toluene	12.50	12.66	101	80-122
Ethylbenzene	12.50	12.83	103	80-124
m,p-Xylenes	25.00	26.55	106	80-122
o-Xylene	12.50	13.56	109	77-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	77–136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-120

Туре:	BSD	Lab 1	ID: QC720	092			
	Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE		12.50	11.32	91	64-121	6	20
Benzene		12.50	12.12	97	80-124	7	20
Toluene		12.50	11.85	95	80-122	7	20
Ethylbenze	ene	12.50	11.91	95	80-124	7	20
m,p-Xylene	S	25.00	24.81	99	80-122	7	20
o-Xylene		12.50	12.87	103	77-120	5	20
	Surrogate	%REC Limits					

Surrogate	%REC	Limits	
Dibromofluoromethane	95	77-136	
1,2-Dichloroethane-d4	104	75-139	
Toluene-d8	100	80-120	
Bromofluorobenzene	95	80-120	



	Purgeable Aro	matics by GC/M	S
Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Туре:	BLANK	Diln Fac:	1.000
Lab ID:	QC720093	Batch#:	206056
Matrix:	Water	Analyzed:	12/12/13
Units:	ug/L		

-	_		
Analyte	Result	RL	
MTBE	ND	0.5	
Benzene	ND	0.5	
Toluene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Naphthalene	ND	2.0	

Surrogate	%REC	Limits
Dibromofluoromethane	94	77-136
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



	Purgeable Aro	matics by GC/M	S
Lab #:	251504	Location:	Salisbury Project
Client:	Eagle Env. Construction	Prep:	EPA 5030B
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZ	Batch#:	206056
MSS Lab ID:	251523-006	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/12/13
Diln Fac:	1.000		

Type:

MS

Lab ID: QC720184

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.1000	12.50	12.75	102	66-120
Benzene	<0.1000	12.50	13.35	107	80-127
Toluene	<0.1000	12.50	13.11	105	80-123
Ethylbenzene	<0.1000	12.50	13.29	106	80-126
m,p-Xylenes	<0.1316	25.00	27.20	109	80-123
o-Xylene	<0.1000	12.50	14.03	112	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-120

Type:

MSD

Lab ID:

QC720185

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	12.50	12.70	102	66-120	0	27
Benzene	12.50	12.83	103	80-127	4	23
Toluene	12.50	12.67	101	80-123	3	22
Ethylbenzene	12.50	12.60	101	80-126	5	22
m,p-Xylenes	25.00	26.37	105	80-123	3	22
o-Xvlene	12.50	13.46	108	76-120	4	23

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120



Purgeable Aromatics by GC/MS					
Lab #:	251504	Location:	Salisbury Project		
Client:	Eagle Env. Construction	Prep:	EPA 5030B		
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B		
Matrix:	Water	Batch#:	206090		
Units:	ug/L	Analyzed:	12/13/13		
Diln Fac:	1.000				

Type:

BS

Lab ID:

QC720245

Analyte	Spiked	Result	%REC	Limits
MTBE	12.50	11.26	90	64-121
Benzene	12.50	13.29	106	80-124
Toluene	12.50	13.18	105	80-122
Ethylbenzene	12.50	13.46	108	80-124
m,p-Xylenes	25.00	26.61	106	80-122
o-Xylene	12.50	13.31	107	77-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	77–136
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-120

Туре:	BSD		La	ab ID:	QC7	20246			
Ana	lyte		Spiked		Result	%REC	Limits	RPD	Lim
MTBE			12.50		11.64	93	64-121	3	20
Benzene			12.50		13.19	106	80-124	1	20
Toluene			12.50		12.95	104	80-122	2	20
Ethylbenzene			12.50		13.18	105	80-124	2	20
m,p-Xylenes			25.00		26.35	105	80-122	1	20
o-Xylene			12.50		13.14	105	77-120	1	20
Surro	ogate	%REC	Limits						
Dibromofluorom	ethane	108	77-136						

Surroyale	SKEC	
Dibromofluoromethane	108	77-136
1,2-Dichloroethane-d4	114	75–139
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-120



Purgeable Aromatics by GC/MS					
Lab #:	251504	Location:	Salisbury Project		
Client:	Eagle Env. Construction	Prep:	EPA 5030B		
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B		
Туре:	BLANK	Diln Fac:	1.000		
Lab ID:	QC720247	Batch#:	206090		
Matrix:	Water	Analyzed:	12/13/13		
Units:	ug/L				

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Analyte	Result	RL	
MTBE	ND	0.5	
Benzene	ND	0.5	
Toluene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Naphthalene	ND	2.0	

Surrogate	%REC	Limits
Dibromofluoromethane	106	77-136
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1



Purgeable Aromatics by GC/MS					
Lab #:	251504	Location:	Salisbury Project		
Client:	Eagle Env. Construction	Prep:	EPA 5030B		
Project#:	SALISBURY PROJECT	Analysis:	EPA 8260B		
Field ID:	ZZZZZZZZZ	Batch#:	206090		
MSS Lab ID:	251563-003	Sampled:	12/06/13		
Matrix:	Water	Received:	12/11/13		
Units:	ug/L	Analyzed:	12/13/13		
Diln Fac:	1.000				

Type:

MS

Lab ID: QC720284

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.1000	12.50	12.18	97	66-120
Benzene	<0.1000	12.50	13.60	109	80-127
Toluene	<0.1000	12.50	13.30	106	80-123
Ethylbenzene	<0.1124	12.50	13.34	107	80-126
m,p-Xylenes	<0.1000	25.00	26.35	105	80-123
o-Xylene	<0.1000	12.50	12.91	103	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	111	77-136
1,2-Dichloroethane-d4	121	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	100	80-120

Type:

MSD

Lab ID:

QC720285

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	12.50	12.15	97	66-120	0	27
Benzene	12.50	13.43	107	80-127	1	23
Toluene	12.50	12.97	104	80-123	3	22
Ethylbenzene	12.50	13.00	104	80-126	3	22
m,p-Xylenes	25.00	25.56	102	80-123	3	22
o-Xvlene	12.50	12,90	103	76-120	0	23

Surrogate	%REC	Limits
Dibromofluoromethane	111	77-136
1,2-Dichloroethane-d4	121	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-120