

BUTTNER PROPERTIES, INC.

PROPERTY DEVELOPMENT • REAL ESTATE INVESTMENT • PROPERTY MANAGEMENT

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February 7, 2014

RECEIVED

By Alameda County Environmental Health at 3:16 pm, Feb 13, 2014

Alameda County Environmental Health Services
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Attention: Ms. Dilan Roe, LOP Program Manager

RE: 2250 Telegraph Avenue
Oakland, California

Dear Ms. Roe:

The "1st Quarter 2014 Ground Water Monitoring Report, 2250 Telegraph Ave., Oakland, CA, February 2014" ("Report") was prepared by our consultant, Applied Water Resources ("AWR"), who we believe to be experienced and qualified to advise us in a technical area that requires a high degree of professional expertise. Therefore we have relied upon AWR's assistance, knowledge and expertise in their preparation of the Report. I am unaware of any material inaccuracy in the information in the Report or of any violation of government guidelines that are applicable to the Report. Accordingly, I am not aware of any reason to question the conclusions and recommendations contained in the Report.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1).

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,



Marianne Robison
President

1st QUARTER 2014 GROUND WATER MONITORING REPORT

2250 Telegraph Ave, Oakland, CA

February 2014

ACEH Fuel Leak Case No. R0359
GeoTracker Global ID To600100431



GROUND WATER MONITORING REPORT

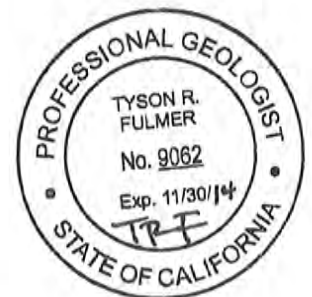
1st Quarter 2014

February 2014

2250 Telegraph Ave
Oakland, California

Prepared on behalf of:
Buttner Properties, Inc.
600 W. Grand Ave, Oakland, CA 94612

Prepared by:
Applied Water Resources Corporation
1600 Riviera Avenue, Suite 310, Walnut Creek, CA 94596



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Yola Bayram
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Reviewed By:
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Project Geologist



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1 INTRODUCTION

This Ground Water Monitoring Report was prepared by Applied Water Resources Corporation (AWR) on behalf of Buttner Properties. This Report summarizes site activities and environmental monitoring data at 2250 Telegraph Ave, Oakland, California (Site) in January 2014. Site activities included installing, developing and surveying a new monitor (MW-4A) and ground water monitoring. All work was conducted under the supervision of a California Registered Professional Geologist.

1.1 Site Description

The Site is located at 2250 Telegraph Avenue, situated at the northeast corner of Telegraph Avenue and West Grand Avenue, in Oakland, California (Figure 1). The Site and immediately adjacent properties are zoned for commercial development and use. The Site is currently paved and vacant.

The adjacent property to the east, also owned by Buttner Properties, Inc., is occupied by a single story structure, and paved parking and use areas (460 West Grand Avenue). The 460 Grand Avenue site has been used as a nursery school since December 1988. The nursery school building is situated approximately 90 feet east of the former service station building, which is cross-gradient of the former USTs which were removed in 1990.

1.2 Regional Setting

The Site is located in the East Bay Plain in the Oakland Sub Area, which consists of unconsolidated alluvial deposits that ranging from 300 to 700 feet in thickness (CRWQCB, 1999). The nearest significant surface water features are Lake Merritt, 0.4 mile to the east, and San Francisco Bay, 2.5 miles to the west. The Site is essentially flat at an approximate elevation of 24 feet above mean sea level (msl).

1.3 Site History

In the early 1950's, Union Oil Company entered into a lease to operate a service station at the Site. In 1958, Buttner Properties, Inc. acquired the property and the existing service station management and operator at that time were allowed to continue in their lease arrangement. Two underground storage tanks (USTs) (sizes unknown) were previously located in the southwest corner of the Site and records indicated that the USTs were removed from the Site in the 1960's (Fugro 2011).

Three USTs (two 10,000 gallon gasoline and one 280 gallon waste oil tank) were then installed at the Site along with two fuel dispensing islands (each with two dispensers) as shown in Figure 1. In the late 1980's, fuel dispensing ceased and the lease was changed to allow automobile servicing and repair activities. The Site was occupied by a one-story former service station



building that included two vehicle servicing bays and an office. The three USTs and two dispensing islands were removed in August 1990 (Fugro 2011). The service station building was demolished in early 2013. The Site is now vacant.

1.4 Local Geology and Hydrogeologic Conditions

Based on borings and excavations advanced at the Site, a layer of non-native fill consisting of clayey and sandy gravel is present from about 2 to 5 feet. The fill material is underlain by layers of silty clay to lean clay to approximately 17 feet below ground surface (bgs). Sandy clay was observed beginning at approximately 17 feet bgs to the maximum explored depth of 25 feet bgs with the sand content increasing with depth. Fill materials consisting of sand and gravel exist in the former UST excavations.

Initial ground water at the Site is encountered in the sandy clay layer beginning at 17 feet bgs. The ground water is under hydrostatic pressure equilibrating between 8 and 13 feet bgs based on numerous monitoring events conducted at the Site since 1994. In January 2014, the equilibrated ground water depth was measured between 8 and 12 feet bgs.

2 RECENT SITE ACTIVITIES

2.1 2013 Site Remedial Activities

In June 2013, two soil excavations were performed in the general vicinity of the former waste oil UST area and the former gasoline UST area. Approximately 975 cubic yards of contaminated soil was removed along with approximately 4,000 gallons of ground water. Prior to backfill, approximately 220lbs of oxygen releasing compound (ORC) advanced pellets, manufactured by Regenesi Bioremediation Products, was spread on the bottom of each excavation for a total of 440lbs of ORC placement. All excavations were then backfilled with a self-compacting aggregate crushed drain rock and filter fabric at the base, followed by 4-inch minus fill materials compacted to 90% in 12-inch lifts. The remedial activities are detailed in the Site Remediation Completion Report (AWR, 2013).

2.2 INSTALLATION OF MW-4A

MW-4 was located in the former waste oil UST area and was removed during the June 2013 remedial effort. On January 6, 2014, Vapor Tech Services was mobilized to the Site to install a replacement well (MW-4) to the east of the excavation. However, during installation, the well could not be completed to the designed specification and the boring was abandoned under Alameda County's approval. As a result, the well was located to the southeast of MW-4, downgradient of the excavation, and was successfully installed to 25 feet bgs on January 7, 2014. Boring logs for MW-4 and MW-4a are provided in Appendix A.



AWR returned on January 10, 2014 to develop MW-4A. The well was surged and then pumped using a trash pump until the purge water was relatively free of turbidity. Approximately 25 gallons, or approximately 11 case volumes, were removed from the well.

On January 17th, KSR Inc., a licensed survey company surveyed ground surface and the top of casing for the new well to the SWRCB's Geotracker survey standards.

2.3 GROUND WATER MONITORING AND SAMPLING

Ground water monitoring and sampling of the Site was performed on January 10, 2014 by AWR personnel, the first monitoring event conducted since the June 2013 remediation effort. Due to the location and traffic safety concerns, MW-6 was not sampled during the monitoring event. Work at the Site included measuring depth to water, subjectively evaluating the possible presence of petroleum in ground water in the wells, purging and sampling the wells using ASTM low-flow sampling techniques, and submitting the samples under chain of custody to a state-certified laboratory for analysis.

Ground water elevation data and analytical data are summarized in Table 1. Field sheets of recently recorded ground water monitoring data are included in Appendix B

2.3.1 Ground Water Gradient

Before purging and sampling ground water, depth to water was measured to the nearest hundredth of a foot from the top of each well casing using an electronic water level meter after the well was allowed to equilibrate. The depth to water measurement was subtracted from the surveyed top of casing elevation from all wells to calculate the ground water elevation. The ground water gradient direction is to the south-southeast at an average of 0.004 ft/ft.

2.3.2 Ground Water Sampling

Before ground water sampling, each well was purged using low-flow techniques described in the "Low-Flow (Minimal Drawdown) Ground Water Sampling Procedures" (ASTM No 6771-02, 2002). Dedicated tubing, attached to a peristaltic pump, was lowered to the mid-point of the reported screen zone. The pump was set to a rate of less than 1 liter per minute and pH, dissolved oxygen (DO), specific conductance (SC), oxidation reduction potential (ORP), depth to water (DTW) and temperature were measured in three to five minute intervals within a flow-through cell. When depth to water remained constant and parameters stabilized to within $\pm 10\%$ in consecutive readings, the pump rate was reduced, the tube was disconnected from the flow-through cell and samples were collected directly from the dedicated tubing.

From each monitor well, five laboratory-supplied 40-milliliter HCL-preserved sample vials were filled with ground water and sealed with zero headspace. Once filled, sample vials were inverted and tapped to test for air bubbles. Two amber colored glass containers and one unpreserved polycarbonate container were also filled with ground water and sealed. Ground water sample containers were labeled, stored in a pre-chilled, insulated container and



transported to Curtis & Tompkins, a state-certified analytical laboratory, following standard COC protocols. Ground water samples were analyzed for the following constituents of concern (COCs) at the Site by the following methods:

- Total petroleum hydrocarbon (TPH) as gasoline (TPHg) by EPA method 8015
- TPH as diesel (TPHd), and motor oil (TPHmo), by EPA Method 8015
- Benzene, toluene, ethylbenzene, total xylenes (BTEX), MTBE and fuel oxygenates by EPA Method 8260
- Lead by EPA method 6010.

Water purged during the development and sampling of the monitor wells is being temporarily stored onsite in a 55-gallon drum pending off-site disposal.

3 GROUND WATER SAMPLING RESULTS AND DISCUSSION

3.1 Screening Criteria Selection

Ground water concentrations are compared to RWQCB Environmental Screening Levels (ESLs) (RWQCB, 2013). Ground water use as a potential source of drinking water in this area is highly unlikely due to the Site location and the high quality public drinking water supplied by EBMUD. Therefore, ground water ESLs for evaluation of potential vapor intrusion were selected for the compounds. Because there is not an ESL listed for TPH and lead for ground water risk to indoor air, the drinking water quality goals are listed instead.

The State Water Resources Control Board's (SWRCB) Low Threat Closure Policy (LTCP) Guidelines are selected as screening criteria to evaluate concentrations in ground water (SWRCB, 2012). The lowest values in ground water under the LTCP guidance were selected to compare to Site data.

3.2 Ground Water Monitoring Results

Ground water analytical results are summarized in Table 1. Charts 1 through 3 depict the trends of TPHg, TPHd, and benzene respectively in the monitor wells MW-1, MW-3, MW-4, MW-4A and MW-8 over time. Figures 3 through 5 show the distribution of TPHg, TPHd, and benzene in ground water at the Site. Copies of the chain of custody record and laboratory analytical reports with individual and standard chromatograms are included as Appendix C.

3.3 Discussion of Ground Water Monitoring Results

The available data collected at 2250 Telegraph Ave indicate that ground water has been affected by fuel and waste oil from the former USTs. Data from the first monitoring event since



the remediation effort in 2013 show that ground water concentrations in the wells immediately adjacent to the excavation areas were lower compared to previous monitoring events.

3.3.1 TPHg and BTEX, MTBE and Fuel Oxygenate Concentrations

There were no detections of BTEX or fuel oxygenates measured above ESLs established for threat to indoor air quality from ground water. TPHg concentrations were measured above the drinking water goal in MW-1, MW-3 and MW-8, however, the laboratory indicates that the chromatographic patterns are not consistent with the gasoline standard.

TPHg concentrations increased in MW-1 and MW-8 in the January monitoring event compared to previous sampling events. However, MW-1 is located upgradient of the two excavation areas and MW-8 is located at least 40 feet in the down gradient direction of the excavations. Based on the location of these wells, the effects of the remedial action are not expected to impact concentrations in these particular wells. BTEX and fuel oxygenate concentrations in these wells are comparable to previous monitoring events

TPHg, BTEX and fuel oxygenate concentrations all dropped in MW-3 compared to previous monitoring events. Well MW-3 is the nearest downgradient well to southern excavation performed in 2013 (Charts 1 and 3). TPHg and BTEX concentrations were all non-detect in MW-4A, which is the nearest down gradient well to the northern excavation. Concentrations of MTBE and fuel oxygenates are minimal in well MW-4A.

3.3.2 TPHd and TPHmo Concentrations

TPHmo concentrations were not detected above the laboratory reporting limit in any of the wells. TPHd was detected in MW-4A, however the concentration was found to be significantly lower than concentrations detected previously in the MW-4, for which MW-4A was designed to replace. TPHd was also detected in the down gradient well MW-8, however that concentration was also found to be lower than previous detections.

3.3.3 Laboratory Flagged Data

All detected concentrations of TPHg and TPHd were Y-flagged because they did not match the laboratory's respective gasoline or diesel standard. Purgeable chromatograms show BTEX concentrations were relatively low compared with the overall TPHg concentrations. The extractable TPHd chromatograms indicate that concentrations are highest in the carbon chain range from C10 to C12, consistent with the heavier end of the TPHg range. The purgeable and extractable chromatogram data are consistent with an old gasoline release at the Site that has been significantly weathered.

4 FINDINGS

Based on the results of ground water monitoring performed on January 10, 2014 at 2250 Telegraph Ave:



- Ground water gradient direction is to the south-southeast at an average of 0.004 ft/ft.
- TPHmo concentrations were not detected above the laboratory reporting limit in any of the wells.
- All detected concentrations of TPHd and TPHg were Y-flagged because they did not match the laboratory's diesel standard. The laboratory chromatograms are consistent with significantly weathered gasoline.
- TPHg concentrations increased in MW-1 located upgradient of the excavations, and MW-8 located approximately 40 feet in the downgradient direction of the southern excavation.
- In well MW-3, the nearest well downgradient of the gasoline UST excavation, TPHg concentrations were slightly lower the previous monitoring event. Additionally, BTEX, MTBE and fuel oxygenates were all measured significantly lower than previous monitoring events.
- In well MW-4, the nearest well down gradient from the northern excavation, TPHg, BTEX and fuel oxygenate concentrations were either non-detect or minimal.
- All dissolved concentrations in ground water were measured below ESLs for ground water threat to indoor air quality and the LTCP guidelines.



5 REFERENCES

Applied Water Resources Corp. *Site Remediation Completion Report*. December 2013.

ASTM 2002. *Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations*. Designation: D 6771-02

California Regional Water Quality Control Board San Francisco Bay Region Groundwater Committee, *East Bay Plain Ground Water Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA*. June 1999,

California Regional Water Quality Control Board Region 2 – Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, California Environmental Protection Agency, updated December 2013

Cardno ERI, *Feasibility Study Corrective Action Plan, Former Exxon Service Station 70235, 2225 Telegraph Oakland CA*, SWRCB Geotracker database T0600101354, April 2012

Fugro Consultants, Inc. *Corrective Action Plan*. November 2011

Fugro Consultants, Inc. *Remediation Progress Report and Quarterly Groundwater Monitoring Report (4th Qtr 2012)*. February 2013

State Water Resources Control Board, *Low Threat Underground Storage Tank Case Closure Policy*, Resolution No 2012-0016, May 2012



TABLES



Table 1
Ground Water Elevations and Analytical Results
2250 Telegraph Ave Oakland, CA

Well ID	Date	Groundwater Elevation (ft msl)	TPH as Gasoline	TPH as Kerosene	TPH as Diesel	TPH as Motor Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE-8020	MTBE-8260	TBA	DIPE	ETBE	TAME	1,1,1-TCA	1,2-DCA	1,2-DBA	PCE	Lead	Chlorobenzene	
			µg/L																				
Environmental Screening Levels (ESLs)			100	100	100	100	27	95,000	310	37,000	9,900	9,900	--	--	--	--	--	1,000	770	640	15	--	
LTCP Screening Levels			--	--	--	--	100	--	--	--	1,000	1,000	--	--	--	--	--	--	--	--	--	--	
MW-1	3/3/1994	10.16	300	<50	<50	<500	1.3	<0.5	2.7	3.1	--	--	--	--	--	--	<0.5	5.5	--	<0.5	--	<0.5	
	6/6/1994	9.19	430	180+	<50	<500	10	2.2	6.1	7.6	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	9/7/1994	8.63	410	<50	<50	<500	6.4	0.8	2.6	3.8	--	--	--	--	--	--	<0.5	3.8	--	<0.5	--	<0.5	
	12/22/1994	9.72	130	<50	<50	<500	0.7	<0.5	0.6	0.8	--	--	--	--	--	--	<0.5	3.4	--	<0.5	--	<0.5	
	3/17/1995	10.82	1,600	170	<50	<500	29	<0.5	9.1	6.9	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	6/27/1995	10.04	1,100	<50	<50	<500	14	<0.5	7.1	5	--	--	--	--	--	--	<0.5	3.3	--	<0.5	--	<0.5	
	9/18/1995	9.43	370	--	110+	--	4.4	0.6	2	1.4	--	--	--	--	--	--	<0.5	2.4	--	<0.5	--	<0.5	
	8/21/1998	9.55	170	--	62+	--	<0.5	0.76	0.79	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	2/24/1999	10.81	20	--	280+	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--	--	--	
	6/30/2000	13.47	240	--	<50	--	0.7	0.8	<0.5	0.74	4	--	--	--	--	--	--	--	--	--	--	--	
	4/27/2001	9.99	160	--	<50	--	3.3	<0.5	0.86	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	4/15/2005	10.43	520	--	99LY	<300	3.3C	1.8	<0.5	4.6	--	<0.5	<10	<0.5	<0.5	<0.5	--	0.6	<0.5	--	--	--	
	8/1/2005	9.99	480	--	62LY	<300	<0.5	<0.5	<0.5	2.3	--	<0.5	18	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	11/9/2005	8.02	290Y	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	14	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/21/2006	10.84	390	--	97LY	<300	1	<0.5	0.6	<0.5	--	<0.5	16	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/7/2006	9.15	720	--	130LY	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	18	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	10/27/2006	9.16	250	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	12	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/20/2007	9.61	290Y	--	74LY	<300	<0.5	<0.5	0.58	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/8/2007	9.34	300LY	--	95LY	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	2/5/2008	11.03	100Y	--	62Y	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/14/2008	9.55	71Y	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/3/2009	10.86	73Y	--	93Y	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	7/30/2009	9.45	160Y	--	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	9/8/2009*	8.78	56Y	--	--	--	<0.5	<0.5	<0.5	0.56C	--	<2.0	--	--	--	--	--	--	--	--	--	--	
	3/24/2010	10.4	82Y	--	53Y	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	10/6/2010	9.57	68Y	--	64Y	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	5/9/2011	10.86																					
	9/9/2011	9.92																					
12/29/2011	9.82																						
11/12/2012	10.02																						
1/10/2014	9.17	220Y	--	<49	<290	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	<1	--		
MW-2	3/3/1994	9.66	110	<50	<50	<500	<0.5	1.7	0.58	2.7	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	6/6/1994	8.88	100	<50	<50	<500	11	<0.5	0.7	1.1	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	9/7/1994	8.31	<50	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	12/22/1994	8.76	<50	<50	<50	<500	0.8	<0.5	<0.5	0.8	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	3/17/1995	10.18	180	100	<50	<500	31	<0.5	1	1.8	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	6/27/1995	9.33	80	<50	<50	<500	6	<0.5	<0.5	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	9/18/1995	8.36	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	8/21/1998	8.12	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	2/24/1999	10.12	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--	--	--	
	6/30/2000	14.24	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	2	--	--	--	--	--	--	--	--	--	--	--	
	4/27/2001	8.71	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	4/15/2005	9.03	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/1/2005	8.36	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	11/9/2005	8.49	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/21/2006	9.01	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/7/2006	8.19	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	10/27/2006	8.11	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/20/2007	7.51	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/8/2007	7.21	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	2/5/2008	9.64	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/14/2008	10.93	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/3/2009	7.72	<50	--	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	7/30/2009	8.62	<50	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	--	
	3/24/2010	Not Measured																					
	10/5/2010	7.71																					
	5/9/2011	10																					
	9/9/2011	9.57																					
	12/29/2011	9.31																					
11/12/2012	9.1																						
1/10/2014	8.94	<50	--	<49	<290	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	1.1	--		
MW-3	3/3/1994	9.47	85	<50	<50	<500	<0.5	0.77	<0.5	3.7	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	6/6/1994	8.69	100	110+	<50	<500	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	2.5	0.8	--	2.1	--	<0.5	
	9/7/1994	8.22	220	<50	<50	<500	11	1.8	2.6	3.5	--	--	--	--	--	--	<0.5	<0.5	--	0.6	--	<0.5	
	12/22/1994	9.23	130	95+	<50	<500	3.8	0.5	0.6	1.2	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	3/17/1995	10.12	1,500	270	<50	<500	83	6	10	15	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	6/27/1995	9.03	2,500	<50	<50	<500	330	8.9	8.1	20	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	

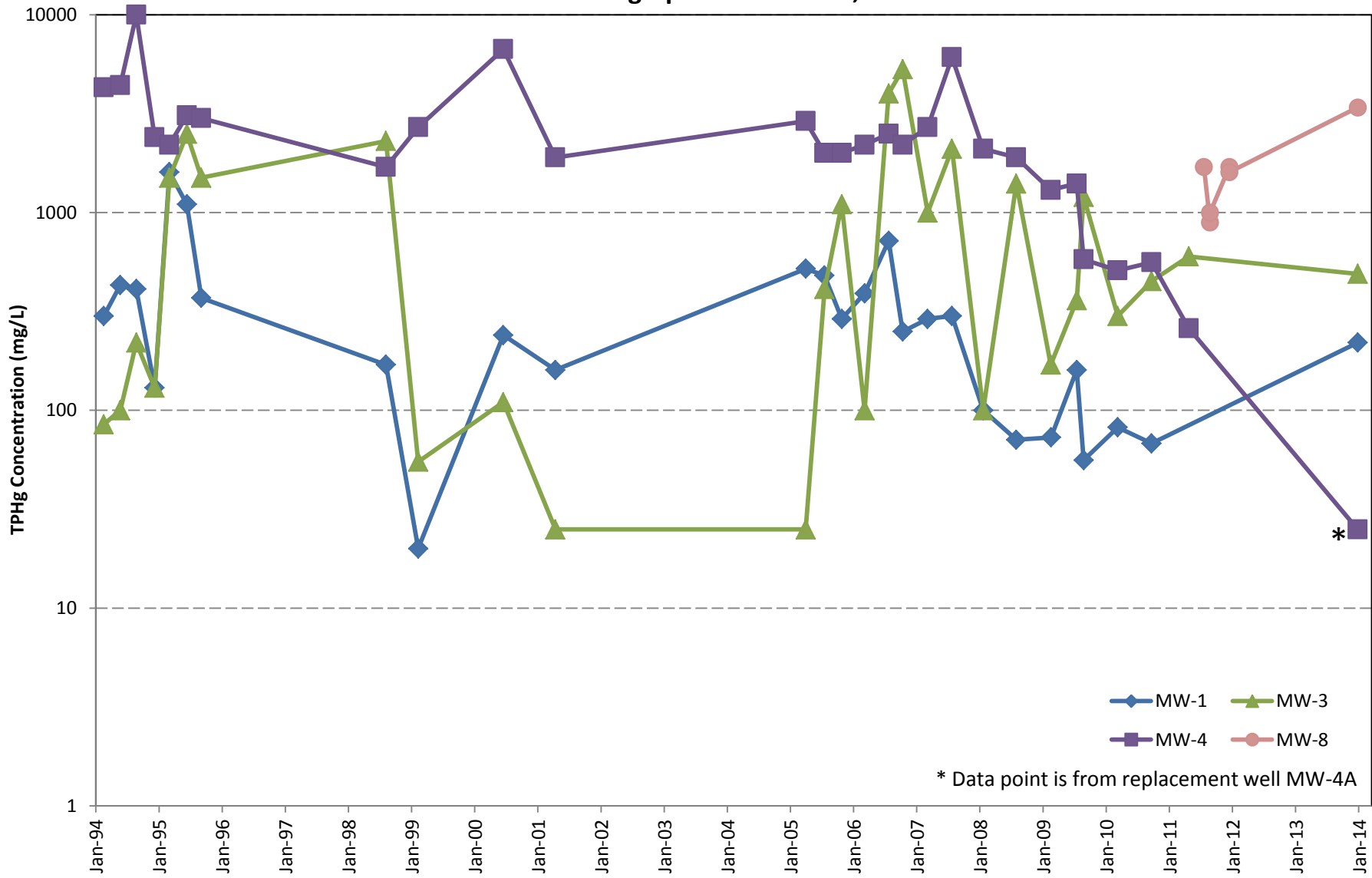
Table 1
Ground Water Elevations and Analytical Results
2250 Telegraph Ave Oakland, CA

Well ID	Date	Groundwater Elevation (ft msl)	TPH as Gasoline	TPH as Kerosene	TPH as Diesel	TPH as Motor Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE-8020	MTBE-8260	TBA	DIPE	ETBE	TAME	1,1,1-TCA	1,2-DCA	1,2-DBA	PCE	Lead	Chlorobenzene	
			µg/L																				
Environmental Screening Levels (ESLs)			100	100	100	100	27	95,000	310	37,000	9,900	9,900	--	--	--	--	--	1,000	770	640	15	--	
MW-4	3/3/1994	8.99	4,300	<50	240	<500	220	20	7.5	17	--	--	--	--	--	--	<0.5	5.9	--	<0.5	--	4.4	
	6/6/1994	8.03	4,400	<50	800+	<500	140	<0.5	<0.5	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	<0.5	
	9/7/1994	7.02	10,000	490+	280+	<500	84	<0.5	42	69	--	--	--	--	--	--	<0.5	4.4	--	0.5	--	4.3	
	12/22/1994	7.62	2,400	450+	54+	<500	11	<0.5	7.1	11	--	--	--	--	--	--	<0.5	3.6	--	3.6	--	<0.5	
	3/17/1995	9.78	2,200	380	160+	<500	<0.5	<0.5	7.9	10	--	--	--	--	--	--	<0.5	1.7	--	<0.5	--	4.5	
	6/27/1995	8.83	3,100	<50	82	<500	<0.5	<0.5	13	19	--	--	--	--	--	--	<0.5	2.3	--	<0.5	--	4.8	
	9/18/1995	8.04	3,000	--	1,231+	--	12	<0.7	6.9	8.3	--	--	--	--	--	--	<0.5	1.9	--	<0.5	--	4	
	8/21/1998	8.02	1,700	--	600+	--	8.2	12	13	5.2	<2.0	--	--	--	--	--	--	--	--	--	--	--	--
	2/24/1999	9.09	2,700	--	2,100+	--	4.3	0.64	<0.5	0.54	--	<2.0	--	--	--	--	--	--	--	--	--	--	--
	6/30/2000	11.74	6,700	--	3,200+	--	3.1	1.7	11	16.7	27	--	--	--	--	--	--	--	--	--	--	--	--
	4/27/2001	8.62	1,900	--	710	--	<0.5	<0.5	<0.5	<0.5	14	--	--	--	--	--	--	--	--	--	--	--	--
	4/14/2005	7.87	2,900	--	2,200HLY	2,500	<0.5	<0.5	<0.5	5.1	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	8/1/2005	8.1	2,000	--	2,100HLY	3,400L	<0.5	<0.5	<0.5	5.8c	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	11/9/2005	7.46	2,000Y	--	1,900HLY	2,300L	1.2	<0.5	<0.5	0.8	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	3/21/2006	9.88	2,200	--	2,800HLY	4,000L	1.2	<0.5	<0.5	0.7	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	8/7/2006	7.98	2,500y	--	4,700HLY	7,200L	0.6	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	10/27/2006	7.13	2,200y	--	2,500HLY	3,200L	0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	3/20/2007	8.68	2,700	--	2,900HLY	3,500L	0.77	<0.5	<0.5	0.67	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	8/8/2007	7.88	6,100LY	--	9,200HL	12,000HL	0.7	<0.5	<0.5	0.5	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
	2/5/2008	9.48	2,100	--	2,100Y	2,200	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--
8/14/2008	8.41	1,900Y	--	370Y	<300	1.4	0.59	<0.5	0.85	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
3/2/2009	8.75	1,300Y	--	880Y	850	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
7/30/2009	8.07	1,400Y	--	1,100Y	1,300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
9/8/2009*	7.77	580Y	--	--	--	<0.5	<0.5	<0.5	7.5C	--	2.4C	--	--	--	--	--	--	--	--	--	--	--	
3/24/2010	9.93	510Y	--	670	980	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
10/6/2010	8.5	560Y	--	130Y	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
5/9/2011	9.42	260	--	1,200	1,500	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
9/9/2011	8.93																						
12/29/2011	8.85																						
11/12/2012	9.17																						
MW-4A	1/10/2014	8.53	<50	--	190Y	<310	<0.5	<0.5	<0.5	<0.5	--	1.8	<10	<0.5	<0.5	<0.5	--	11	<0.5	--	<1	--	
MW-5	6/26/1997	7.58	120	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	1.6	--	<0.5	
	8/21/1998	7.7	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	2/24/1999	9.16	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--	--	--	
	6/30/2000	8.39	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	5.1	--	--	--	--	--	--	--	--	--	--	--	
	4/27/2001	8.42	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--	--	--	
	4/14/2005	8.82	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/1/2005	7.86	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	11/9/2005	8.1	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/21/2006	9.44	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/7/2006	7.75	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	10/27/2006	7.54	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/20/2007	8.35	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/8/2007	7.59	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	2/5/2008	9.26	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	8/14/2008	7.71	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/2/2009	9.82	<50	--	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	7/30/2009	7.89	<50	--	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	3/24/2010	Not Measured	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/5/2010	7.84	<50	--	<50	<300	<0.5	<0.5	<0.5	<1.0	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--	--	
	5/9/2011	9.05																					
9/9/2011	8.64																						
12/29/2011	8.51																						
11/12/2012	Not Measured																						
MW-6	1/10/2014	8.39	<50	--	<49	<290	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	<1	--	
	6/26/1997	7.47	1,500+	--	450+	--	<0.5	<0.5	11	<0.5	--	--	--	--	--	--	<0.5	<0.5	--	<0.5	--	1.7	
	8/21/1998	7.36	1,400	--	540+	--	<0.5	3.6	5.6	0.4	5.7	3.2	--	--	--	--	--	--	--	--	--	--	
	2/24/1999	9.04	1,600	--	600+	--	<0.5	<0.5	0.56	<0.5	--	2.3	--	--	--	--	--	--	--	--	--	--	
	6/30/2000	8.04	1,900	--	360+	--	0.56	3	5.4	3.5	30	--	--	--									

CHARTS

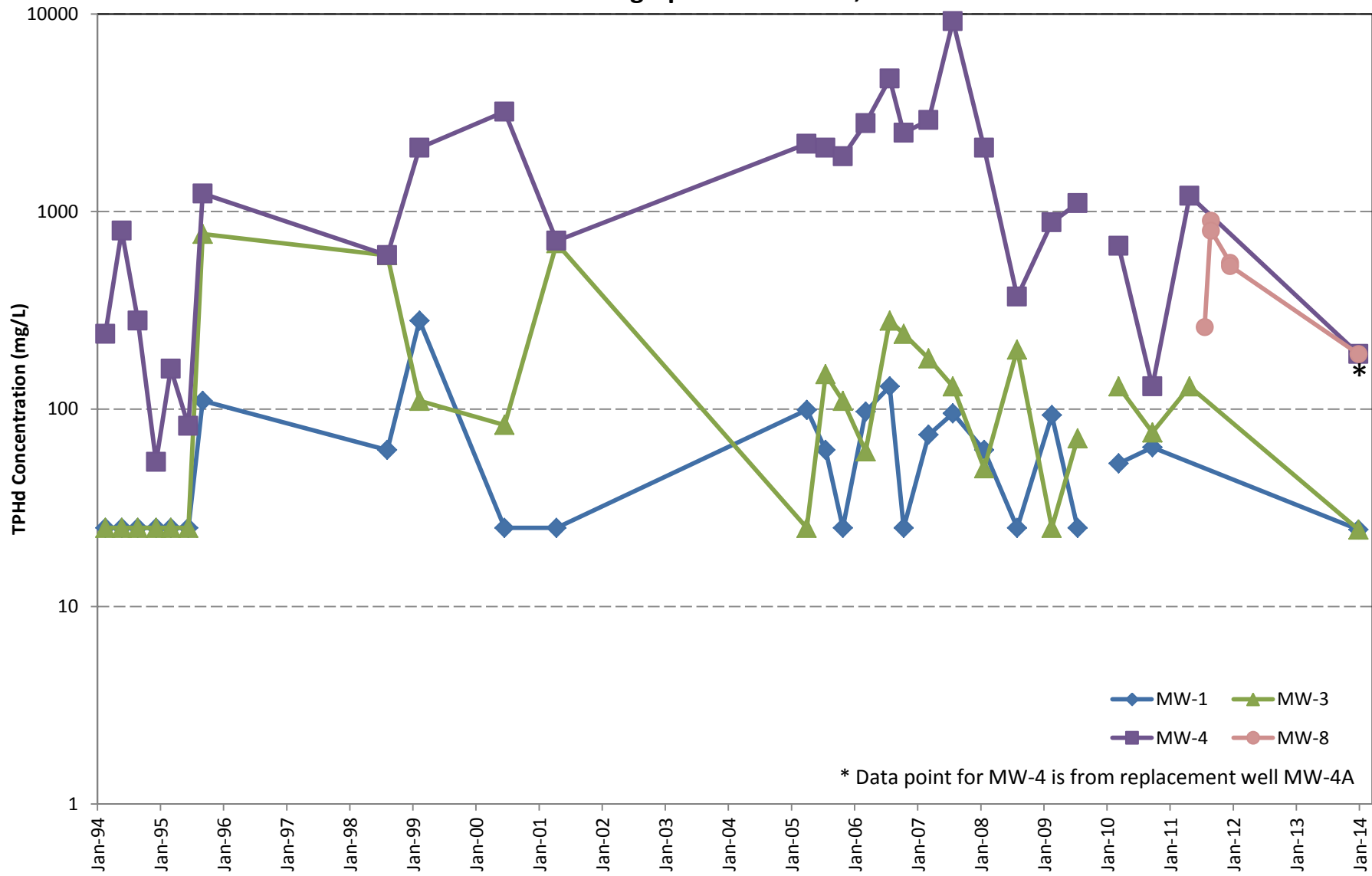


Chart 1
Concentrations of TPHg vs. Time
2250 Telegraph Ave Oakland, CA



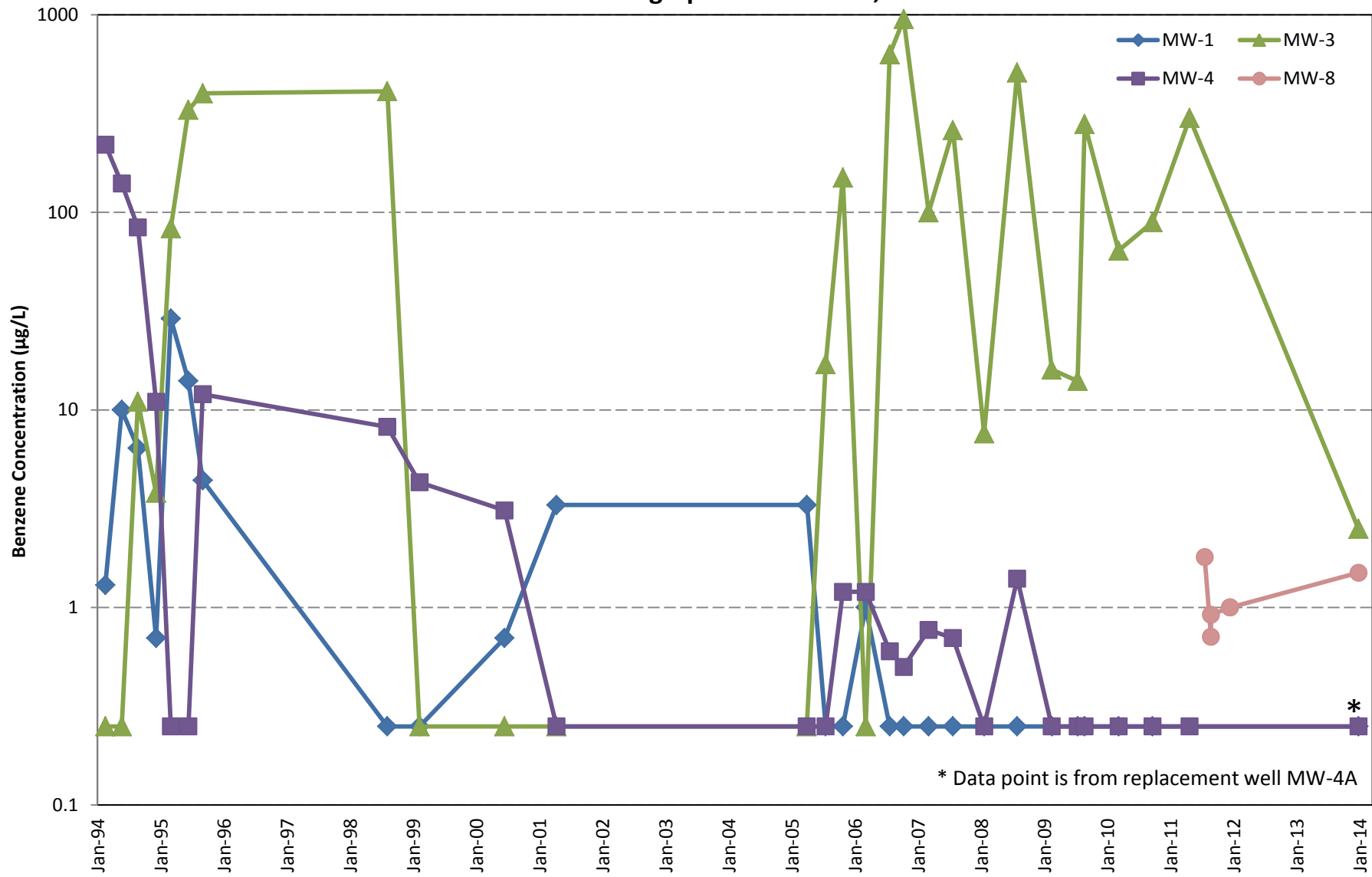
* Data point is from replacement well MW-4A

Chart 2
Concentrations of TPHd vs. Time
2250 Telegraph Ave Oakland, CA



* Data point for MW-4 is from replacement well MW-4A

Chart 3
Concentrations of Benzene vs. Time
2250 Telegraph Ave Oakland, CA



FIGURES



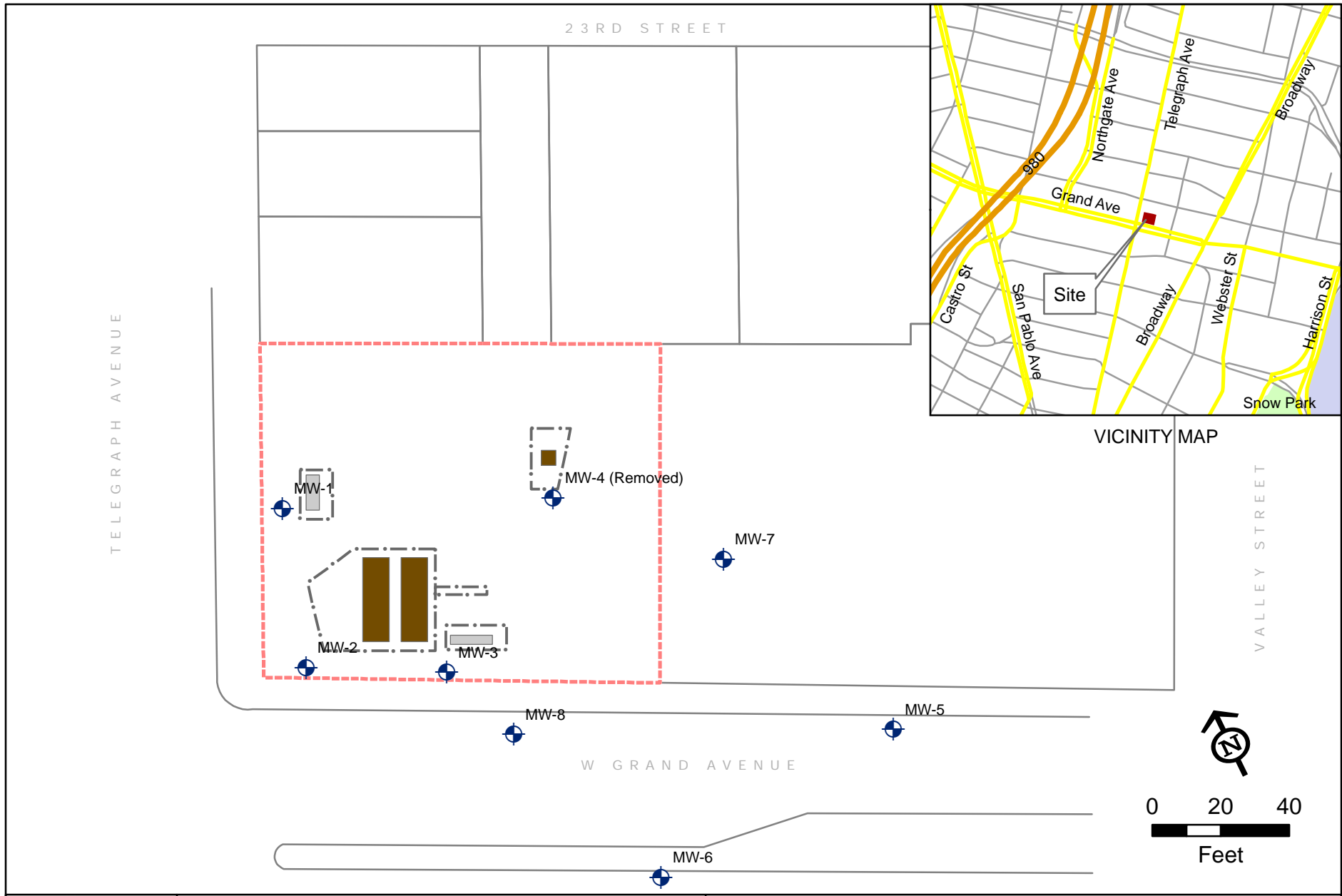


Figure - 1
Site Location Map
 2250 Telegraph Ave Oakland, CA

-  Dispenser Island
-  Previous Tank
-  Historic Excavation
-  Monitor Well
-  Property Boundary

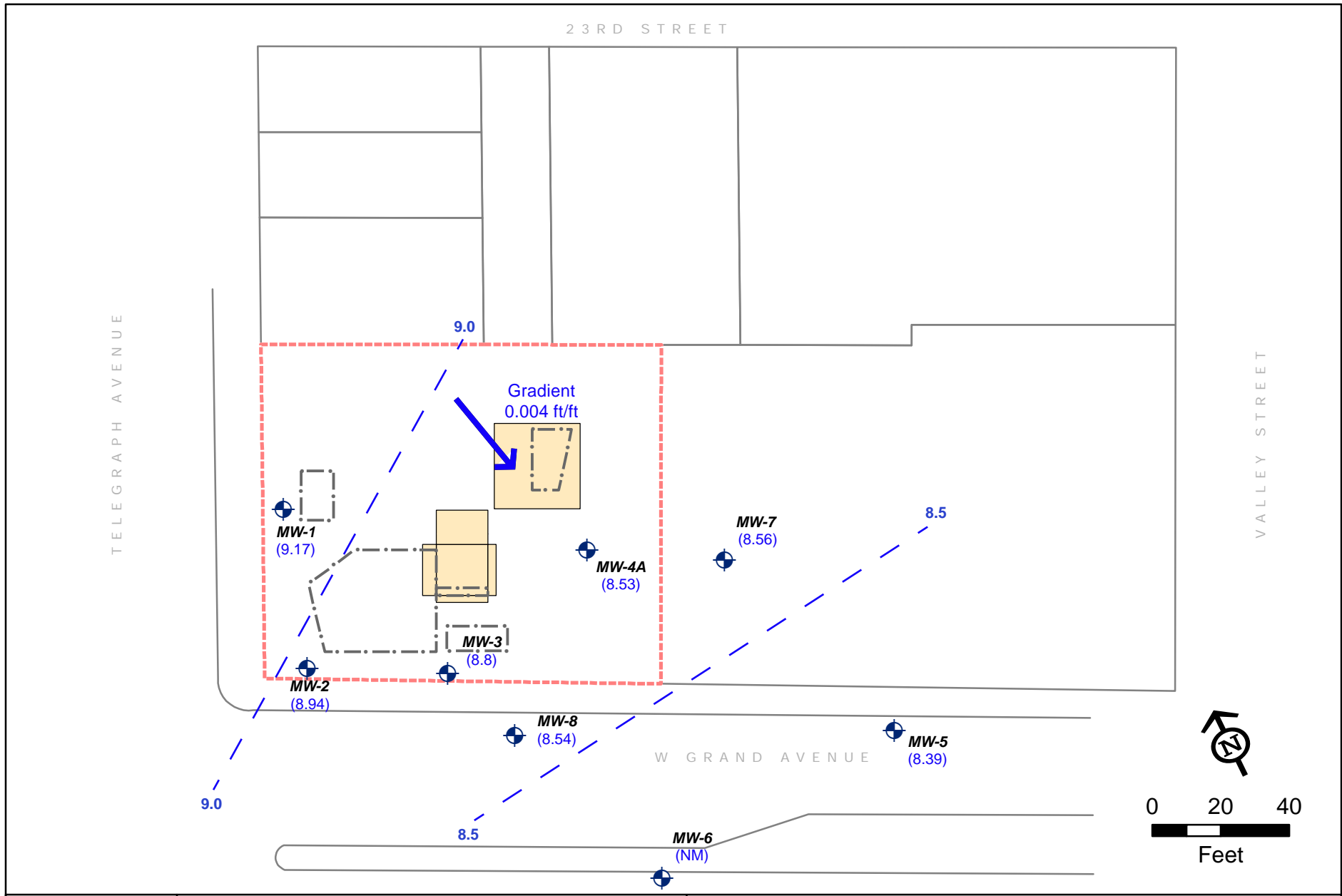









Figure - 2
Groundwater Gradient
January 2014
2250 Telegraph Ave Oakland, CA

-  Ground Water Elevation Contours (Dashed Where Inferred)
-  (9.17) Ground Water Elevation
-  Gradient Direction
-  Monitor Well
-  Historic Excavation
-  Excavation (2013)
-  Property Boundary



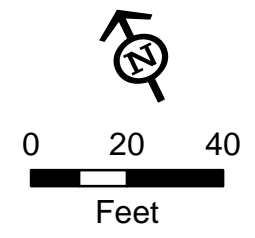
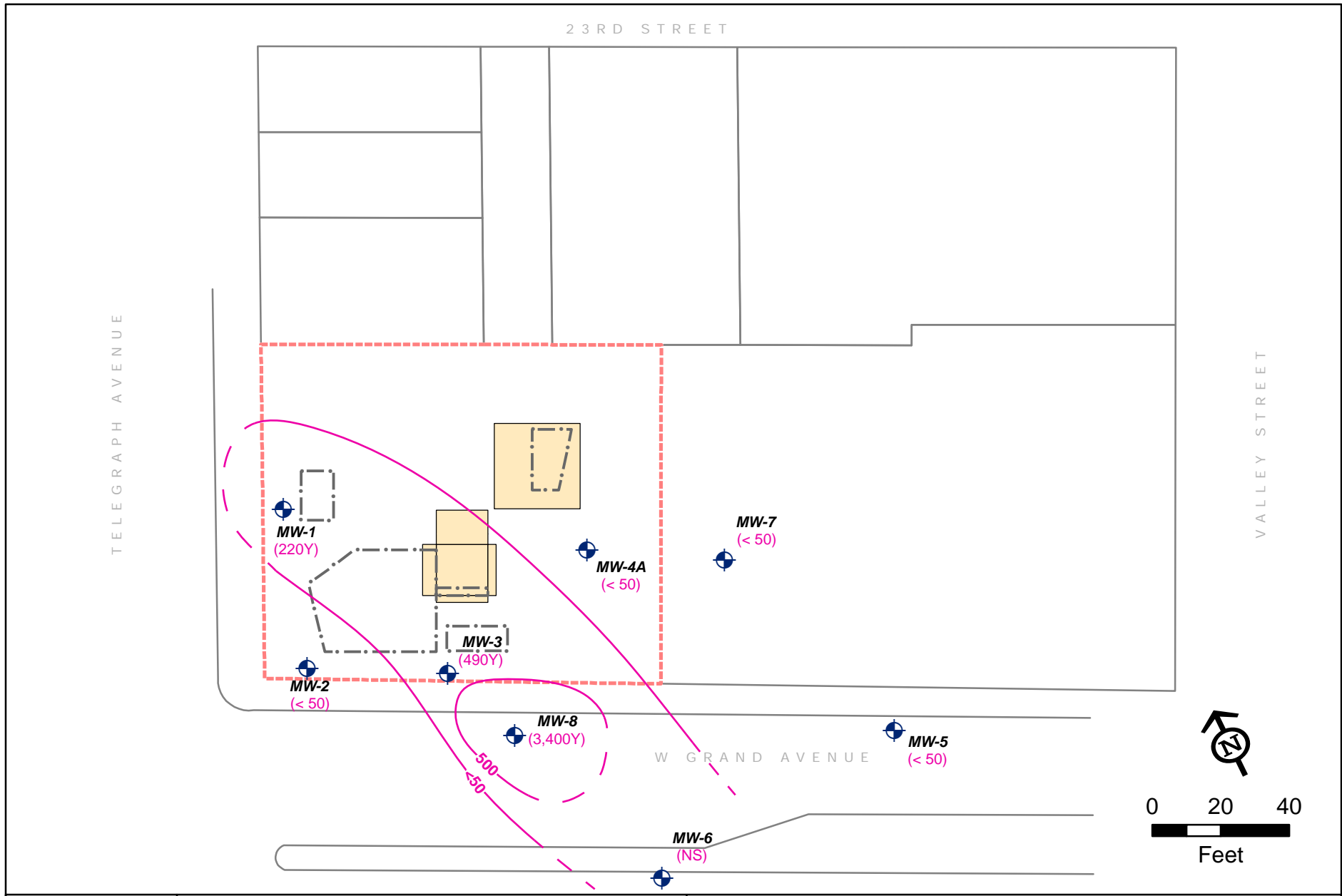


Figure - 3
TPH as Gasoline Iso Concentration
Contours - January 2014
2250 Telegraph Ave Oakland, CA

- TPH as Gasoline Iso-Concentration Contours in Ground Water (Dashed Where Inferred)
- (3,400Y) TPH as Gasoline Concentration (ug/L)
- (NS) Not Sampled
- Monitor Well
- Historic Excavation
- Excavation (2013)
- Property Boundary

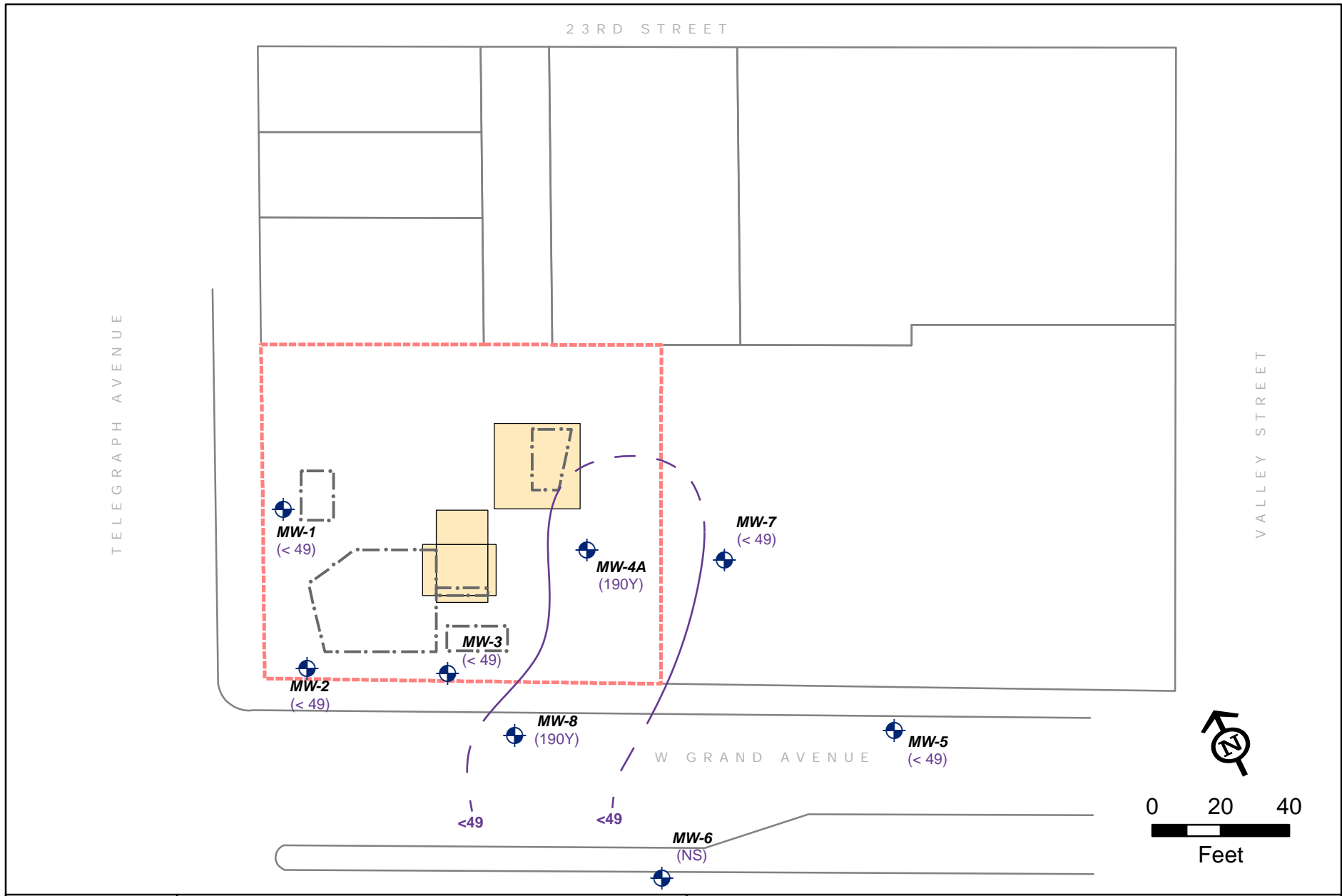









Figure - 4
TPH as Diesel Iso Concentration
Contours - January 2014
2250 Telegraph Ave Oakland, CA

-  TPH as Diesel Iso-Concentration Contours in Ground Water (Dashed Where Inferred)
-  (190Y) TPH as Diesel Concentration (ug/L)
-  (NS) Not Sampled
-  Monitor Well
-  Historic Excavation
-  Excavation (2013)
-  Property Boundary



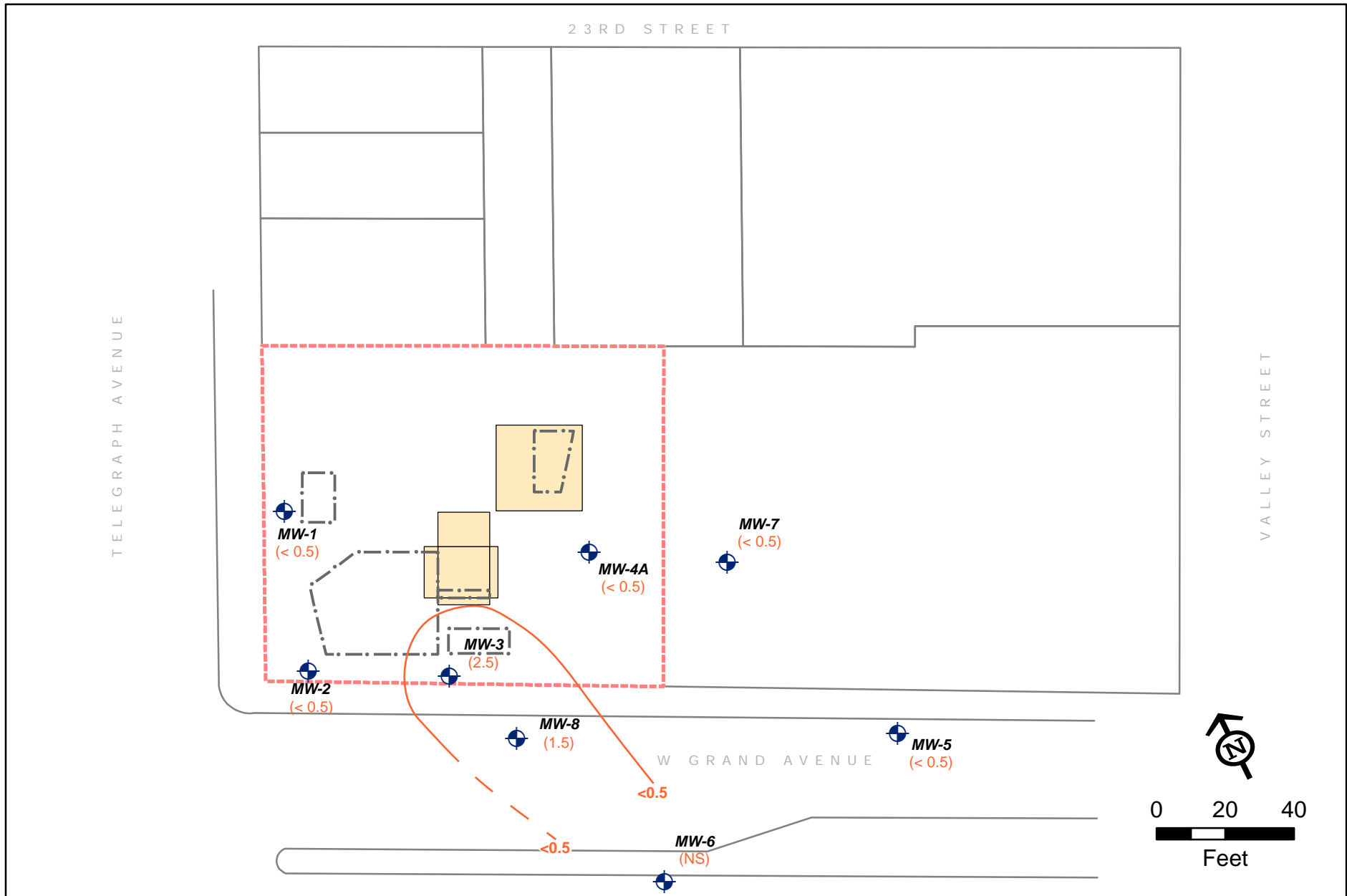







Figure - 5
Benzene Iso Concentration
Contours - January 2014
2250 Telegraph Ave Oakland, CA

-  Benzene Iso-Concentration Contours in Ground Water (Dashed Where Inferred)
- (2.5) Benzene Concentration (ug/L)
- (NS) Not Sampled
-  Monitor Well
-  Historic Excavation
-  Excavation (2013)
-  Property Boundary

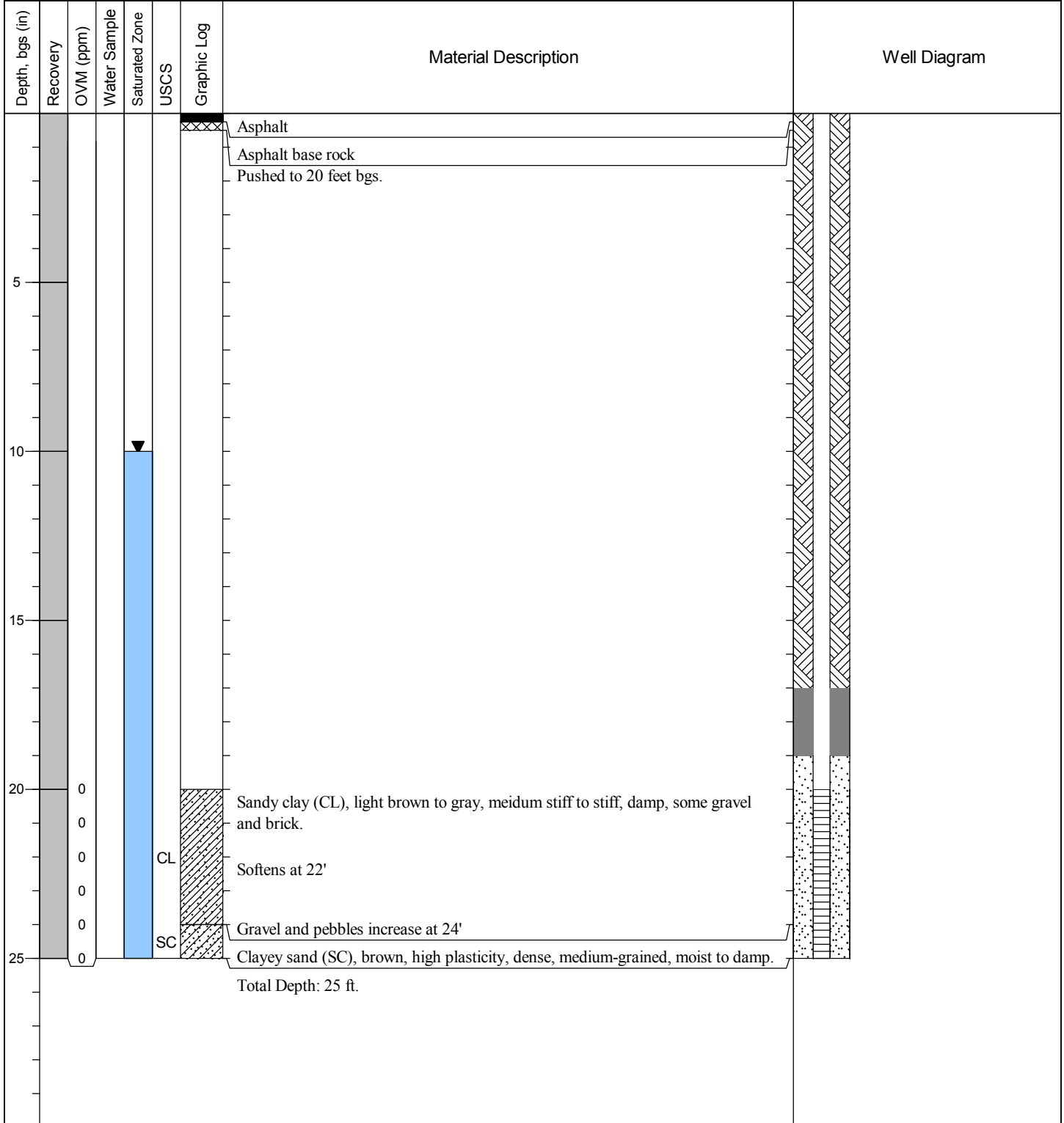


APPENDIX A: MW-4 AND MW-4A BORING LOGS



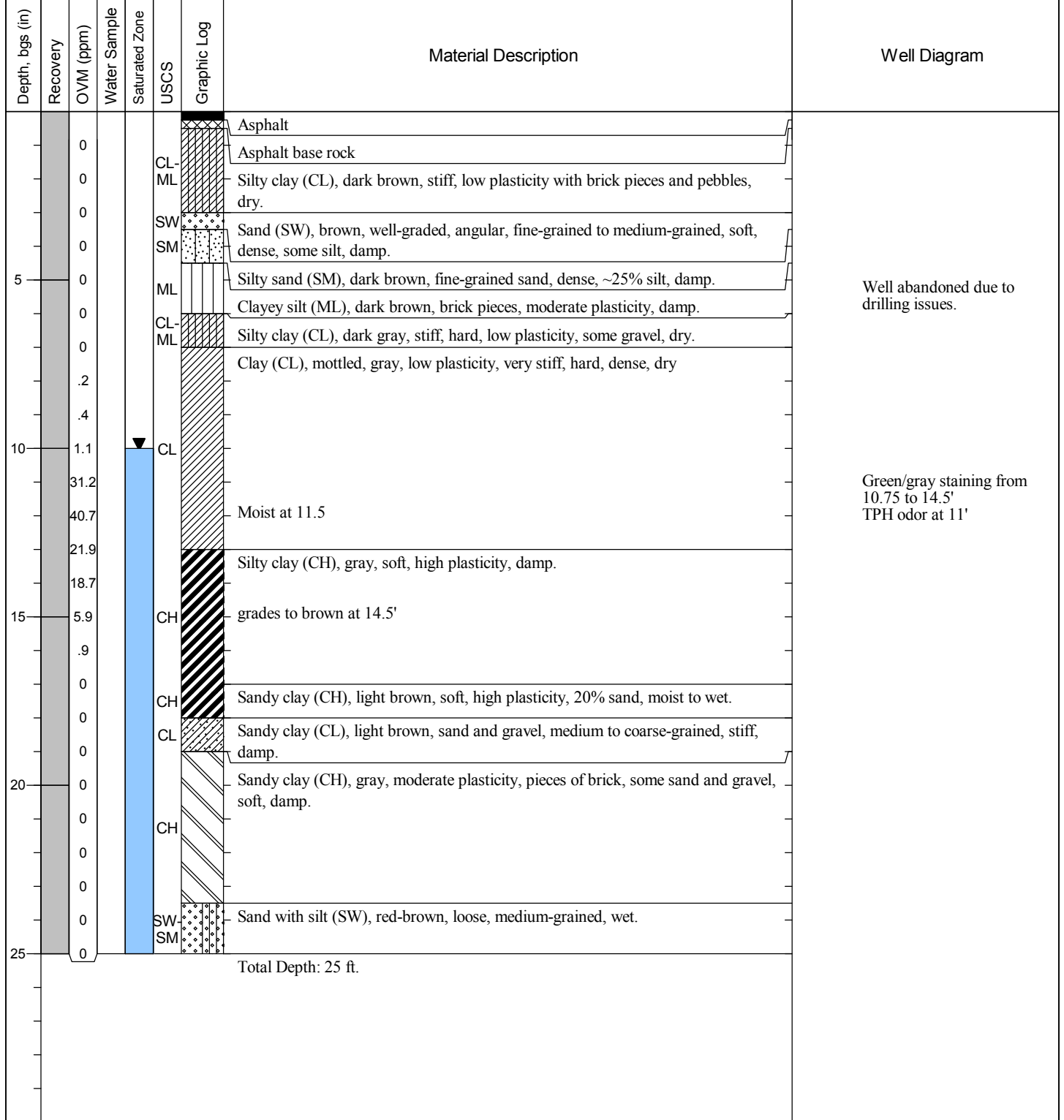


Date: 01/07/2014		Logged By: Yola Bayram		Well Specifications	
Location: 2250 Telegraph Ave Oakland, CA				Elevation	
Client: Buttner Properties				GSE: TOC:	
Drilling Co.: Vapor Tech				Depth to Water	
Drilling Method: 8" Hollow Stem Auger		Driller: Glenn		Initial: 10.05 in. Static: in.	
Well Sand Filter: #3		Well Seal: Bentonite		Total Well Depth: 25 in.	
Grout Materials and Method: Neat cement/Tremie				Lat.: Long:	
Completion:				PVC Diameter: 2	
Groundwater Sampling Method:				Screen Interval: 20-25 in.	
Soil Sampling Method:				Screen Slot Size: 0.02"	





Date: 01/06/2014		Logged By: Yola Bayram		Well Specifications	
Location: 2250 Telegraph Ave Oakland, CA				Elevation	
Client: Buttner Properties				GSE: TOC:	
Drilling Co.: Vapor Tech				Depth to Water	
Drilling Method: Direct Push		Driller: Glenn		Initial: 10.05 in. Static: in.	
Well Sand Filter: #3		Well Seal: Bentonite		Total Well Depth: 25 in.	
Grout Materials and Method: Neat cement/Tremie				Lat.: Long:	
Completion:				PVC Diameter: 2	
Groundwater Sampling Method:				Screen Interval: 20-25 in.	
Soil Sampling Method:				Screen Slot Size: 0.02"	



APPENDIX B: MONITOR WELL FIELD DATA SHEETS



Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-1
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 11.86
Client: Buttner Properties	Total Well Depth (TD): 15.20
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.34
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume L	Observations
1444	6.61	899	0.51	21.08	10.3	12.11	1.2L	
1447	6.62	904	0.34	21.16	-31.9	12.11	2.4L	
1450	6.59	914	0.30	21.23	-54.7	12.11	3.6	
1453	6.58	929	0.30	21.31	-59.7	12.11	4.8	
1456	6.59	937	0.30	21.35	-63.4	12.11	6.0	

Did Well Dewater?	N	Start Purge Time:	1441	DTW prior to sample:	12.11
Total Liters Purged:	6	Stop Purge Time:	1456	Start Sample Time:	1456
Total Sample Volume:	1.7L	Odor:	Y	Sheen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-2
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 11.59
Client: Buttner Properties	Total Well Depth (TD): 17.00
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume	Observations
1413	6.92	577	1.87	20.38	81.2	12.10	2	
1418	6.90	577	0.63	20.35	87.4	12.10	4	
1421	6.89	577	0.50	20.38	92.7	12.10	5.2	
1424	6.88	577	0.41	20.39	96.7	12.10	6.4	
1427	6.90	576	0.35	20.42	99.3	12.10	7.6	
1430	6.89	576	0.33	20.42	99.4	12.10	8.8	
1433	6.89	576	0.32	20.41	100.8	12.10	10.0	

Did Well Dewater?	N	Start Purge Time:	1408	DTW prior to sample:	12.10
Total Liters Purged:	10	Stop Purge Time:	1433	Start Sample Time:	1433
Total Sample Volume:	1.7L	Odor:	N	Sheen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-3
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 10.64
Client: Buttner Properties	Total Well Depth (TD): 18.42
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume	Observations
1513	6.55	1111	0.86	20.28	31.0	11.51	1.6	
1516	6.54	1106	0.59	20.26	58.8	11.51	2.8	
1519	6.52	1097	0.43	20.18	65.5	11.51	4.0	
1522	6.51	1096	0.37	20.20	58.3	11.51	5.2	
1525	6.52	1106	0.38	20.20	35.2	11.51	6.4	
1528	6.53	1116	0.37	20.22	28.1	11.51	7.6	

Did Well Dewater?	N	Start Purge Time:	1509	DTW prior to sample:	11.51
Total Liters Purged:	7.6	Stop Purge Time:	1528	Start Sample Time:	1528
Total Sample Volume:	1.7L	Odor:	Y	Sheen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-4A
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 11.15
Client: Buttner Properties	Total Well Depth (TD): 25
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume(L)	Observations
1101	6.54	1224	2.51	21.24	189.2	12.47	2L	
1106	6.59	1266	1.75	21.00	178.5	12.47	4	
1111	6.59	1259	1.84	21.17	177.5	12.47	6	
1114	6.58	1241	1.82	21.20	178.5	12.47	7.2	
1117	6.58	1235	1.79	21.19	178.9	12.47	8.4	

Did Well Dewater?	N	Start Purge Time:	1056	DTW prior to sample:	12.47
Total Liters Purged:	1.7L	Stop Purge Time:	1117	Start Sample Time:	1117
Total Sample Volume:	1.7L	Odor:	N	Sheen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes: Developed/surged well prior to sampling/purging. Developed until clear ~~15~~ gal removed.

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-5
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 8.10
Client: Buttner Properties	Total Well Depth (TD): 17.25
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume	Observations
1020	6.32	415	0.810	20.14	195.7	8.14	2	
1025	6.30	414	0.74	20.20	200.5	8.14	4	
1029	6.30	412	0.53	20.21	202.7	8.14	5.6	
1034	6.29	412	0.43	20.25	205.7	8.14	7.6	
1037	6.28	412	0.40	20.25	204.9	8.14	8.8	
1040	6.29	412	0.39	20.23	203.3	8.14	10.0	

Did Well Dewater?	N	Start Purge Time:	1015	DTW prior to sample:	8.14
Total Liters Purged:	10	Stop Purge Time:	1040	Start Sample Time:	1040
Total Sample Volume:	1.7L	Odor:	N	Seen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-7
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 10.11
Client: Buttner Properties	Total Well Depth (TD): 20.41
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume	Observations
1241	6.46	509	0.89	20.72	200.7 200.7	11.51	2	
1246	6.44	510	0.60	20.82	204.9	11.51	4	
1251	6.43	510	0.49	20.82	205.7	11.51	6	
1254	6.44	510	0.47	20.82	207.2	11.51	7.2	
1257	6.42	510	0.45	20.85	205.1	11.51	8.4	

Did Well Dewater?	N	Start Purge Time:	1236	DTW prior to sample:	11.51
Total Liters Purged:	8.4	Stop Purge Time:	1257	Start Sample Time:	1257
Total Sample Volume:	1.7L	Odor:	N	Sheen:	N
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

Monitor Well Data Sheet

Site Name: 2250 Telegraph Ave	Well/Sample ID: MW-8
Location: 2250 Telegraph Ave	Initial Depth to Water (DTW): 10.41
Client: Buttner Properties	Total Well Depth (TD): 20.81
Sampler: YB	Well Diameter: 2
Date: 1-10-2014	Purge Rate: 0.4 L/min
Purge Method: Peri w/ ded tube	Sampling Rate: 0.3 "
Sample Method: Peri w/ ded tube	

Time	pH	SC	DO	Temp	ORP	DTW	Cumulative Volume	Observations
1332	6.57	903	2.12	21.55	-4.0	10.48	2	
1335	6.57	893	1.66 1.66	21.52	6.0	10.48	3.2	
1340	6.58	892	1.25 1.25	21.42	-9.8	10.48	5.2	
1343	6.58	895	1.20	21.44	-28.4	10.48	6.4	
1346	6.58	897	1.11	21.41	-33.9	10.48	7.6	

Did Well Dewater?	N	Start Purge Time:	1327	DTW prior to sample:	10.48
Total Liters Purged:	7.6	Stop Purge Time:	1346	Start Sample Time:	1346
Total Sample Volume:	1.7L	Odor:	Yes	Sheen:	NO
Instrument ID(s):	126			Last Calibrated:	1000

Notes:

APPENDIX C: LABORATORY ANALYTICAL RESULTS





Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 252210
ANALYTICAL REPORT

Applied Water Resources
1600 Rivera Ave Suite 310
Walnut Creek, CA 94596

Project : AWR 13-05
Location : 2250 Telegraph
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	252210-001
MW-2	252210-002
MW-3	252210-003
MW-4A	252210-004
MW-5	252210-005
MW-7	252210-006
MW-8	252210-007

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: _____

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

Date: 01/22/2014

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 252210
Client: Applied Water Resources
Project: AWR 13-05
Location: 2250 Telegraph
Request Date: 01/10/14
Samples Received: 01/10/14

This data package contains sample and QC results for seven water samples, requested for the above referenced project on 01/10/14. The samples were received cold and intact.

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

High surrogate recoveries were observed for bromofluorobenzene (FID) in MW-3 (lab # 252210-003) and MW-8 (lab # 252210-007). MW-8 (lab # 252210-007) had pH greater than 2. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

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

No analytical problems were encountered.

Metals (EPA 6020):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 252210 Date Received 1/10/14 Number of coolers 1
 Client AWR CORP Project 2250 TELEGRAPH (AWR 13-05)

Date Opened 1/10/14 By (print) JR (sign) Jim Rowler
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____
- 2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____
- 2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO
6. Indicate the packing in cooler: (if other, describe) _____
 Bubble Wrap Foam blocks Bags None
 Cloth material Cardboard Styrofoam Paper towels
7. Temperature documentation: * Notify PM if temperature exceeds 6°C
 Type of ice used: Wet Blue/Gel None Temp(°C) _____
 Samples Received on ice & cold without a temperature blank; temp. taken with IR gun
 Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ YES NO
10. Are there any missing / extra samples? _____ YES NO
11. Are samples in the appropriate containers for indicated tests? _____ YES NO
12. Are sample labels present, in good condition and complete? _____ YES NO
13. Do the sample labels agree with custody papers? _____ YES NO
14. Was sufficient amount of sample sent for tests requested? _____ YES NO
15. Are the samples appropriately preserved? _____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A
17. Did you document your preservative check? _____ YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC723925	Batch#:	207041
Matrix:	Water	Analyzed:	01/13/14
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,028	103	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	77-128

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	207041
MSS Lab ID:	252175-005	Sampled:	01/09/14
Matrix:	Water	Received:	01/09/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Type: MS Lab ID: QC723927

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	18.86	2,000	1,993	99	74-120

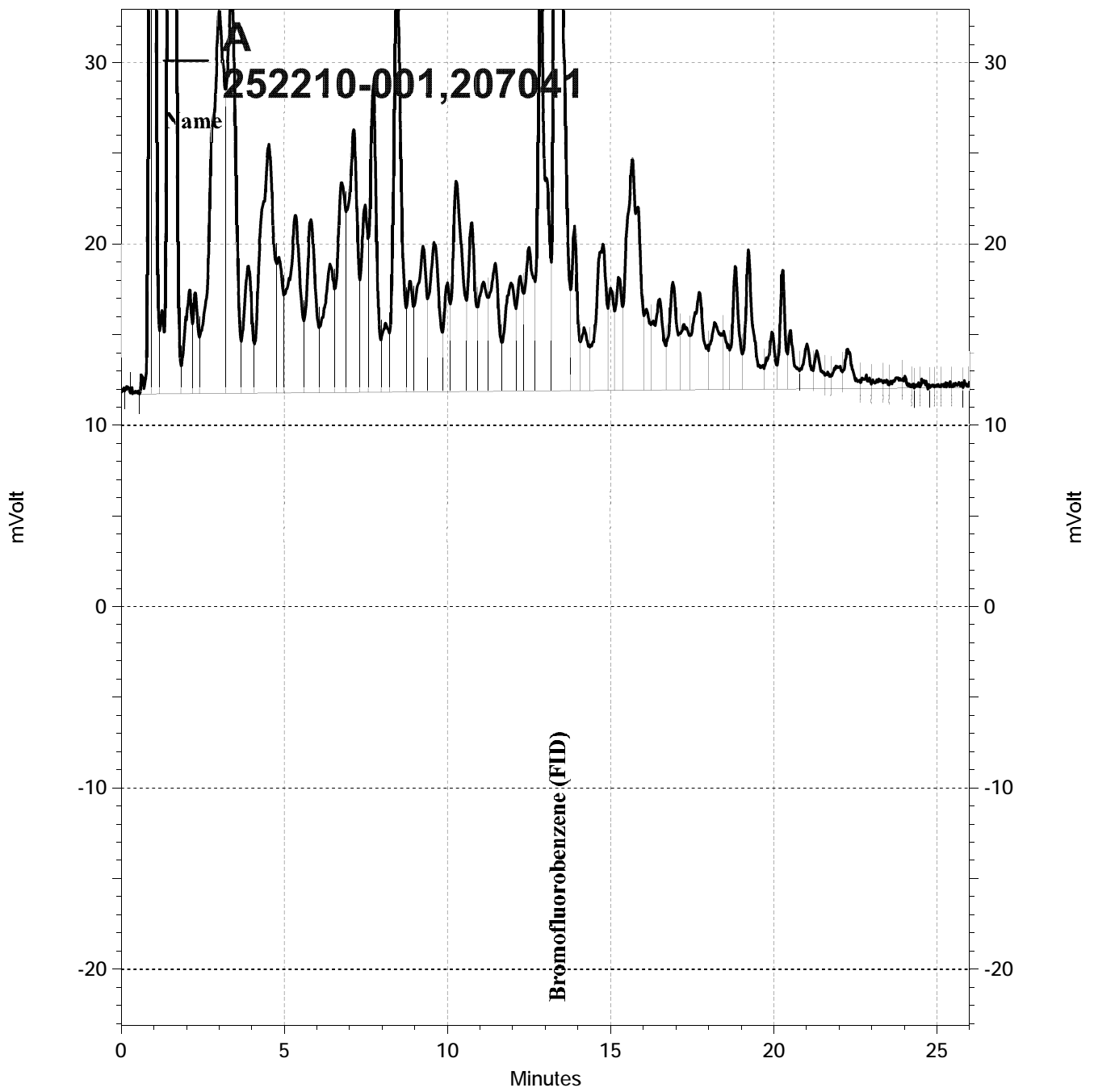
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	118	77-128

Type: MSD Lab ID: QC723928

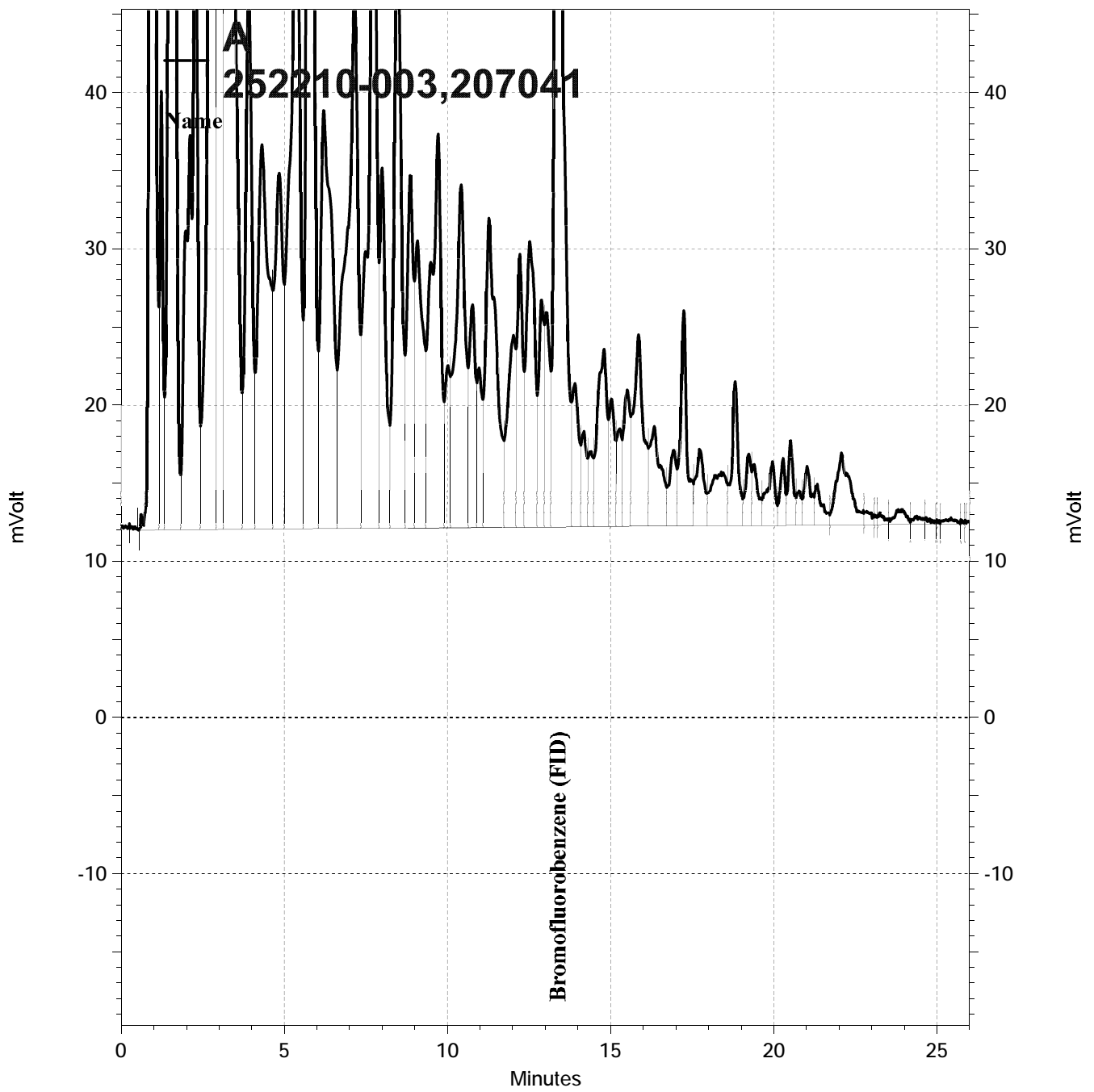
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,990	99	74-120	0	27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	121	77-128

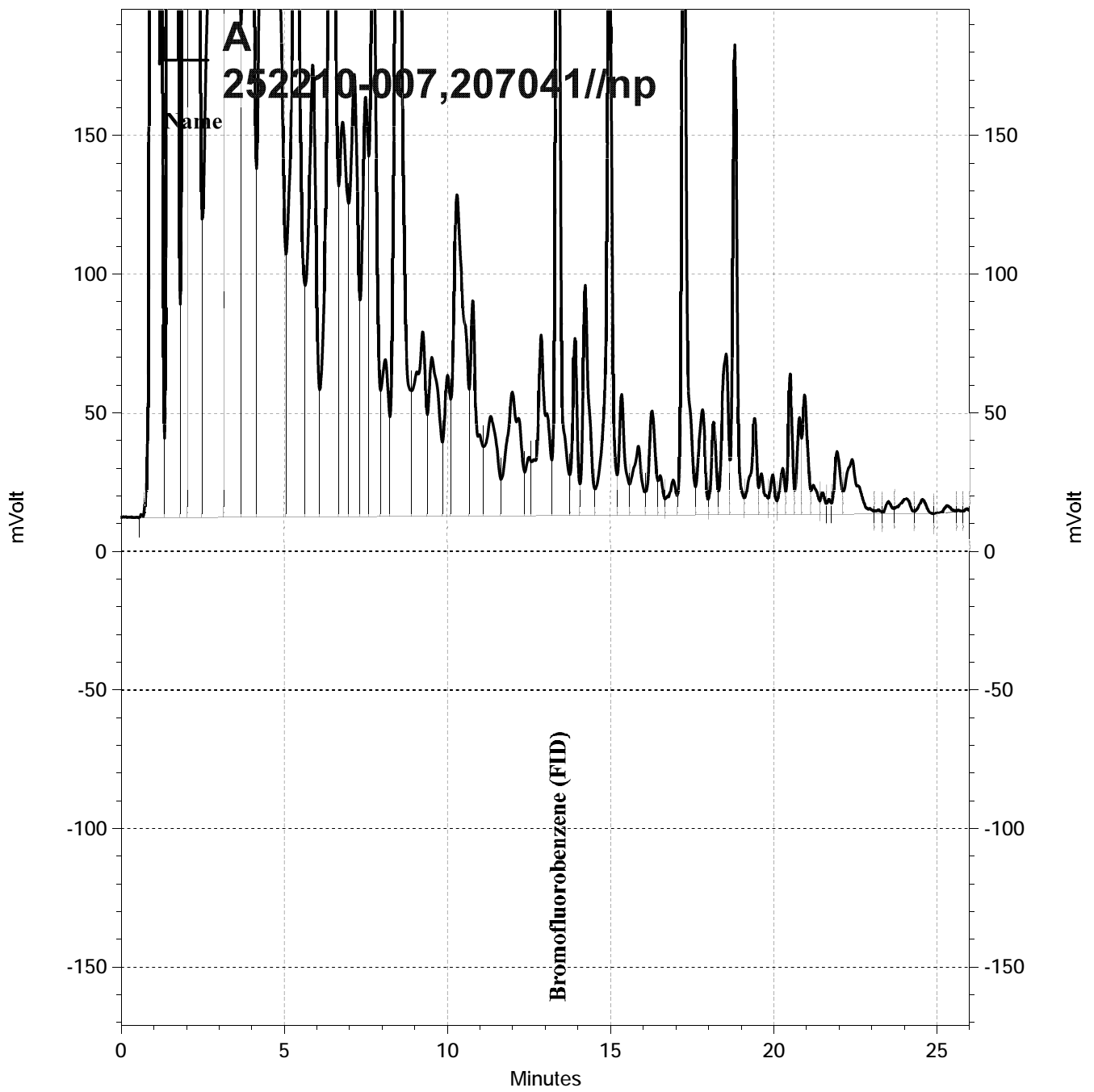
RPD= Relative Percent Difference



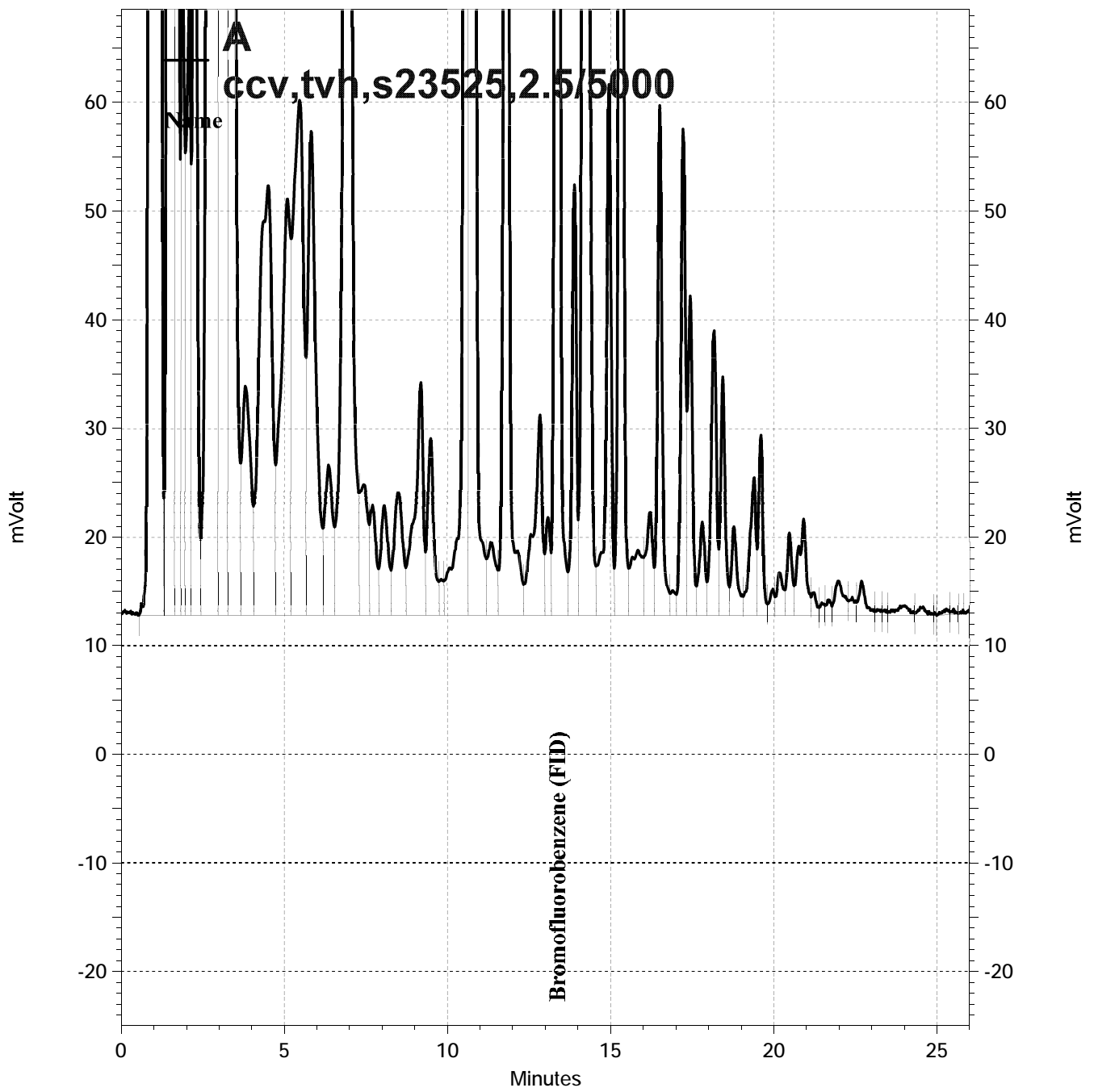
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Total Extractable Hydrocarbons			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 3520C
Project#:	AWR 13-05	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	01/10/14
Units:	ug/L	Received:	01/10/14
Diln Fac:	1.000	Prepared:	01/10/14
Batch#:	207011		

Field ID: MW-1
 Type: SAMPLE
 Lab ID: 252210-001

Analyzed: 01/14/14
 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	106	66-129

Field ID: MW-2
 Type: SAMPLE
 Lab ID: 252210-002

Analyzed: 01/14/14
 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	107	66-129

Field ID: MW-3
 Type: SAMPLE
 Lab ID: 252210-003

Analyzed: 01/14/14
 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	107	66-129

Field ID: MW-4A
 Type: SAMPLE
 Lab ID: 252210-004

Analyzed: 01/14/14
 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	190 Y	51
Motor Oil C24-C36	ND	310

Surrogate	%REC	Limits
o-Terphenyl	106	66-129

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

Total Extractable Hydrocarbons			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 3520C
Project#:	AWR 13-05	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	01/10/14
Units:	ug/L	Received:	01/10/14
Diln Fac:	1.000	Prepared:	01/10/14
Batch#:	207011		

Field ID: MW-5 Analyzed: 01/14/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 252210-005

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	109	66-129

Field ID: MW-7 Analyzed: 01/14/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 252210-006

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	106	66-129

Field ID: MW-8 Analyzed: 01/14/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 252210-007

Analyte	Result	RL
Diesel C10-C24	190 Y	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	102	66-129

Type: BLANK Analyzed: 01/13/14
 Lab ID: QC723813 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	66-129

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

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 3520C
Project#:	AWR 13-05	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	207011
Units:	ug/L	Prepared:	01/10/14
Diln Fac:	1.000	Analyzed:	01/13/14

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC723814

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,028	81	61-120

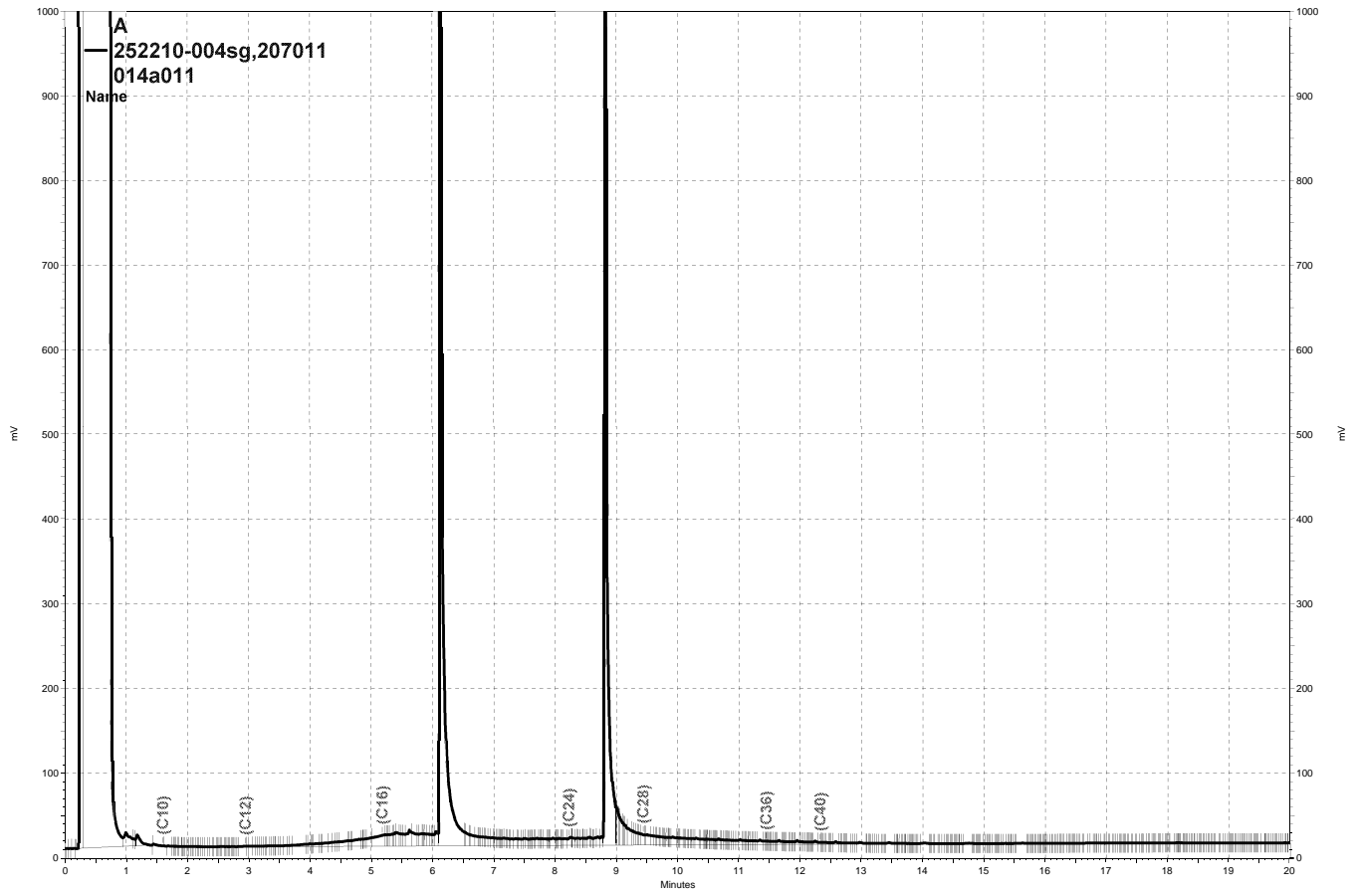
Surrogate	%REC	Limits
o-Terphenyl	99	66-129

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC723815

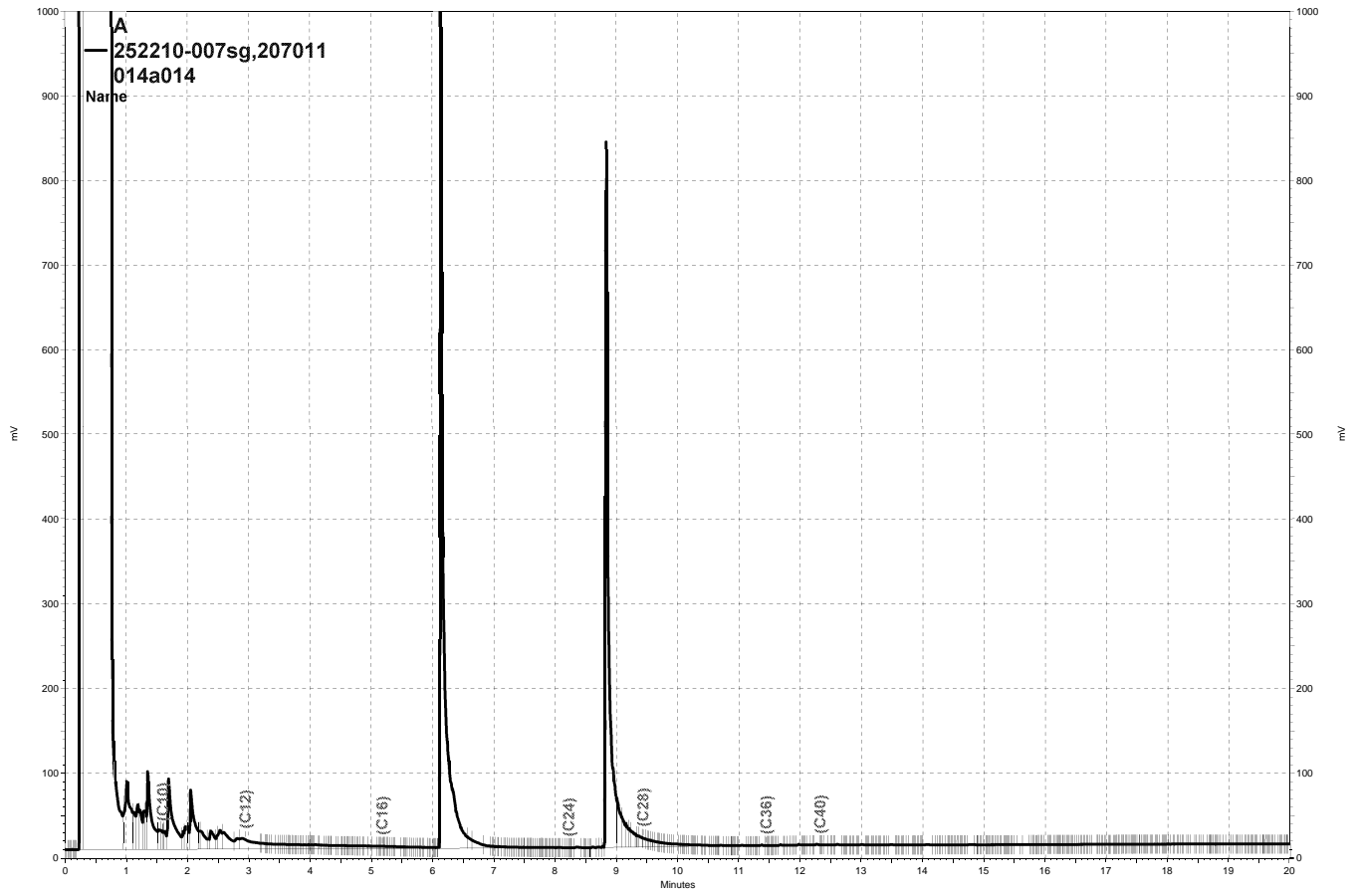
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,047	82	61-120	1	45

Surrogate	%REC	Limits
o-Terphenyl	97	66-129

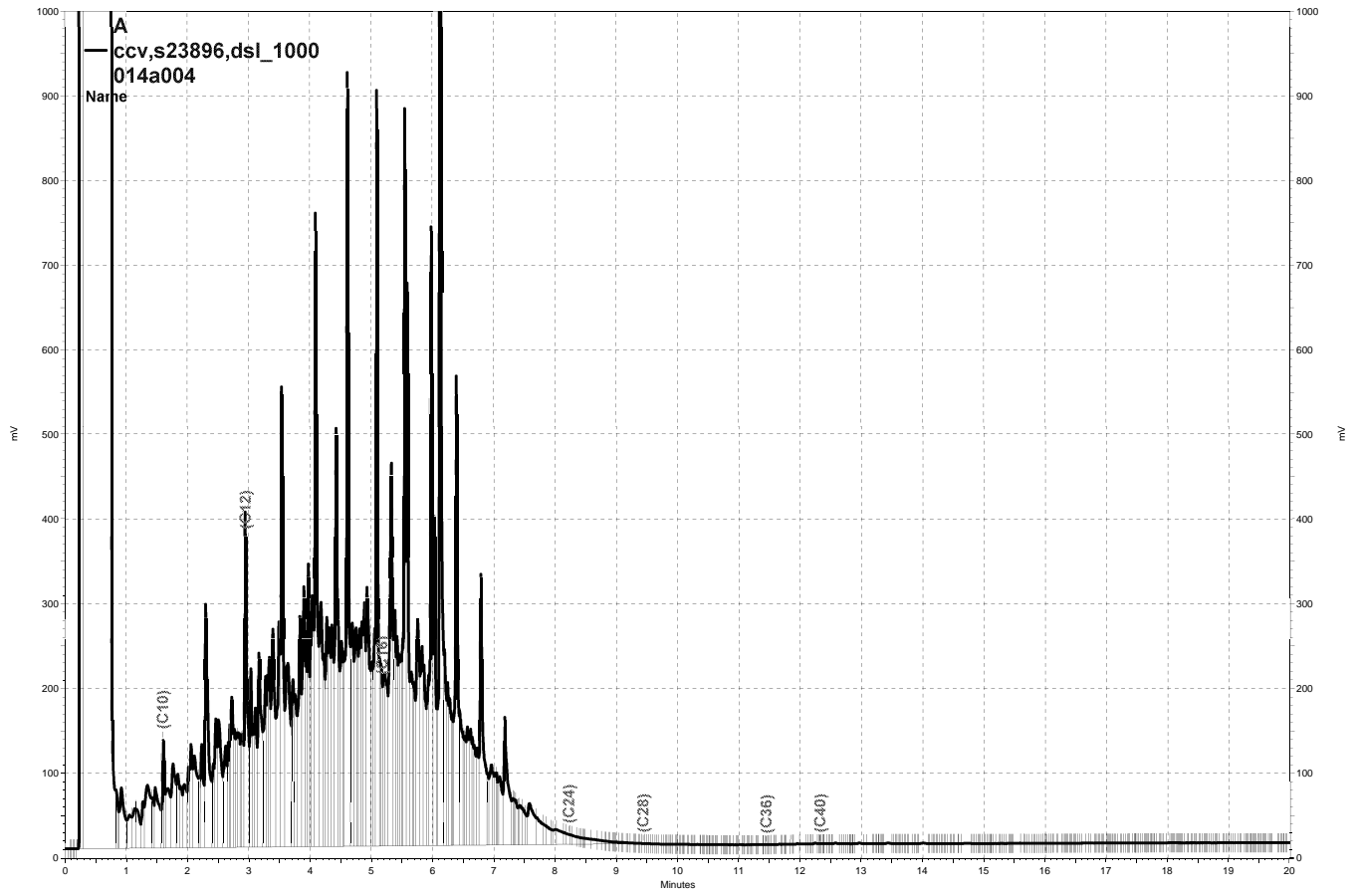
RPD= Relative Percent Difference



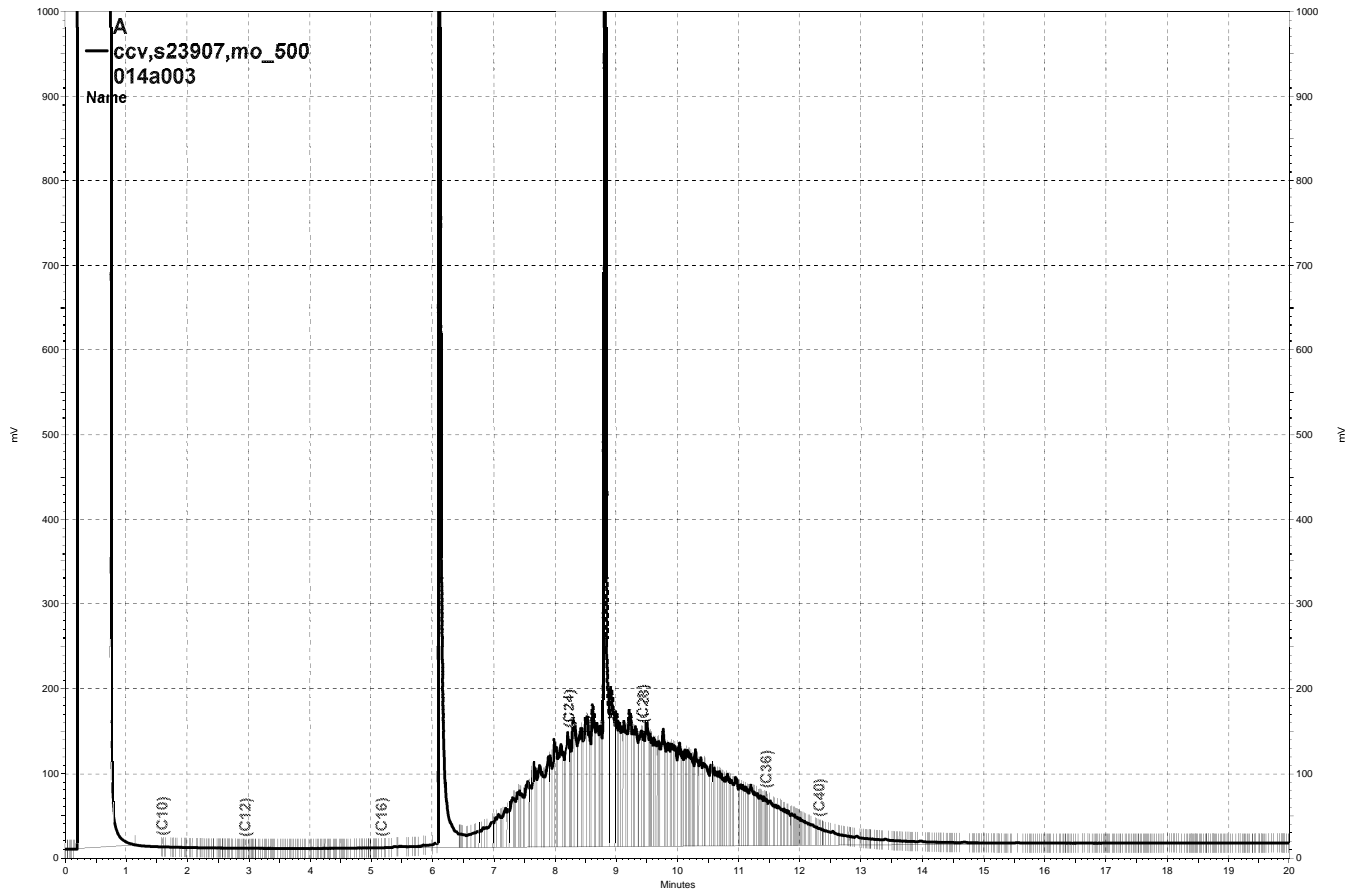
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BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	207059
Lab ID:	252210-001	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/14/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

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

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	207031
Lab ID:	252210-002	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	77-136
1,2-Dichloroethane-d4	86	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	207031
Lab ID:	252210-003	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	2.5	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	0.5	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	86	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-4A	Batch#:	207031
Lab ID:	252210-004	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	1.8	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	11	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	77-136
1,2-Dichloroethane-d4	87	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	207031
Lab ID:	252210-005	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	77-136
1,2-Dichloroethane-d4	90	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	207031
Lab ID:	252210-006	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	89	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	207059
Lab ID:	252210-007	Sampled:	01/10/14
Matrix:	Water	Received:	01/10/14
Units:	ug/L	Analyzed:	01/14/14
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	0.8	0.5
Benzene	1.5	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	1.5	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	5.1	0.5
m,p-Xylenes	7.3	0.5
o-Xylene	0.9	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	207031
Units:	ug/L	Analyzed:	01/13/14
Diln Fac:	1.000		

Type: BS Lab ID: QC723883

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	112.9	90	37-151
MTBE	25.00	22.58	90	64-121
Isopropyl Ether (DIPE)	25.00	24.31	97	56-124
Ethyl tert-Butyl Ether (ETBE)	25.00	24.03	96	61-122
1,2-Dichloroethane	25.00	20.72	83	77-137
Benzene	25.00	25.20	101	80-124
Methyl tert-Amyl Ether (TAME)	25.00	21.23	85	65-120
Toluene	25.00	25.75	103	80-122
1,2-Dibromoethane	25.00	25.34	101	80-120
Ethylbenzene	25.00	26.61	106	80-124
m,p-Xylenes	50.00	55.07	110	80-122
o-Xylene	25.00	28.71	115	77-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	77-136
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC723884

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	95.26	76	37-151	17	30
MTBE	25.00	20.69	83	64-121	9	20
Isopropyl Ether (DIPE)	25.00	22.02	88	56-124	10	20
Ethyl tert-Butyl Ether (ETBE)	25.00	21.83	87	61-122	10	22
1,2-Dichloroethane	25.00	20.97	84	77-137	1	20
Benzene	25.00	25.70	103	80-124	2	20
Methyl tert-Amyl Ether (TAME)	25.00	21.74	87	65-120	2	22
Toluene	25.00	26.28	105	80-122	2	20
1,2-Dibromoethane	25.00	26.41	106	80-120	4	20
Ethylbenzene	25.00	27.16	109	80-124	2	20
m,p-Xylenes	50.00	55.93	112	80-122	2	20
o-Xylene	25.00	29.38	118	77-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	77-136
1,2-Dichloroethane-d4	79	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Batch QC Report

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC723885	Batch#:	207031
Matrix:	Water	Analyzed:	01/13/14
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	77-136
1,2-Dichloroethane-d4	85	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	207059
Units:	ug/L	Analyzed:	01/14/14
Diln Fac:	1.000		

Type: BS Lab ID: QC723977

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	104.0	83	37-151
MTBE	25.00	22.55	90	64-121
Isopropyl Ether (DIPE)	25.00	24.64	99	56-124
Ethyl tert-Butyl Ether (ETBE)	25.00	23.58	94	61-122
1,2-Dichloroethane	25.00	26.95	108	77-137
Benzene	25.00	27.10	108	80-124
Methyl tert-Amyl Ether (TAME)	25.00	23.67	95	65-120
Toluene	25.00	26.64	107	80-122
1,2-Dibromoethane	25.00	26.20	105	80-120
Ethylbenzene	25.00	26.96	108	80-124
m,p-Xylenes	50.00	57.00	114	80-122
o-Xylene	25.00	28.71	115	77-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC723978

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	108.4	87	37-151	4	30
MTBE	25.00	22.33	89	64-121	1	20
Isopropyl Ether (DIPE)	25.00	24.30	97	56-124	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.43	94	61-122	1	22
1,2-Dichloroethane	25.00	25.57	102	77-137	5	20
Benzene	25.00	25.87	103	80-124	5	20
Methyl tert-Amyl Ether (TAME)	25.00	23.08	92	65-120	3	22
Toluene	25.00	25.55	102	80-122	4	20
1,2-Dibromoethane	25.00	25.89	104	80-120	1	20
Ethylbenzene	25.00	25.73	103	80-124	5	20
m,p-Xylenes	50.00	54.13	108	80-122	5	20
o-Xylene	25.00	27.41	110	77-120	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	94	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-120

RPD= Relative Percent Difference

Batch QC Report

BTXE & Oxygenates			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	EPA 5030B
Project#:	AWR 13-05	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC723979	Batch#:	207059
Matrix:	Water	Analyzed:	01/14/14
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	77-136
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
 RL= Reporting Limit

Dissolved Lead			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	METHOD
Project#:	AWR 13-05	Analysis:	EPA 6020
Analyte:	Lead	Batch#:	207077
Matrix:	Filtrate	Sampled:	01/10/14
Units:	ug/L	Received:	01/10/14
Diln Fac:	5.000	Prepared:	01/14/14

Field ID	Type	Lab ID	Result	RL	Analyzed
MW-1	SAMPLE	252210-001	ND	1.0	01/14/14
MW-2	SAMPLE	252210-002	1.1	1.0	01/16/14
MW-3	SAMPLE	252210-003	ND	1.0	01/14/14
MW-4A	SAMPLE	252210-004	ND	1.0	01/16/14
MW-5	SAMPLE	252210-005	ND	1.0	01/14/14
MW-7	SAMPLE	252210-006	ND	1.0	01/14/14
MW-8	SAMPLE	252210-007	1.3	1.0	01/16/14
	BLANK	QC724041	ND	1.0	01/17/14

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Dissolved Lead			
Lab #:	252210	Location:	2250 Telegraph
Client:	Applied Water Resources	Prep:	METHOD
Project#:	AWR 13-05	Analysis:	EPA 6020
Analyte:	Lead	Batch#:	207077
Field ID:	MW-1	Sampled:	01/10/14
MSS Lab ID:	252210-001	Received:	01/10/14
Matrix:	Filtrate	Prepared:	01/14/14
Units:	ug/L	Analyzed:	01/16/14
Diln Fac:	5.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC724042		100.0	106.9	107	78-120		
BSD	QC724043		100.0	107.8	108	78-120	1	20
MS	QC724044	0.2195	100.0	102.3	102	73-120		
MSD	QC724045		100.0	100.2	100	73-120	2	23

RPD= Relative Percent Difference