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Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Re: ARC Document Solutions (Formerly City Blue Print)
RWQCB Case#01-0210
1700 Jefferson St
Oakland CA, 94612

ARC has directed Applied Water Resources Corporation (AWR) to provide, on our behalf, professional environmental consulting services to the best of their ability. To the best of my knowledge, the information in this report is accurate and all local Agency and/or Regional Water Quality Control Board regulations and guidelines have been followed.

This report was prepared by AWR and ARC has relied on their advice and assistance. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Matt Westbrock - Asst. Corp. Controller
Authorized Representative

Attachment: Report

APPLIED WATER RESOURCES
CORPORATION

2363 Mariner Square Drive, Suite 245, Alameda, California 94501
925 426 1112

June 1, 2017

Matthew Westbrock
ARC Document Solutions
1981 N Broadway #385
Walnut Creek, CA 94596

RE: Well Installation and Annual Ground Water Monitoring Report, 2017
1700 Jefferson Street, Oakland, California
Fuel Leak Case No. RO 151

Dear Mr. Westbrock:

Applied Water Resources (AWR) encloses herein one copy of the Well Installation and Annual Ground Water Monitoring Report, 2017 for 1700 Jefferson Street, Oakland, California. AWR will also upload the Report along with monitor well sampling and analytical data to the Regional Water Quality Control Board's GeoTracker database.

If you have any questions regarding this report or the findings of the work, please contact me at (510) 670-2088 or email me at ybayram@awrcorp.net

Sincerely,

Yola Bayram
Staff Geologist

cc: Mr. Mark Detterman, Alameda County Department of Environmental Health

WELL INSTALLATION AND ANNUAL GROUND WATER MONITORING REPORT

2017

1700 Jefferson, Oakland, CA

June 2017

APPLIED WATER RESOURCES

WELL INSTALLATION AND ANNUAL GROUND WATER MONITORING REPORT

2017

June 2017

1700 Jefferson Street

Oakland, California

Prepared for:

ARC Document Solutions
1981 N Broadway #385
Walnut Creek, CA 94596

Prepared by:
Applied Water Resources Corporation
Alameda, California

June 2017

Prepared By:

Yola Bayram
Staff Geologist

Reviewed By:

Steve Michelson, PG
Principal Geologist

TABLE OF CONTENTS

LIST OF TABLES

LIST OF CHARTS

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This Well Installation and Annual Ground Water Monitoring Report, 2017 was prepared by Applied Water Resources Corporation (AWR) on behalf of ARC Document Solutions. This Report describes monitor well installation and ground water monitoring work performed at 1700 Jefferson Street, Oakland, California (Site). The project objectives were to install four new monitor wells, sample and analyze ground water from the nine monitor wells, measure the depth to ground water in the wells to calculate ground water gradient, magnitude, and direction, evaluate analytical results, and report the findings.

2.0 BACKGROUND AND SITE HISTORY

The Site is located on the northeast corner of the intersection of Jefferson Street and 17th Street in Oakland, California. The Site is a former gas station that had two 1,000-gallon gasoline underground storage tanks (USTs) and one 550-gallon waste oil UST.

Beginning in 1987, the following activities were conducted at the Site:

- On February 20, 1987, three borings (Borings 1 through 3) were advanced for a geotechnical investigation. Two additional borings (Borings 4 and 5) were advanced near the former USTs. On June 16, 1987, three gasoline USTs, product lines and dispensers were removed, overexcavated, and backfilled without confirmation sampling (HLA, 1987). Soil was excavated to approximately 9.5 feet, which was the maximum reach of the excavation equipment. The soil was stockpiled and then spread out for aeration. The excavation was subsequently backfilled on August 5 and 6, 1987 with the aerated soil.

- Three ground water monitor wells were installed in June 1987 (MW-1 to MW-3). Well MW-1 initially contained 30 inches of free-phase floating product (free product). Well MW-2 was subsequently destroyed in 1987 when the current building was constructed. On August 12, 1987, Boring 6 was advanced to investigate soil permeability.

- In January 1988, ground water extraction wells MW-1A and MW-4 were installed to remove free product. In August 1988, off-site well MW-5 was installed.

- Free product was removed from well MW-1 daily yielding an estimated 2,300 gallons of free product from September 1987 to March 1991 (HLA, 1991). A ground water extraction and treatment system was installed in June 1992.

- The system was removed in July 1999, after extracting an additional 867 gallons of free product. Five Cone Penetrometer Test (CPT) borings both south of the Site and north of well MW-5 were advanced in March 1995.

- In April 1996, well MW-6 was installed (HLA 1999). In April 1998, analyses showed the free product consisted of leaded gasoline. Measurable thickness of free product has not been observed in the wells since 1999.

- In 1999, oxygen release compound (ORC®) socks were placed in wells MW-1A, MW-3, MW-4, and MW-5. The ORC® socks were removed at the request of Alameda County Department of Environmental Health in 2002.

- Quarterly ground water monitoring of wells MW-1, MW-3, MW-5, and MW-6 was conducted from January 1994 through March 2009, when semi-annual monitoring commenced. Ground water extraction wells MW-1A and MW-4 were periodically sampled from August 1991 to June 1999.

- On April 15, 2010, all monitor wells were surveyed by Muir Consulting of Oakdale, California to Geotracker specifications using NAVD88 datum. The prior monitor well elevations referenced the City of Oakland datum, which differs -5.7 feet from NAVD88, the standard national datum.

- In April of 2011, three wells were installed at the Merrill Sign Company (Merrill Site), a RWQCB site located on the corner of 18th and Jefferson St (PDE, 2011). AWR coordinated with PDE, the consulting company managing the site, to measure depth to water and collected ground water samples in the monitor wells at the Merrill Site. Results are provided in Table 3. The Merrill Site was given case closure on July 31, 2012 and the monitor wells associated with this site were destroyed shortly after.

- In 2013, AWR performed an investigation to identify utility corridors and remaining USTs, pipelines and other infrastructure associated within the former gas station and to determine whether a preferential contaminant migration pathway exists along the utility corridor to explain the elevated concentrations of petroleum observed in MW-5. Results are provided in a March 27, 2014 addendum (AWR, 2014).

- In September 2014, ground water samples were analyzed for ethanol, lead scavengers, and fuel oxygenates. Ethanol was not detected in any of the samples. 1,2-dicholoroethane (1,2-DCA) was detected in MW-1, MW-4, and MW-5. However, concentrations were below the ESL for ground water based threat to indoor air.

- In March 2017, four monitor wells, MW-7, MW-8, MW-9 and MW-10 were installed and sampled in the subterranean courtyard of the adjacent property located at 581 18th St. Ground water samples were analyzed and the results are included in Table 3. These wells are not surveyed so they were not included in the calculation of the ground water gradient.

2.1 Subsurface Conditions

Boring logs show that silty sand and clayey sand are present from the surface to a depth of approximately 17.5 feet below ground surface (bgs). Sand was reported in site soil borings and well logs from approximately 17.5 to 31.0 feet bgs with the exception of MW-5 where sand was reported from the surface to 31.0 feet bgs with a layer of silty sand from 6 to 12 feet bgs. These soils are underlain by stiff to very stiff, saturated silty clays to the maximum explored depth of 41.5 feet bgs. Ground water was encountered at approximately 23 feet bgs in the boreholes. A geologic cross-section is provided in the Work Plan (AWR, January 2013).

3.0 MONITOR WELL INSTALLATION

In March 2017, four monitor wells (MW-7 to MW-10) were installed in the courtyard adjacent to the Site. Due to limited access, a handheld flighted auger kit was used to drill the borings for the monitor wells. Each ¾" well was installed in a 2" diameter boring with blank PVC and a pre-packed screen and surrounded by #2/12 Monterey sand as a filter pack. A 6 to 12 inch hydrated bentonite seal was placed on top of the filter and neat cement grout was added up to the surface. The wells were secured with a permanent well box and developed and sampled after three days on March 31, 2017. Boring logs and well construction details are provided in Appendix C.

4.0 GROUND WATER MONITORING AND SAMPLING ACTIVITIES

Ground water monitoring and sampling of the Site was performed on March 22nd and 31st, 2017 by AWR personnel. Work at the Site included measuring depth to water, evaluating the presence of petroleum in ground water in the wells, purging and sampling the wells using ASTM low-flow sampling techniques (ASTM, 2006), and submitting the samples under chain of custody to a NELAP laboratory for analysis. All field work was conducted under the supervision of a Professional Geologist.

Ground water elevation data are summarized in Table 1, gradient data are summarized in Table 2, and analytical data are summarized in Table 3. Field sheets of recently recorded ground water monitoring data are included in Appendix A.

4.1 Depth to Water and Ground Water Gradient

Before purging and sampling ground water, depth to water was measured from the top of each well casing using an electronic water level meter. The water level measurements were recorded to the nearest 0.01 foot, consistent with the surveyed elevation data. The presence of free product was also evaluated by using a bailer in each monitor well after measuring depth to water.

Ground water elevation contours from MW-1, MW-3, MW-4, MW-5, and MW-6 are illustrated on Figure 3. The ground water gradient direction is based on the above wells and is to the west at an average of 0.002 ft/ft. Surveying for the most recently installed monitor wells are pending due to limited access by the property owner. A rose diagram depicting cumulative ground water gradients is presented in Figure 6. The ground water gradient in 2011 was towards the northwest when including former wells from the Merrill Site (ERS 2011).

4.2 Ground Water Sampling

Before sampling ground water, 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, 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, three laboratory-supplied 40-milliliter HCL-preserved sample VOA vials were filled with ground water and sealed with zero headspace. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled and stored in a pre-chilled and transported to McCampbell Analytical or ESC Lab Sciences, NELAP certified analytical laboratories, following standard COC protocols for the requested analyses.

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

5.0 RESULTS OF GROUND WATER SAMPLING

Ground water samples collected from wells MW-1, MW-3 to MW-6 were analyzed for total petroleum hydrocarbon as gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX), fuel oxygenates, and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. Ground water samples collected from MW-7 to MW-10 were analyzed for TPHg, BTEX, and MTBE by EPA Methods 8015/8021. In addition, The TPHg number represents the total concentration of purgeable hydrocarbons in the C6 to C12 carbon chain range, using a laboratory response factor calibrated to a gasoline standard. Copies of the chain of custody record and laboratory analytical reports with individual and standard chromatograms are included as Appendix B. Analytical results are summarized in Table 3.

6.0 DISCUSSION

In Table 3, ground water concentrations are compared to RWQCB Environmental Screening Levels (ESLs) for a residential scenario (RWQCB 2016). 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 BTEX compounds. Because there is no ground water based threat to indoor air ESL listed for TPHg, the direct exposure limit is listed instead.

Charts 1 and 2 depict the trends of TPHg and benzene respectively in the monitor wells MW-1, MW-3, and MW-5 over time. Figures 4 and 5 show the distribution of TPHg and benzene in ground water at the Site.

7.0 SUMMARY

Based on the results of ground water monitoring performed at 1700 Jefferson Street:

- Ground water gradient direction based on data from existing wells MW-1, MW-3 to MW-6 is to the west at an average of 0.002 ft/ft.

- The ground water gradient in 2011 was towards the northwest when including former wells from the Merrill Site (ERS 2011).
- Charts 1 and 2 depict the trends of TPHg and benzene respectively in the monitor wells MW-1, MW-3, and MW-5 over time. No detectable TPHg and BTEX concentrations were reported in MW-6.
- From 1999 to 2017, concentrations of TPHg, benzene, toluene, ethylbenzene, and total xylenes all decreased by an order of magnitude in MW-4.
- Despite seasonal fluctuations, concentrations in ground water have remained relatively stable over the past 5 years as depicted in Charts 1 and 2.
- Further investigations and potential remedial measures will be developed in future submittals.

8.0 REFERENCES

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

AWR, *Work Plan Addendum, 1700 Jefferson Street,* Oakland CA, March 2014.

AWR, *Work Plan Addendum, 1700 Jefferson Street,* Oakland CA, December 2015.

AWR, *Conceptual Site Model and Work Plan, ARC 1700 Jefferson St, Oakland CA*, January 2013

ERS, Semi-Annual Ground Water Monitoring Report, September 2011.

HLA, Additional Investigations, October 1989.

HLA, Drilled Pier Soil Analysis, January 1988.

HLA, Final Report: Soil Aeration and Tank Excavation Backfilling, November 1987.

HLA, Final Report: Ground Water Investigation, November 1987.

HLA, Groundwater Investigation, July 27, 1999.

HLA, Memorandum to Alameda County Environmental Health Service, October 27, 1987.

HLA, Off-Site Hydrogeologic Investigation, November 1988.

HLA, Preliminary Hazardous Waste Assessment, June 1987.

HLA, Professional Services during Tank Removal, August 1987.

HLA, Soil Permeability Results, January 1988.

P&D Environmental (PDE), Ground Water Monitoring Well Installation Report, Merrill Sign Company, May 2011

Regional Water Quality Control Board-San Francisco Bay Region, Update to Environmental Screening Levels ESL Workbook, http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml, February 2016

TABLES

Table 1
GROUND WATER ELEVATIONS
1700 Jefferson Street, Oakland, California

Well ID	MW-1		MW-1A		MW-3		MW-4		MW-5		MW-6	
Top of Casing (ft above MSL)	36.81		35.25		36.23		36.77		35.21		35.91	
Date	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)
7/8/1987	25.75	5.69	--	--	25.50	6.27	--	--	--	--	--	--
7/12/1989	26.00	5.44	--	--	24.44	7.33	--	--	24.91	4.31	--	--
Data not available from 1990 to 1995												
3/6/1996	NS	--	--	--	24.79	6.98	--	--	23.53	7.03	NA	---
6/11/1996	FP	--	--	--	25.60	6.17	--	--	23.78	6.78	25.16	6.10
9/19/1996	FP	--	--	--	26.09	5.68	--	--	24.48	6.08	25.76	5.50
12/23/1996	FP	--	--	--	FP	---	--	--	24.83	5.73	25.88	5.38
3/27/1997	FP	--	--	--	FP	---	--	--	23.82	6.74	24.78	6.48
6/4/1997	26.41	5.95	--	--	25.11	6.66	--	--	23.92	6.64	24.60	6.66
9/26/1997	26.80	5.56	--	--	25.41	6.36	--	--	24.29	6.27	24.80	6.46
12/22/1997	26.00	6.36	--	--	24.91	6.86	--	--	24.02	6.54	24.71	6.55
3/31/1998	26.06	6.30	--	--	24.05	7.72	--	--	22.78	7.78	23.75	7.51
6/18/1998	25.60	6.76	--	--	23.71	8.06	--	--	22.51	8.05	23.22	8.04
8/28/1998	25.45	6.91	--	--	23.70	8.07	--	--	22.74	7.82	22.23	9.03
12/2/1998	24.92	7.44	--	--	23.60	8.17	--	--	23.16	7.40	23.72	7.54
3/10/1999	24.90	7.46	--	--	22.65	9.12	--	--	22.82	7.74	23.54	7.72
6/30/1999	25.53	6.83	--	--	23.07	8.70	--	--	22.41	8.15	23.04	8.22
9/29/1999	24.23	8.13	--	--	23.03	8.74	--	--	22.81	7.75	23.42	7.84
11/22/1999	24.33	8.03	--	--	23.68	8.09	--	--	22.88	7.68	23.64	7.62
2/11/2000	24.38	7.98	--	--	23.74	8.03	--	--	22.74	7.82	23.67	7.59
5/30/2000	23.57	8.79	--	--	22.97	8.80	--	--	21.73	8.83	22.82	8.44
9/15/2000	23.85	8.51	--	--	23.12	8.65	--	--	22.14	8.42	23.10	8.16
11/16/2000	24.14	8.22	--	--	23.40	8.37	--	--	22.39	8.17	23.41	7.85
4/2/2001	23.40	8.96	--	--	23.40	8.37	--	--	22.07	8.49	23.33	7.93
6/28/2001	23.58	8.78	--	--	23.17	8.60	--	--	22.15	8.41	23.15	8.11
8/30/2001	24.00	8.36	--	--	23.35	7.42	--	--	22.35	8.21	23.35	7.91
12/26/2001	24.18	8.18	--	--	23.54	8.23	--	--	22.49	8.07	23.27	7.99
4/23/2002	NA	--	--	--	22.89	8.88	--	--	21.07	9.49	22.89	8.37
6/14/2002	23.41	8.95	--	--	22.85	8.92	--	--	21.80	8.76	22.81	8.45
8/20/2002	23.85	8.51	--	--	23.11	8.66	--	--	22.14	8.42	23.15	8.11
12/27/2002	24.10	8.26	--	--	23.34	8.43	--	--	NA[1]	NA[1]	23.41	7.85
4/1/2003	23.75	8.61	--	--	22.90	8.87	--	--	NA[1]	NA[1]	23.16	8.10
7/1/2003	23.50	8.86	--	--	22.80	8.97	--	--	NA[1]	NA[1]	22.75	8.51
9/24/2003	23.82	8.54	--	--	23.15	8.62	--	--	22.21	8.35	23.16	8.10
12/29/2003	24.07	8.29	--	--	23.45	8.32	--	--	22.56	8.00	23.47	7.79
5/18/2004	23.64	8.72	--	--	22.98	8.79	--	--	21.85	8.71	22.87	8.39
6/30/2004	23.64	8.72	--	--	23.04	8.73	--	--	22.00	8.56	22.43	8.83
9/23/2004	23.98	8.38	--	--	23.32	8.45	--	--	22.36	8.20	23.30	7.96
12/28/2004	24.07	8.29	--	--	28.71	3.06	--	--	22.42	8.14	23.42	7.84
3/16/2005	23.80	8.56	--	--	23.70	8.07	--	--	22.11	8.45	23.60	7.66
6/23/2005	22.90	9.46	--	--	22.40	9.37	--	--	21.20	9.36	22.27	8.99
9/9/2005	23.27	9.09	--	--	22.63	9.14	--	--	21.68	8.88	22.55	8.71
12/2/2005	23.75	8.61	--	--	23.06	8.74	--	--	22.19	8.37	23.05	8.21
3/24/2006	23.05	9.31	--	--	22.57	9.20	--	--	21.01	9.55	22.50	8.76
6/29/2006	22.56	9.80	--	--	23.91	9.84	--	--	20.78	9.78	21.85	9.41
9/13/2006	23.00	9.36	--	--	22.35	9.42	--	--	21.35	9.21	22.31	8.95
12/27/2006	23.47	8.89	--	--	22.82	8.95	--	--	21.82	8.74	22.85	8.41
3/30/2007	23.51	8.85	--	--	22.91	8.86	--	--	21.70	8.86	22.88	8.38
7/2/2007	23.39	8.97	--	--	22.88	8.89	--	--	21.81	8.75	22.75	8.51
10/2/2007	23.87	8.49	--	--	23.20	8.57	--	--	22.22	8.34	23.17	8.09
12/13/2007	24.05	8.31	--	--	23.40	8.37	--	--	22.31	8.25	23.37	7.89
3/26/2008	23.56	8.80	--	--	23.00	8.77	--	--	21.77	8.79	22.97	8.29
6/2/2008	23.70	8.66	--	--	23.08	8.69	--	--	22.04	8.52	23.07	8.19
9/10/2008	24.07	8.29	--	--	23.55	8.22	--	--	22.52	8.04	23.49	7.77
11/19/2008	24.33	8.03	--	--	23.68	8.09	--	--	22.63	7.93	23.64	7.62
3/3/2009	24.31	8.05	--	--	23.78	7.99	--	--	22.51	8.05	22.51	7.51
9/3/2009	24.16	8.20	--	--	23.55	8.22	--	--	22.36	8.20	23.49	-15.44
3/3/2010	23.99	12.82	22.42	12.83	23.45	12.78	23.87	12.90	22.14	13.07	23.49	12.42
9/8/2010	23.75	13.06	22.31	12.94	23.09	13.14	23.63	13.14	22.05	13.16	23.11	12.80
3/16/2011	23.63	13.18	22.09	13.16	23.05	13.18	23.55	13.22	21.85	13.36	23.06	12.85
9/9/2011	23.16	13.65	21.64	13.61	22.50	13.73	23.06	13.71	21.57	13.64	22.50	13.41
4/12/2012	23.42	13.39	21.89	13.36	22.79	13.44	23.33	13.44	21.69	13.52	22.83	13.08
10/10/2012	23.61	13.20	--	--	22.90	13.33	23.47	13.30	22.02	13.19	22.95	12.96
3/25/2013	23.54	13.27	22.10	13.15	22.84	13.39	23.40	13.37	21.94	13.27	22.92	12.99
9/12/2013	24.07	12.74	22.53	12.72	23.35	12.88	23.95	12.82	22.52	12.69	23.43	12.48
4/23/2014	24.41	12.40	22.87	12.38	23.74	12.49	24.28	12.49	22.67	12.54	23.92	11.99
9/23/2014	24.64	12.17	23.08	12.17	23.91	12.32	24.51	12.26	23.09	12.12	24.01	11.90
2/18/2015	24.40	12.41	22.84	12.41	23.70	12.53	24.22	12.55	22.72	12.49	23.81	12.10
3/30/2016	24.40	12.41	--	--	23.75	12.48	24.25	12.52	22.67	12.54	23.89	12.02
3/22/2017	23.48	13.33	--	--	22.94	13.29	23.39	13.38	21.65	13.56	23.05	12.86

612 18th St, Merrill Sign Company

	MW-1		MW-2		MW-3	
	34.62		34.57		34.72	
	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)	DTW (ft bgs)	GWE (ft bgs)
4/25/2011	21.18	13.44	21.21	13.36	21.61	13.11
7/25/2011	21.22	13.40	21.14	13.43	21.54	13.18
9/9/2011	21.51	13.11	21.39	13.18	21.79	12.93
4/12/2012	21.58	13.04	21.56	13.01	21.76	12.96

Notes:

NS: Not Sampled
FP: Free Product
NA: Not Available
MSL: Mean sea level
ft: feet
bgs: below ground surface
1: Data not available due to ORC socks in well
2: Data not available due to probable equipment malfunction or operator error

Well elevations prior to 2010 are in City of Oakland Datum; After 2010, all elevations are in NAVD 88 Datum.

Table 2
GROUND WATER GRADIENT AND FLOW DIRECTION
1700 Jefferson Street, Oakland, California

Date Monitored	Ground Water Gradient	Ground Water Direction
6/11/1996	0.003	SW
6/4/1997	0.009	NW
3/31/1998	0.002	W
8/28/1998	0.007	E
12/2/1998	0.006	NW
3/10/1999	0.011	NW
9/29/1999	0.004	NW
2/11/2000	0.001	NW
5/30/2000	0.003	W
11/16/2000	0.044	W
4/2/2001	0.001	SW
6/28/2001	0.005	SW
8/30/2001	0.004	SW
4/23/2002	0.006	W-SW
6/14/2002	0.004	W- SW
8/20/2002	0.005	W- SW
12/27/2002	0.005	W- SW
4/1/2003	0.007	W- SW
7/1/2003	0.006	W-NW
9/24/2003	0.005	W-NW
12/29/2003	0.003	W-NW
5/18/2004	0.006	W
6/30/2004	0.002	N
9/23/2004	0.005	W
12/28/2004	0.0451	SE[1]
3/16/2005	0.01	SW
6/23/2005	0.005	W
9/9/2005	0.005	W
12/2/2005	0.006	NW
3/24/2006	0.006	NW
9/13/2006	0.005	W-NW
12/13/2007	0.004	W-NW
3/26/2008	0.004	W
6/2/2008	0.004	W
9/10/2008	0.005	W
3/3/2009	0.004	W
9/3/2009	0.003	W-NW
3/3/2010	0.002	SW
9/8/2010	0.0015	W-SW
3/16/2011	0.0024	W-SW
9/9/2011	0.0031	NW
4/12/2012	0.004	NW
10/10/2012	0.0027	W-NW
3/25/2013	0.003	W-NW
9/12/2013	0.003	W-NW
4/23/2014	0.002	W-NW
9/23/2014	0.002	W-NW
2/18/2015	0.003	W-NW
3/30/2016	0.002	W-NW
3/22/2017	0.002	W

Notes:
[1] MACTEC reported an error in grou

Table 3
GROUND WATER ANALYTICAL RESULTS
1700 Jefferson Street, Oakland, California

Well ID	Date Sampled	TPH as Gasoline[2]	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dicholorethane	Free Product
		(µg/L)							(inches)
ESLs[1]		220	1	3,600	13	1,300	1,200	6.1	--
MW-1	7/8/1987	8	18,000	26,000	--	3,700	--	--	30
	9/12/1988	--	--	--	--	--	--	--	25
	7/12/1989	190,000	1,000	8,900	2,900	19,000	--	--	21.6
	8/1/1991	--	--	--	--	--	--	--	12
	6/18/1992	--	--	--	--	--	--	--	34
	7/2/1992	--	--	--	--	--	--	--	18
	7/23/1992	--	--	--	--	--	--	--	10
	8/18/1992	--	--	--	--	--	--	--	10
	11/11/1992	--	--	--	--	--	--	--	13
	1/29/1993	--	--	--	--	--	--	--	25.2
	2/12/1993	--	--	--	--	--	--	--	10.2
	1/6/1994	--	--	--	--	--	--	--	14.8
	3/17/1994	--	--	--	--	--	--	--	23.4
	4/13/1994	--	--	--	--	--	--	--	12
	6/29/1994	--	--	--	--	--	--	--	0
	12/8/1994	--	--	--	--	--	--	--	FP
	4/3/1995	--	--	--	--	--	--	--	FP
	6/27/1995	--	--	--	--	--	--	--	FP
	9/19/1995	--	--	--	--	--	--	--	FP
	12/13/1995	--	--	--	--	--	--	--	FP
	3/6/1996	--	--	--	--	--	--	--	FP
	6/11/1996	--	--	--	--	--	--	--	FP
	9/19/1996	--	--	--	--	--	--	--	FP
	12/23/1996	--	--	--	--	--	--	--	FP
	3/27/1997	--	--	--	--	--	--	--	FP
	6/4/1997	68,000	2,200	4,500	1,500	11,000	<500	--	--
	9/26/1997	59,000	6,000	3,000	1,600	8,600	<500	--	--
	12/23/1997	41,000	6,800	3,000	1,400	6,600	300	--	--
	3/31/1998	44,000	8,300	3,700	1,100	4,300	420	--	--
	6/18/1998	32,000	1,100	3,800	550	3,000	<50	--	--
	8/28/1998	26,000	8,600	2,300	730	2,100	<50	--	--
	12/2/1998	26,000	9,200	4,300	820	2,800	<50	--	--
	3/10/1999	26,000	8,200	5,900	870	3,500	<50	--	--
	6/30/1999	18,000	7,000	5,800	950	2,500	<25	--	--
	9/29/1999	21,000	9,200	10,000	1,200	5,500	<250	--	--
	9/29/1999	14,000	6,200	5,900	620	3,500	<250	--	--
	11/22/1999	24,000	4,900	5,000	730	3,500	<100	--	--
	2/11/2000	19,000	4,100	4,800	530	2,800	7	--	--
	5/30/2000	19,000	5,700	8,400	730	3,500	<5.0	--	--
	9/15/2000	20,000	4,100	5,700	540	2,700	<12	--	--
	11/16/2000	18,000	3,500	4,300	640	3,200	<40	--	--
	4/2/2001	19,000	4,700	5,200	570	2,600	50	--	--
	6/28/2001	39,000	5,200	4,200	660	3,900	9	--	--
	8/30/2001	31,000	5,600	5,100	560	2,500	<100	--	--
	12/26/2001	34,000	5,300	5,200	630	2,400	<120	--	--
	4/24/2002	35,000	4,900	6,000	740	3,100	<120	--	--
	6/14/2002	35,000	5,400	6,800	870	3,500	<250	--	--
	8/20/2002	26,000	4,100	4,700	620	2,700	<120	--	--
	12/27/2002	28,000	4,500	5,000	660	3,000	<120	--	--
	4/1/2003	16,000	4,500	6,000	680	3,100	<120	--	--
	7/1/2003	61,000	7,700	11,000	1,200	6,700	<250	--	--
	9/25/2003	59,000	7,600	9,400	1,000	4,800	<1,200	--	--
	12/29/2003	46,000	6,600	7,900	960	4,000	<250	--	--
	5/18/2004	23,000	4,100	4,700	450	1,500	<50	--	--
	6/30/2004	24,000	3,500	3,600	390	1,300	<50	--	--
	9/23/2004	24,000	3,800	3,900	470	1,400	<25	--	--
	12/28/2004	22,000	3,400	3,400	380	1,400	<250	--	--
	3/16/2005	21,000	4,100	4,200	470	1,300	<50	--	--
	6/23/2005	30,000	5,400	5,500	520	1,900	<1,200	--	--
	9/9/2005	7,100	840	950	120	410	<120	--	--
	12/2/2005	19,000	3,600	3,500	410	1,300	<2.5	--	--
	3/24/2006	29,000	6,200	6,000	620	2,000	<500	--	--
	6/29/2006	23,000	4,800	4,000	330	1,200	<500	--	--
	9/13/2006	20,000	4,500	3,900	400	1,400	<250	--	--
	12/27/2006	31,000	6,000	5,300	710	2,500	<500	--	--
	3/30/2007	30,000	5,000	4,600	520	1,700	<500	--	--
	7/2/2007	14,000	2,500	2,000	280	930	<500	--	--
	10/2/2007	19,000	3,400	2,700	400	1,200	<500	--	--
	12/13/2007	18,000	3,500	2,700	390	1,100	<500	--	--
	3/26/2008	28,000	4,900	4,900	530	2,100	<500	--	--
	6/2/2008	20,000	3,300	3,300	380	1,700	<500	--	--
	9/10/2008	24,000	4,200	4,200	470	2,200	<500	--	--
	11/19/2008	26,000	4,500	4,500	490	2,500	<500	--	--
	3/3/2009	33,100	5,380	5,380	603	2,800	<100	--	--
	9/3/2009	35,900	5,570	5,180	620	3,270	<100	--	--
	3/3/2010	51,700	10,100	8,050	952	4,560	<200	--	--
	9/8/2010	30,000	7,300	6,300	550	3,700	<50	--	--
	3/16/2011	38,000	8,600	6,900	670	4,300	<50	--	--
	9/9/2011	33,000	8,700	6,500	620	4,400	<50	--	--
	4/12/2012	34,000	7,300	4,700	570	4,300	<50	--	--
	10/10/2012	37,000	7,900	5,200	800	5,100	<50	--	--
	3/25/2013	30,000	6,500	4,700	560	4,500	<50	--	--
	9/12/2013	12,000	2,800	1,500	330	1,000	<50	--	--
	4/24/2014	15,000	3,100	1,700	360	780	<50	--	--
	9/23/2014	13,000	1,700	780	280	360	<50	99	--
	2/18/2015	15,000	2,100	900	310	400	<50	--	--
	3/30/2016	13,000	2,200	670	270	380	<50	53	--
	3/22/2017	12,000	2,000	350	190	120	<50	<50	--
MW-1A	9/12/1988	--	--	--	--	--	--	--	28.2
	7/12/1989	220,000	1,200	9,210	3,100	24,000	--	--	18.6
	8/1/1991	350,000	17,000	31,000	3,000	FP	--	--	FP
	7/2/1992	FP	FP	FP	FP	FP	--	--	18
	9/30/1992	FP	FP	FP	FP	FP	--	--	10 - 13
	2/12/1993	FP	FP	FP	FP	FP	--	--	13
	3/30/1993	FP	FP	FP	FP	FP	--	--	10.2-14.8
	1/6/1994	FP	FP	FP	FP	14,000	--	--	16.2
	4/13/1994	170,000	17,000	31,000	2,100	22,000	--	--	12
	6/29/1994	95,000	16,000	21,000	1,500	12,000	--	--	4.5+/-
	12/8/1994	190,000	13,000	21,000	1,400	11,000	--	--	--
	4/3/1995	67,000	11,000	13,000	910	9,800	--	--	--

Well ID	Date Sampled	TPH as Gasoline[2]	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dicholorethane	Free Product
		(µg/L)							(inches)
ESLs[1]		220	1	3,600	13	1,300	1,200	6.1	--
MW-1A	6/27/1995	53,000	11,000	9,900	500	6,300	--	--	--
	9/19/1995	52,000	8,900	11,000	790	5,300	--	--	--
	12/13/1995	62,000	9,900	9,200	710	6,800	--	--	--
	3/6/1996	200,000	14,000	22,000	2,700	22,000	--	--	--
	6/11/1996	140,000	18,000	28,000	2,800	19,000	--	--	--
	9/19/1996	100,000	16,000	22,000	2,100	14,000	--	--	--
	12/23/1996	FP	FP	FP	FP	FP	--	--	--
	3/27/1997	66,000	12,000	15,000	1,400	100	1,800	--	--
	6/4/1997	54,000	11,000	12,000	1,000	7,200	<500	--	--
	9/26/1997	73,000	10,000	16,000	1,400	8,500	<500	--	--
	12/23/1997	66,000	10,000	16,000	1,400	12,000	1,900	--	--
	3/31/1998	51,000	9,100	11,000	1,100	6,800	300	--	--
	6/18/1998	50,000	11,000	15,000	870	5,800	<50	--	--
	8/28/1998	15,000	1,100	830	31	3,000	<50	--	--
	12/2/1998	41,000	8,500	11,000	720	6,700	<50	--	--
	3/10/1999	10,000	2,300	1,900	1,600	2,300	<50	--	--
	6/30/1999	18,000	6,400	7,800	660	4,100	<25	--	--
MW-2	7/8/1987	8,200	1,500	340	--	87	--	--	--
	11/9/1987	WELL DESTROYED							
MW-3	7/8/1987	6,200	180	500	--	170	--	--	0
	7/12/1989	13,000	4	160	210	420	--	--	0
	8/1/1991	74,000	1,600	4,600	670	4,300	--	--	4
	9/30/1992	--	--	--	--	--	--	--	4.1
	11/11/1992	--	--	--	--	--	--	--	2
	1/29/1993	--	--	--	--	--	--	--	1.7
	2/12/1993	--	--	--	--	--	--	--	1.3
	1/6/1994	--	--	--	--	--	--	--	2.2
	3/17/1994	--	--	--	--	--	--	--	2.4
	4/13/1994	--	--	--	--	--	--	--	1.8
	6/29/1994	39,000	3,200	2,900	580	4,300	--	--	0.5
	12/8/1994	4,600,000	1,500	4,200	6,000	95,000	--	--	--
	4/3/1995	51,000	1,100	2,300	580	4,800	--	--	--
	6/27/1995	20,000	270	550	190	1,700	--	--	--
	9/19/1995	6,200	70	140	68	500	--	--	--
	12/13/1995	19,000	220	480	140	1,700	--	--	--
	3/6/1996	7,000	120	170	49	440	--	--	--
	6/11/1996	16,000	170	270	68	1,500	--	--	--
	9/19/1996	6,000	45	30	15	300	--	--	--
	6/4/1997	85,000	8,500	13,000	2,400	16,000	<500	--	--
	9/26/1997	47,000	610	6,000	930	5,900	<100	--	--
	12/23/1997	32,000	640	5,300	800	5,900	<300	--	--
	3/31/1998	32,000	690	3,800	870	5,200	350	--	--
	6/18/1998	16,000	180	1,500	490	3,700	<25	--	--
	8/28/1998	17,000	84	1,100	430	3,800	<50	--	--
	12/2/1998	3,200	39	85	25	360	<50	--	--
	3/10/1999	9,600	86	540	250	2,300	<25	--	--
	6/30/1999	7,900	31	330	200	1,800	<25	--	--
	9/29/1999	5,000	120	340	230	1,300	10	--	--
	9/29/1999	4,100	180	340	130	580	14	--	--
	11/22/1999	3,100	7	33	27	260	<1.0	--	--
	2/11/2000	540	8	20	2	28	31	--	--
	5/30/2000	490	11	6	0	17	<5.0	--	--
	9/15/2000	1,500	28	14	3	160	<5.0	--	--
	11/16/2000	1,300	20	34	25	28	<5.0	--	--
	4/2/2001	170	9	6	1	8	77	--	--
	6/28/2001	4,900	150	240	38	160	<2	--	--
	8/30/2001	3,100	42	48	26	210	<1.2	--	--
	12/26/2001	950	8	5	1	7	<0.5	--	--
	4/24/2002	300	11	5	1	1	<0.5	--	--
	6/14/2002	4,600	130	470	91	390	<0.5	--	--
	8/20/2002	4,900	330	170	40	150	<5.0	--	--
	12/27/2002	4,000	110	280	57	260	19	--	--
	4/1/2003	5,900	370	150	44	230	<1.0	--	--
	7/1/2003	12,000	200	460	130	390	<5.0	--	--
	9/25/2003	10,000	150	300	120	280	<2.5	--	--
	12/29/2003	7,300	160	250	79	210	<2.5	--	--
	5/18/2004	1,500	77	72	19	59	<12	--	--
	6/30/2004	2,000	81	37	34	40	<1.0	--	--
	9/23/2004	3,400	140	95	36	40	<10	--	--
	12/28/2004	3,900	340	37	11	60	<5.0	--	--
	3/16/2005	970	1	2	1	3	<2.5	--	--
	6/23/2005	850	56	7	<5	12	<25	--	--
	9/9/2005	3,900	470	100	33	96	<62	--	--
	12/2/2005	760	14	8	2	17	<0.5	--	--
	3/24/2006	590	83	41	7	33	<12	--	--
	6/29/2006	1,100	130	38	16	21	<25	--	--
	9/13/2006	1,300	260	71	44	28	<25	--	--
	12/27/2006	3,000	250	160	49	140	<25	--	--
	3/30/2007	3,100	250	260	46	110	<25	--	--
	7/2/2007	2,600	250	250	54	130	<25	--	--
	10/2/2007	1,900	170	140	24	48	<25	--	--
	12/13/2007	2,900	250	170	66	120	<25	--	--
	3/26/2008	2,300	340	95	26	64	<25	--	--
	6/2/2008	2,300	270	250	59	130	<25	--	--
	9/10/2008	2,900	300	180	88	220	<25	--	--
	11/19/2008	1,000	62	55	21	32	<25	--	--
	3/3/2009	3,020	37	10	3.8J	12.3J	<10	--	--
	9/3/2009	538	59	1	13	2	<1.0	--	--
	3/3/2010	1,570	98	12	20	14	<1.0	--	--
	9/8/2010	1,100	200	23	23	11	<0.5	--	--
	3/16/2011	930	75	19	8	6	<2.5	--	--
	9/9/2011	1,300	280	43	13	40	<2.5	--	--
	4/12/2012	1,800	91	21	10	26	<0.5	--	--
	10/10/2012	1,400	200	14	9	<10	<0.5	--	--
	3/25/2013	1,000	75	40	14	24	<0.5	--	--
	9/12/2013	1,200	280	7	20	11	<0.5	--	--
	4/24/2014	1,800	140	23	41	53	<0.5	--	--
	9/23/2014	780	120	4	13	4	<0.5	0.7	--
	2/18/2015	3,300	140	62	50	63	<0.5	--	--
	3/30/2016	1,200	99	<5	14	<5	<5	<5	--

Table 3
GROUND WATER ANALYTICAL RESULTS
1700 Jefferson Street, Oakland, California

Well ID	Date Sampled	TPH as Gasoline[2]	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dicholorethane	Free Product
		(µg/L)							(inches)
ESLs[1]		220	1	3,600	13	1,300	1,200	6.1	--
MW-3	3/22/2017	1,200	46	6	20	4	<2.5	<2.5	--
MW-4	9/12/1988	--	--	--	--	--	--	--	5.9
	7/12/1989	93,000	460	4,200	1,200	9,700	--	--	25.2
	8/1/1991	86,000	1,500	6,200	1,000	FP	--	--	18
	9/30/1992	FP	FP	FP	FP	FP	--	--	FP
	2/12/1993	FP	FP	FP	FP	FP	--	--	8.8
	1/6/1994	FP	FP	FP	FP	3,200	--	--	6.2
	4/13/1994	58,000	1,500	2,500	520	7,300	--	--	--
	6/29/1994	16,000	1,300	790	51	3,400	--	--	--
	12/8/1994	92,000	1,700	4,100	310	5,400	--	--	--
	4/3/1995	35,000	1,200	3,400	280	5,800	--	--	--
	6/27/1995	13,000	1,300	1,600	77	1,800	--	--	--
	9/19/1995	14,000	630	470	14	1,800	--	--	--
	12/13/1995	11,000	2,200	2,100	110	2,100	--	--	--
	3/6/1996	110,000	2,600	3,600	780	10,000	--	--	--
	6/11/1996	260,000	6,600	19,000	3,700	28,000	--	--	--
	9/19/1996	95,000	9,900	19,000	2,000	13,000	--	--	--
	12/23/1996	FP	FP	FP	FP	FP	--	--	FP
	3/27/1997	37,000	2,600	6,900	540	5,500	1,400	--	--
	6/4/1997	24,000	2,600	3,200	140	3,500	<300	--	--
	9/26/1997	41,000	2,900	5,000	350	4,800	<500	--	--
	12/23/1997	48,000	6,000	11,000	580	8,200	270	--	--
	6/18/1998	25,000	2,000	460	<15	6,400	<50	--	--
	8/28/1998	48,000	9,700	11,000	890	5,000	<50	--	--
	12/2/1998	10,000	1,700	610	<15	2,300	<50	--	--
	3/10/1999	11,000	2,300	2,100	88	1,600	<25	--	--
	6/30/1999	88,000	1,800	3,000	150	2,700	<25	--	--
	4/12/2012	2,700	380	160	100	100	<0.5	--	--
	10/10/2012	4,200	400	200	150	130	<0.5	--	--
	3/25/2013	2,900	360	16	120	29	<0.5	--	--
	9/12/2013	12,000	230	7	130	59	<0.5	--	--
	4/24/2014	4,900	200	10	97	49	<0.5	--	--
	9/23/2014	2,800	120	5	81	18	<0.5	2	--
	2/18/2015	1,700	190	24	77	32	<0.5	--	--
	3/30/2016	3,400	300	73	47	83	<10	<10	--
	3/22/2017	2,900	290	55	61	53	<12	<12	--
MW-5	9/12/1988	--	--	--	--	--	--	--	0.5
	7/12/1989	14,000	7	190	210	500	--	--	0.4
	8/1/1991	120,000	20,000	14,000	1,900	4,900	--	--	0
	9/30/1992	51,000	13,000	5,900	1,400	2,600	--	--	0
	3/30/1993	74,000	16,000	5,000	1,800	2,700	--	--	0.06
	1/6/1994	80,000	19,000	8,200	1,400	2,700	--	--	0
	4/13/1994	63,000	14,000	3,500	1,500	2,100	--	--	0
	6/29/1994	64,000	29,000	5,400	2,800	4,500	--	--	0
	12/8/1994	59,000	13,000	3,800	1,800	2,900	--	--	--
	4/3/1995	51,000	15,000	2,200	2,800	4,500	--	--	--
	6/27/1995	41,000	12,000	2,100	1,400	1,600	--	--	--
	9/19/1995	50,000	1,600	2,700	2,000	2,100	--	--	--
	12/13/1995	45,000	13,000	2,100	16,000	1,900	--	--	--
	3/6/1996	51,000	15,000	2,800	2,000	2,400	--	--	--
	6/11/1996	48,000	12,000	2,900	2,000	2,700	--	--	--
	9/19/1996	48,000	12,000	4,500	2,300	4,000	--	--	--
	12/23/1996	45,000	12,000	2,200	2,700	6,500	600	--	--
	3/27/1997	44,000	11,000	1,100	1,900	2,800	300	--	--
	6/4/1997	35,000	8,900	560	1,500	1,700	<100	--	--
	9/26/1997	36,000	7,900	270	1,500	1,300	<500	--	--
	12/23/1997	39,000	13,000	500	1,900	1,700	<1,000	--	--
	3/31/1998	48,000	10,000	400	2,000	2,200	350	--	--
	6/18/1998	17,000	9,500	310	420	850	<10	--	--
	8/28/1998	16,000	5,400	160	1,100	900	<50	--	--
	12/2/1998	15,000	8,400	120	1,500	840	<50	--	--
	3/10/1999	23,000	14,000	300	1,800	1,100	<50	--	--
	6/30/1999	7,700	5,200	270	1,100	690	<25	--	--
	9/29/1999	11,000	9,600	710	1,100	1,100	<100	--	--
	9/29/1999	10,000	14,000	470	1,100	600	<100	--	--
	11/22/1999	30,000	11,000	3,400	1,500	2,500	<100	--	--
	2/11/2000	23,000	12,000	4,500	1,200	1,300	6.6	--	--
	5/30/2000	19,000	9,900	6,900	1,200	2,600	<200	--	--
	9/15/2000	24,000	3,800	3,000	460	1,200	<10	--	--
	11/16/2000	1,800	470	220	39	100	<5	--	--
	4/2/2001	15,000	7,400	3,000	1,000	2,200	<50	--	--
	6/28/2001	3,600	300	11	16	15	4	--	--
	8/30/2001	34,000	8,300	3,000	1,400	2,600	<50	--	--
	12/26/2001	1,900	300	110	55	120	<10	--	--
	4/24/2002	9,400	2,300	130	300	270	<50	--	--
	6/14/2002	1,700	110	<2.5	7	<2.5	<0.50	--	--
	8/20/2002	3,200	320	9	22	19	<0.50	--	--
	12/27/2002	6,200	2,200	140	160	250	<25	--	--
	9/25/2003	43,000	12,000	2,800	1,500	3,000	<1,200	--	--
	12/29/2003	26,000	7,700	1,900	910	210	<2.5	--	--
	5/18/2004	15,000	5,000	1,300	380	770	<50	--	--
	6/30/2004	18,000	5,700	1,600	540	1,200	<50	--	--
	9/23/2004	42,000	12,000	3,900	1,200	2,400	<120	--	--
	12/28/2004	41,000	10,000	3,800	1,000	2,300	<250	--	--
	3/16/2005	37,000	11,000	3,800	1,100	2,400	<120	--	--
	6/23/2005	27,000	7,700	1,700	680	1,300	<1,200	--	--
	9/9/2005	46,000	10,000	2,700	1,100	2,100	<1,200	--	--
	12/2/2005	21,000	5,900	1,500	600	1,200	<500	--	--
	3/24/2006	<10,000	2,800	450	190	180	<500	--	--
	6/29/2006	1,200	240	11	13	18	<2.5	--	--
	9/13/2006	5,800	1,600	210	180	270	<120	--	--
MW-1*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	--
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	--
MW-2*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	--
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	--
MW-3*	4/25/2011	< 50	< 0.5	--	< 0.5	< 0.5	< 0.5	--	--
	9/9/2011	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	--	--

Well ID	Date Sampled	TPH as Gasoline[2]	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dicholorethane	Free Product
		(µg/L)							(inches)
ESLs[1]		220	1	3,600	13	1,300	1,200	6.1	--
MW-5	12/27/2006	16,000	4,300	610	460	750	<500	--	--
	3/30/2007	31,000	10,000	1,400	1,100	1,600	<500	--	--
	7/2/2007	33,000	9,400	1,400	1,000	1,500	<500	--	--
	10/2/2007	36,000	11,000	2,100	1,100	1,700	<620	--	--
	12/13/2007	34,000	11,000	2,600	1,200	1,900	<1,200	--	--
	3/26/2008	28,000	7,700	1,900	860	1,300	<1,200	--	--
	6/2/2008	43,000	13,000	3,800	1,400	2,400	<1,200	--	--
	9/10/2008	45,000	13,000	3,700	1,200	2,200	<1,200	--	--
	11/19/2008	46,000	14,000	3,900	3,900	2,700	<1,200	--	--
	3/3/2009	43,400	11,700	3,560	1,290	2,200	<250	--	--
	9/3/2009	35,900	8,800	1,240	1,720	2,420	<100	--	--
	3/3/2010	27,200	6,820	279	1,870	2,050	<100	--	--
	9/8/2010	22,000	6,000	250	1,700	1,900	<50	--	--
	3/16/2011	31,000	6,400	500	1,900	2,600	<50	--	--
	9/9/2011	30,000	9,400	1,600	1,800	2,500	<50	--	--
	4/12/2012	44,000	13,000	5,000	1,700	2,900	<50	--	--
	10/10/2012	47,000	14,000	6,700	1,900	3,400	<50	--	--
	3/25/2013	45,000	14,000	8,200	1,800	3,600	<50	--	--
	9/12/2013	50,000	13,000	10,000	2,000	5,300	<50	--	--
	4/24/2014	58,000	11,000	12,000	2,000	6,300	<250	--	--
	9/23/2014	75,000	5,800	7,000	1,200	3,900	<250	95	--
	2/18/2015	57,000	8,700	12,000	1,800	6,500	<250	--	--
	3/30/2016	69,000	7,500	11,000	1,100	3,700	<250	<250	--
	3/22/2017	73,000	8,400	11,000	1,400	5,500	<500	<500	--
MW-6	6/11/1996	<50	<0.5	<0.5	<0.5	<2	--	--	--
	9/19/1996	<50	<0.5	<0.5	<0.5	<2	--	--	--
	12/23/1996	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	3/27/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	6/4/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	9/26/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	12/23/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	3/31/1998	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	6/18/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	8/28/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	12/2/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	3/10/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	6/30/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	9/29/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	9/29/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	11/22/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	2/11/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	5/30/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	9/15/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	11/16/2000	<50	<0.3	<0.3	<0.3	<0.3	<1.0	--	--
	4/2/2001	<50	<0.3	<0.3	<0.3	2.7	5	--	--
	6/28/2001	<50	<0.5	<0.5	<0.3	<0.5	17	--	--
	8/30/2001	<50	<0.5	<0.5	<0.3	8.7	<2.5	--	--
	12/26/2001	66	3.6	3.6	3.6	<0.5	<2.5	--	--
	4/24/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/14/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/20/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/27/2002	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--
	4/1/2003	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--
	7/1/2003	<50	<0.5	<0.05	<0.5	<2.5	<2.5	--	--
	9/25/2003	<50	<0.5	<0.05	<0.5	<2.5	<2.5	--	--
	12/29/2003	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--
	5/18/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/30/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/23/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/28/2004	59	<0.5	<0.5	<0.5	2	<2.5	--	--
	3/16/2005	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/23/2005	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/9/2005	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/2/2005	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/24/2006	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/29/2006	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/13/2006	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/27/2006	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/30/2007	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	7/2/2007	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	10/2/2007	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/13/2007	<50	<0.5	1	<0.5	<0.5	<2.5	--	--
	3/26/2008	<50	<0.5	<0.5	<0.5	1	<2.5	--	--
	6/2/2008	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/10/2008	<51	<0.5	<0.5	<0.5	<0.5	<2.6	--	--
	11/19/2008	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/3/2009	<50	<1.0	0.53J	<1.0	<2.0	<1.0	--	--
	9/3/2009	<50	<1.0	<1.0	<1.0	<2.0	<1.0	--	--
	3/3/2010	<50	<1.0	<1.0	<1.0	<2.0	<1.0	--	--
	9/8/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	3/16/2011	<50	0.67	<0.5	<0.5	<1.0	<0.5	--	--
	9/9/2011	69	1	<0.5	<0.5	<1.0	<0.5	--	--
	4/12/2012	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	10/10/2012	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	3/25/2013	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	9/12/2013	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	4/24/2014	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	9/23/2014	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	--
	2/18/2015	<50	<0.5	<0.5	<0.5	<1.0	<0.5	--	--
	3/30/2016	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	3/22/2017	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
MW-7	3/31/2017	89,500	11,700	15,300	1,690	9,740	349[3]	--	--
MW-8	3/31/2017	153,000	24,800	32,700	1,790	9,790	665[3]	--	--
MW-9	3/31/2017	83,500	9,200	15,000	1,550	11,100	337[3]	--	--
MW-10	3/31/2017	123,000	18,100	28,700	1,600	8,290	453[3]	--	--

Notes:

[1]: Environmental screening levels for shallow ground water vapor intrusion human health risk for residential with a sand scenario (SFBay Feb 2016 Rev3)

[2]: Drinking water ESL is listed for TPH as gasoline

[3]: EPA Method 8021 was used to analyze for MTBE. EPA Method 8260 was used in other monitor wells.

µg/L: micrograms per liter (approximately equivalent to ppb)

<: Concentration is below the reporting limit of the lab

*: Well Located on the Merrill Sign Company Site, data provided by P&D Environmental

J: Estimated value

--: not applicable, not analyzed, or none

Concentration is above selected screening criteria

FP: Free product measured (amount unknown)

CHARTS

CHART 1
Concentrations of TPH as Gasoline vs. Time in MW-1, MW-3, and MW-5
1700 Jefferson, Oakland, California

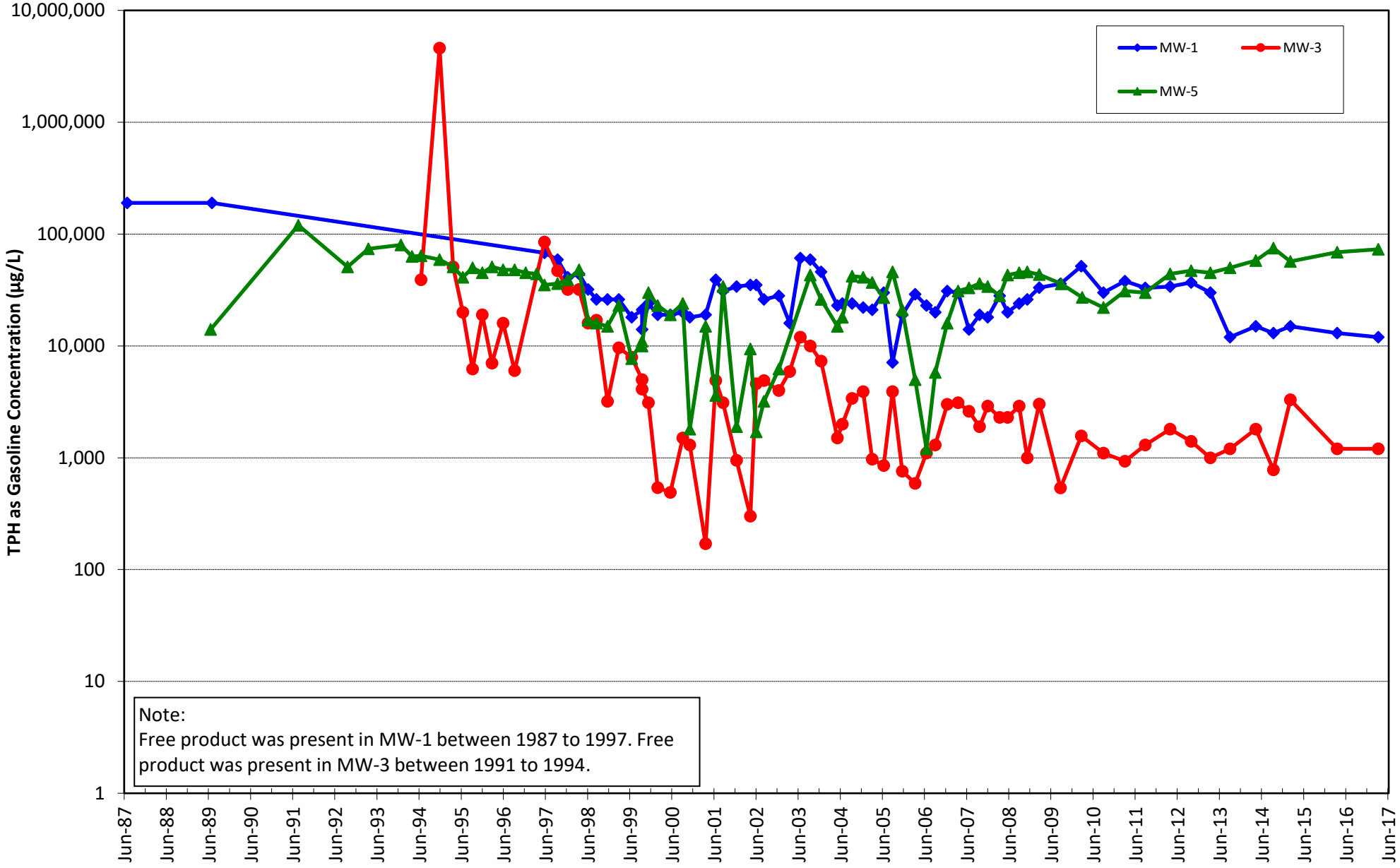
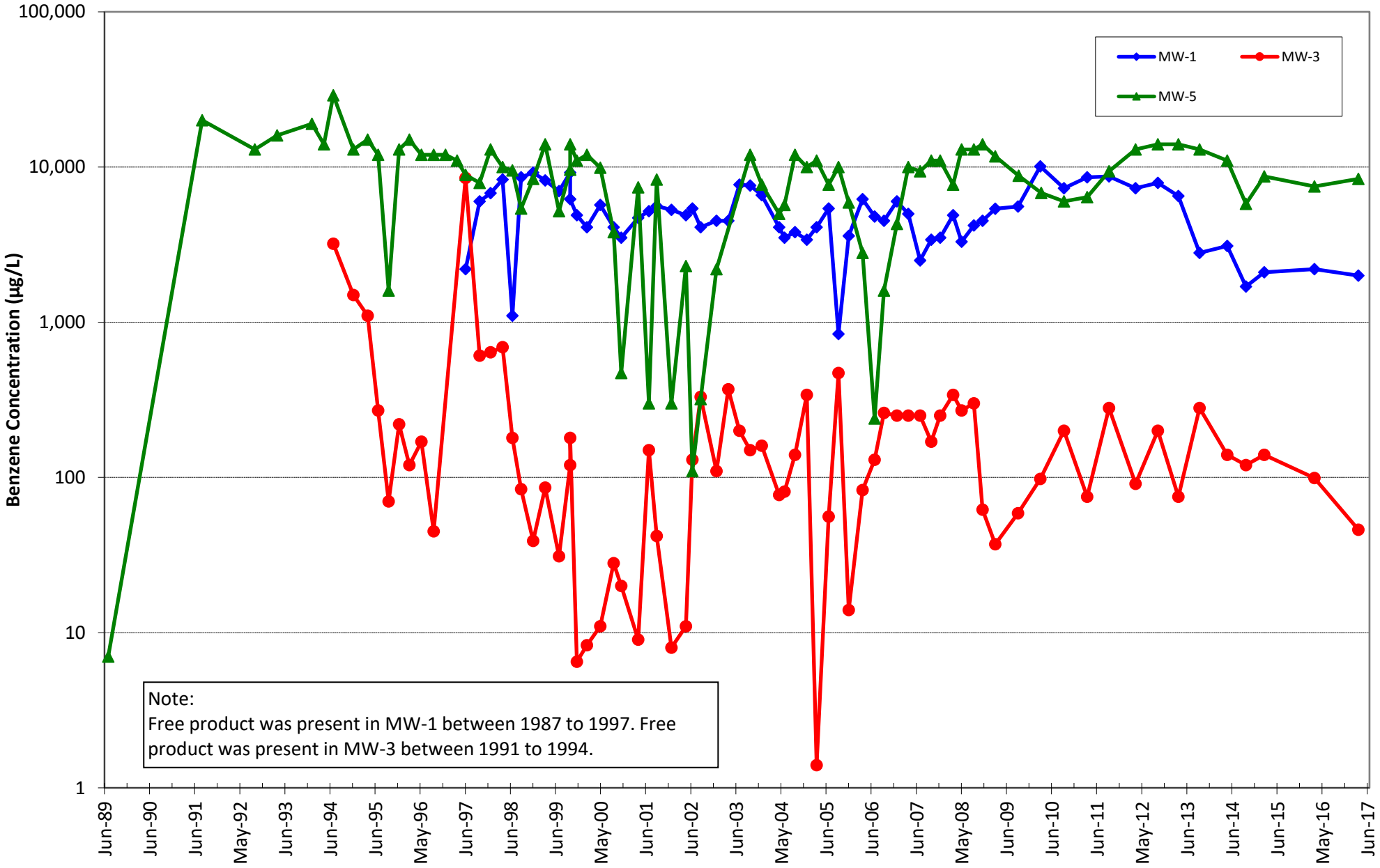


CHART 2
Concentrations of Benzene vs. Time in MW-1, MW-3, and MW-5
1700 Jefferson, Oakland, California



FIGURES

APPLIED WATER RESOURCES

Figure - 1

Site Location Map

1700 Jefferson Street

1700 Jefferson Street

MW-1
MW-3
MW-2
MW-5
MW-10
MW-9
MW-8
MW-7
MW-6
MW-1A
MW-1
MW-4
MW-3
18th Street
Jefferson St
San Pablo Ave.
17th Street
N
0 20 40
Feet
Base Map Source: USGS (2011)
Coordinate System: NAD 83 California State Plane 3

Figure 2

Site Map

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

- Monitor Well
- Extraction Well
- Monitor Well - 612 18th St
- Tank Removal Excavation Area (approx)
- Property Boundary
- Former Dispenser Island (approx)
- Manhole

Utilities
- Sanitary Sewer
- Water
- Gas
- Electrical
- AT&T
- Street Lighting
- Storm Drain
- Old Storm Drain (Filled)

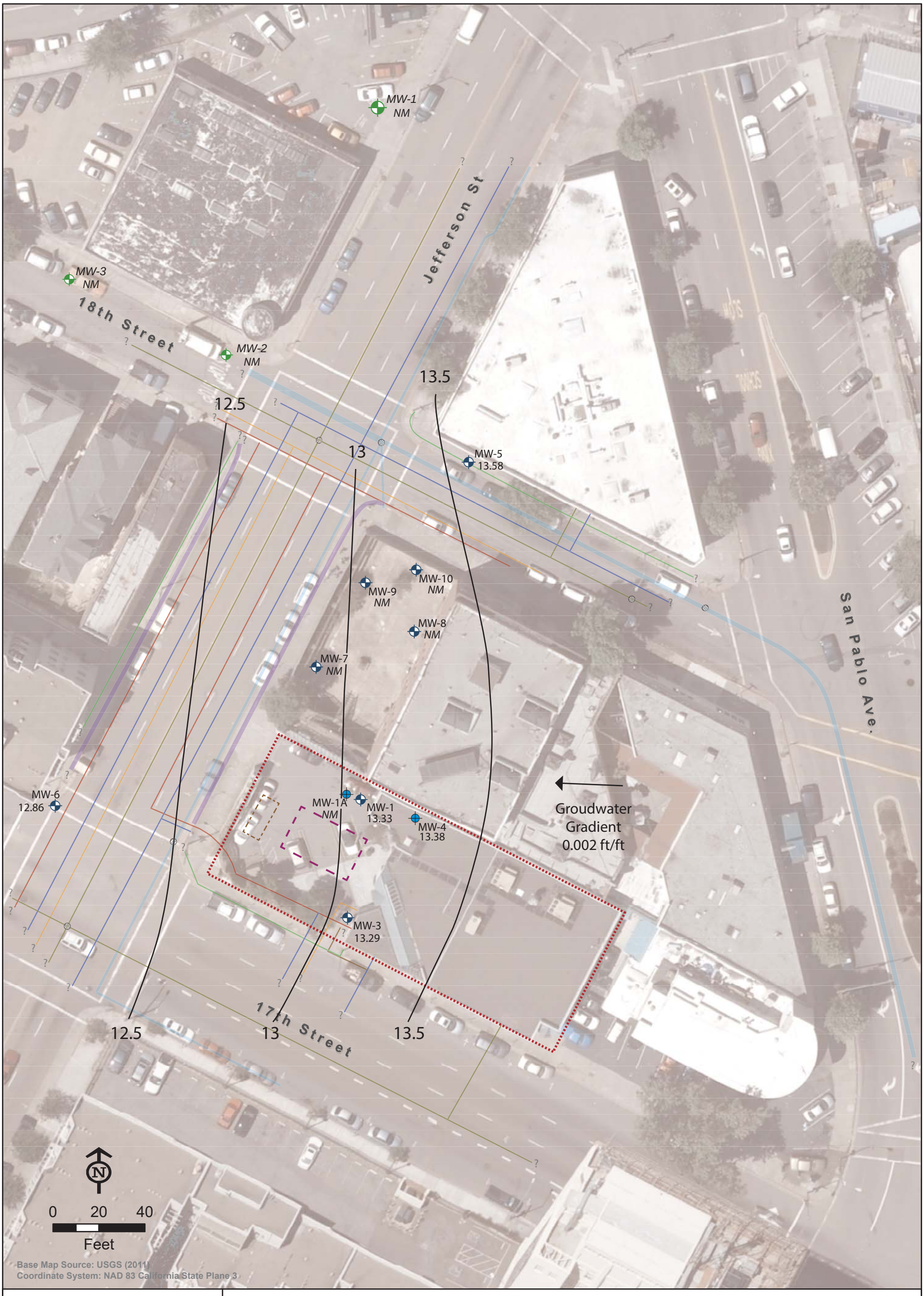


Figure 3

Ground Water Gradient March 2017

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

- Monitor Well
- Extraction Well
- Monitor Well - 612 18th St
- 13.29 Ground Water Elevation (NAVD88)
- 14 Ground Water Elevation Contour
- Tank Removal Excavation Area (approx)
- Property Boundary
- Former Dispenser Island (approx)
- Manhole

Utilities

- Sanitary Sewer
- Water
- Gas
- Electrical
- AT&T
- Street Lighting
- Storm Drain
- Old Storm Drain (Filled)

MW-1
NM

MW-3
NM

MW-2
NM

MW-5
73,000

MW-10
123,000

MW-9
83,500

MW-8
153,000

MW-7
89,500

MW-6
<50

MW-1A
NM

MW-1
12,000

MW-4
2,900

MW-3
1,200

18th Street

Jefferson St

San Pablo Ave.

17th Street

0 20 40
Feet

Base Map Source: USGS (2011)
Coordinate System: NAD 83 California State Plane 3

Figure 4

TPHg Concentrations March 2017

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

- Monitor Well
- Extraction Well
- Monitor Well - 612 18th St
- 2,000 TPHg Concentration (µg/L)
- Tank Removal Excavation Area (approx)
- Property Boundary
- Former Dispenser Island (approx)
- Manhole

Utilities
- Sanitary Sewer
- Water
- Gas
- Electrical
- AT&T
- Street Lighting
- Storm Drain
- Old Storm Drain (Filled)

MW-1
NM

MW-3
NM

MW-2
NM

MW-5
8,400

MW-10
18,100

MW-9
9,200

MW-8
24,800

MW-7
11,700

MW-6
<0.5

MW-1A
NM

MW-1
2,000

MW-4
290

MW-3
46

Jefferson St

18th Street

17th Street

San Pablo Ave.

0 20 40
Feet

Base Map Source: USGS (2011)
Coordinate System: NAD 83 California State Plane 3

Figure 5

Benzene Concentrations March 2017

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

- Monitor Well
- Extraction Well
- Monitor Well - 612 18th St
- 2,000 Benzene Concentration (µg/L)
- Tank Removal Excavation Area (approx)
- Property Boundary
- Former Dispenser Island (approx)
- Manhole

Utilities
- Sanitary Sewer
- Water
- Gas
- Electrical
- AT&T
- Street Lighting
- Storm Drain
- Old Storm Drain (Filled)

APPENDIX A:

MONITOR WELL WORKSHEETS

Well Development Sheet

Date:	Project No.	Site:	Location:	Initials:
3/31/17		1700 JEFFERSON	581 18th St, OAKLAND	CC

Purge Method:	Purge Rate (gpm):	Purge Starting Time:	Purge Ending Time:	Type of Surge Block:
PERRI	~0.5 L/min	900	1300	Swab

Well ID	Diameter (in)	Initial Depth to Bottom (ft)	Final Depth to Bottom (ft)	Initial Depth to Water	Casing Volume (gal)	Purged Volume (gal)	Initial Turbidity/ color	Final Turbidity/ color	Swabbed (y/n):
MW 9	+3/4"	12.91	12.91	9.07	0.1014	~1.5	tan	clear/ slight tan	Y
MW 10	3/4"	12.40	12.40	9.00	0.0779	~1	tan	clear	Y
MW 9	3/4"	13.14	13.14	9.49	0.0939	~1.5	~~dark~~ tan	clear	Y
MW 7	3/4"	12.93	12.93	9.44	0.0799	~1	dark grey	clear	Y

Casing Volume = Static Water Column x Conversion Factor

~~~5 GA~~

Conversion Factor: ¾" well = 0.0229 gal/ft, 2-in well = 0.163 gal/ft, 4-in well = 0.653 gal/ft,
6-in well = 1.469 gal/ft

Total purged volume from all wells (gals): ~5 GAL

Notes: All wells are 3/4" with 5ft. screen
~~~

Monitor Well Data Sheet

Site Name: 1700 JEFFERSON	Well/Sample ID: MW-7
Location: 581 19TH ST	Initial Depth to Water (DTW): 9.80
Client: ARC	Total Well Depth (TD): 12.93
Sampler: CTC	Well Diameter: 3/4"
Date: 3/31/17	1 Casing Volume: 0.07 GAL
Purge Method: Per. Pump	Purge Rate: 0.25 L/min
Sample Method: Peri pump	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1438	6.70	1332	0.63	16.35	-34.5	-	0.5	
1440	6.84	1320	0.68	16.36	-44.2	-	1	
1442	6.84	1283	0.99	16.25	-45.9	-	1.5	
1444	6.83	1252	1.05	16.24	-46.2	-	2	
1446	6.82	1247	1.01	16.23	-45.0	-	2.5	

Did Well Dewater?	N	Start Purge Time:	1436	DTW prior to sample: 10.11
Total Liters Purged:	2.5	Stop Purge Time:	1446	Start Sample Time: 1450
Total Sample Volume:	120ML	Odor:	Y	Sheen: Y
Instrument ID(s): 556				Last Calibrated: 900

Notes: No measurable free product in bailer

Monitor Well Data Sheet

Site Name: 1700 JEFFERSON	Well/Sample ID: MW-8
Location: 581 18TH ST, OAKLAND	Initial Depth to Water (DTW): 9.48
Client: ARC	Total Well Depth (TD): 13.14
Sampler: CTC	Well Diameter: 3/4"
Date: 3/31	1 Casing Volume: 0.0838 GAL
Purge Method: PERRI	Purge Rate: 0.25 L/min
Sample Method: PERRI	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1356	6.90	1205	0.37	17.01	28.7	-	0.5	
1358	6.90	1192	0.33	17.04	26.1	-	1	
1400	6.90	1183	0.35	17.08	24.7	-	1.5	
1402	6.90	1180	0.34	17.13	23.9	-	2	

Did Well Dewater?	N	Start Purge Time:	1354	DTW prior to sample:	9.71
Total Liters Purged:	2	Stop Purge Time:	1402	Start Sample Time:	1405
Total Sample Volume:	120mL	Odor:	Y	Sheen:	Y
Instrument ID(s):	556			Last Calibrated:	900

Notes: No measurable free product in bailer

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-9
Location: 581 18th St	Initial Depth to Water (DTW): 9.14
Client: ARC	Total Well Depth (TD): 12.91
Sampler: CTC	Well Diameter: 3/4"
Date: 3/31/17	1 Casing Volume: 0.1 gal
Purge Method: perri	Purge Rate: 0.25 L/min
Sample Method: perri	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
~~1130~~	~~6.96~~			~~15.93~~	~~-6.0~~			
1133	6.86	856	1.53	15.92	-5.9	-	0.75	
1135	6.86	850	0.96	15.99	-12.2	-	1.25	
1137	6.86	845	0.81	16.01	-12.9	-	1.75	
1139	6.85	843	0.72	16.03	-10.9	-	2.25	
1141	6.85	838	0.69	16.04	-15.7	-	2.75	
1143	6.84	836	0.61	16.05	-13.8	-	3.25	
1145	6.83	833	0.56	16.07	-14.4	-	3.75	

Did Well Dewater?	NO	Start Purge Time:	1130	DTW prior to sample:	9.51
Total Liters Purged:	~~1~~ 3.75 gal	Stop Purge Time:	1145	Start Sample Time:	1147
Total Sample Volume:	120mL	Odor:	YES	Sheen:	NO
Instrument ID(s):	556			Last Calibrated:	900

Notes: No measurable free product in bailer

Monitor Well Data Sheet

Site Name: 1700 JEFFERSON	Well/Sample ID: MW-10
Location: 591 19TH ST	Initial Depth to Water (DTW): 9.05
Client: ARC	Total Well Depth (TD): 12.40
Sampler: CTC	Well Diameter: 3/4"
Date: 3/31/17	1 Casing Volume: 0.0778 gal
Purge Method: PERRI	Purge Rate: 0.25 L/min
Sample Method: PERRI	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1315	6.83	808	1.06	16.85	43.4	-	1.25	
1317	6.81	800	0.60	17.00	36.3	-	1.75	
1319	6.80	792	0.46	17.10	36.2	-	2.25	
1321	6.81	789	0.43	17.10	35.8	-	2.75	

Did Well Dewater?	NO	Start Purge Time:	1310	DTW prior to sample: 9.21
Total Liters Purged:	2.75	Stop Purge Time:	1321	Start Sample Time: 1325
Total Sample Volume:	120mL	Odor:	SLIGHT	Sheen: NO
Instrument ID(s):	556			Last Calibrated: 900

Notes: No measurable free product

Depth to Water Data Sheet					
Site Name: 1700 Jefferson St				Date: 3/22/2017	
Location: 1700 Jefferson St, Oakland, CA				Field Tech: CTC	
Client: ARC Document Solutions					
Well ID	Well Diameter	Time	DTW	Total Depth	Comments
MW-6	2"	1350	23.05	32.71	
MW-3	4"	1433	22.94	32.81	
MW-4	4"	1510	23.39	34.15	
MW-1	4"	1545	23.48	33.10	
MW-5	2"	1620	21.65	33.35	

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-1
Location: 1700 Jefferson St. Oakland, CA	Initial Depth to Water (DTW): 23.48
Client: ARC Document Solutions	Total Well Depth (TD): 33.10
Sampler: CTC	Well Diameter: 4"
Date: 3/22/2017	1 Casing Volume: ———
Purge Method: Low-Flow	Purge Rate: 0.3
Sample Method: Low-Flow	Sampling Rate: 0.2
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1548	7.01	1.29	1.09	18.3	-273.5	23.69	0.9	
1551	~~7.00~~	1.29	0.72	18.2	-281.0	23.70	1.8	
1554	7.00	1.30	0.40	18.3	-288.7	23.70	2.7	
1557	6.99	1.30	0.38	18.3	-293.6	23.71	3.6	
1600	7.00	1.30	~~0.35~~	18.3	-297.9	23.71	4.5	

Did Well Dewater? NO	Start Purge Time: 1545	DTW prior to sample: 23.71
Total Liters Purged: 4.5	Stop Purge Time: 1600	Start Sample Time: 1605
Total Sample Volume: 120mL	Odor: PRESENT, STRONG	Sheen: SLIGHT
Instrument ID(s): FA00267		Last Calibrated: 9/5

Notes: No measurable free product in bailer

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-3
Location: 1700 Jefferson St. Oakland, CA	Initial Depth to Water (DTW): 22.94
Client: ARC Document Solutions	Total Well Depth (TD): 32.81
Sampler: CTC	Well Diameter: 4"
Date: 3/22/2017	1 Casing Volume: —
Purge Method: Low-Flow	Purge Rate: 0.3
Sample Method: Low-Flow	Sampling Rate: 0.2
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1436	6.89	0.75	0.97	19.3	-129.3	23.11	0.9	
1439	6.91	0.76	0.25	19.4	-168.7	23.14	1.8	
1442	6.90	0.75	0.22	19.6	-192.3	23.15	2.7	
1445	6.90	0.76	0.24	19.5	-199.7	23.16	3.6	

Did Well Dewater? NO	Start Purge Time: 1433	DTW prior to sample: 23.16
Total Liters Purged: 3.6	Stop Purge Time: 1445	Start Sample Time: 1450
Total Sample Volume: 120mL	Odor: ~~NO~~ SLIGHT	Sheen: NO
Instrument ID(s): ~~12D101075~~ - YSI professional plus		Last Calibrated: 915

Notes: FA00267

No FP in bailer

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-4
Location: 1700 Jefferson St. Oakland, CA	Initial Depth to Water (DTW): 23.39
Client: ARC Document Solutions	Total Well Depth (TD): 34.15
Sampler: CTC	Well Diameter: 4"
Date: 3/22/2017	1 Casing Volume: —
Purge Method: Low-Flow	Purge Rate: 0.3
Sample Method: Low-Flow	Sampling Rate: 0.25
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1513	6.80	1.60	3.32	18.5	-251.6	23.55	0.9	
1516	6.73	1.44	0.52	18.5	-275.1	23.57	1.8	
1519	6.72	1.40	0.56	18.5	-284.0	23.58	2.7	
1522	6.70	1.39	0.55	18.5	-289.7	23.58	3.6	

Did Well Dewater? NO	Start Purge Time: 1510	DTW prior to sample: 23.58
Total Liters Purged: 3.6	Stop Purge Time: 1522	Start Sample Time: 1525
Total Sample Volume: 120mL	Odor: PRESENT, STRONG	Sheen: SLIGHT
Instrument ID(s): FA002607		Last Calibrated: 915

Notes: DARK PARTICLES IN WATER

NO FP in bailer

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-5
Location: 1700 Jefferson St. Oakland, CA	Initial Depth to Water (DTW): 21.05
Client: ARC Document Solutions	Total Well Depth (TD): 33.35
Sampler: CTC	Well Diameter: 2"
Date: 3/22/2017	1 Casing Volume: —
Purge Method: Low-Flow	Purge Rate: 0.3
Sample Method: Low-Flow	Sampling Rate: 0.25
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1623	7.05	0.563	0.74	18.8	-170.9	21.69	0.9	
1626	7.05	0.562	0.37	18.8	-178.0	21.68	1.8	
1629	7.05	0.57	0.28	18.9	-183.1	21.69	2.7	
1632	7.05	0.57	0.26	19.0	-186.9	21.69	3.6	

Did Well Dewater? NO	Start Purge Time: 1620	DTW prior to sample: 21.69
Total Liters Purged: 3.6	Stop Purge Time: 1632	Start Sample Time: 1635
Total Sample Volume: 120mL	Odor: SLIGHT	Sheen: SLIGHT
Instrument ID(s): FA00267		Last Calibrated: 9/15

Notes: No FP in Bailer

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-6
Location: 1700 Jefferson St. Oakland, CA	Initial Depth to Water (DTW): 23.05
Client: ARC Document Solutions	Total Well Depth (TD): 32.71
Sampler: CTC	Well Diameter: 2"
Date: 3/22/2017	1 Casing Volume: —
Purge Method: Low-Flow	Purge Rate: 0.3
Sample Method: Low-Flow	Sampling Rate: 0.25
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1413	6.89	0.89	0.71	20.4	273.6	23.16	0.9	
1416	6.88	0.83	0.59	20.4	270.9	23.18	1.8	
1419	6.81	0.82	0.46	20.3	270.6	23.18	2.7	

Did Well Dewater? NO	Start Purge Time: 1410	DTW prior to sample: 23.18
Total Liters Purged: 2.7	Stop Purge Time: 1419	Start Sample Time: 1420
Total Sample Volume: 120mL	Odor: NONE	Sheen: NONE
Instrument ID(s): ~~12D101075~~ FA00267		Last Calibrated: 9/15

Notes: No FP in Bailer

APPENDIX B:

LABORATORY ANALYTICAL RESULTS

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1703C15

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 03/23/2017

Analytical Report reviewed & approved for release on 03/29/2017 by:

Angela Rydelius,
Laboratory Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1703C15

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1703C15

Analytical Qualifiers

S	surrogate spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.
d1	weakly modified or unmodified gasoline is significant
d17	Reporting limit for MTBE raised due to co-elution with non-target peaks.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD is out of acceptance criteria.

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/28/17	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**1703C15-001B**	**Water**	**03/22/2017 16:05**	**GC16**	**136337**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	50	100	03/28/2017 21:02
Benzene	**2000**	50	100	03/28/2017 21:02
t-Butyl alcohol (TBA)	ND	200	100	03/28/2017 21:02
1,2-Dibromoethane (EDB)	ND	50	100	03/28/2017 21:02
1,2-Dichloroethane (1,2-DCA)	ND	50	100	03/28/2017 21:02
Diisopropyl ether (DIPE)	ND	50	100	03/28/2017 21:02
Ethylbenzene	**190**	50	100	03/28/2017 21:02
Ethyl tert-butyl ether (ETBE)	ND	50	100	03/28/2017 21:02
Methyl-t-butyl ether (MTBE)	ND	50	100	03/28/2017 21:02
Toluene	**350**	50	100	03/28/2017 21:02
Xylenes, Total	**120**	50	100	03/28/2017 21:02

Surrogates	REC (%)	Limits	
Dibromofluoromethane	90	70-130	03/28/2017 21:02
Toluene-d8	97	70-130	03/28/2017 21:02

Analyst(s): JEM

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	**1703C15-002B**	**Water**	**03/22/2017 14:50**	**GC16**	**136337**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	2.5	5	03/28/2017 21:43
Benzene	**46**	2.5	5	03/28/2017 21:43
t-Butyl alcohol (TBA)	ND	10	5	03/28/2017 21:43
1,2-Dibromoethane (EDB)	ND	2.5	5	03/28/2017 21:43
1,2-Dichloroethane (1,2-DCA)	ND	2.5	5	03/28/2017 21:43
Diisopropyl ether (DIPE)	ND	2.5	5	03/28/2017 21:43
Ethylbenzene	**20**	2.5	5	03/28/2017 21:43
Ethyl tert-butyl ether (ETBE)	ND	2.5	5	03/28/2017 21:43
Methyl-t-butyl ether (MTBE)	ND	2.5	5	03/28/2017 21:43
Toluene	**6.0**	2.5	5	03/28/2017 21:43
Xylenes, Total	**3.7**	2.5	5	03/28/2017 21:43

Surrogates	REC (%)	Limits	
Dibromofluoromethane	90	70-130	03/28/2017 21:43
Toluene-d8	97	70-130	03/28/2017 21:43

Analyst(s): JEM

(Cont.)

NELAP 4033ORELAP


Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/28/17	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	**1703C15-003B**	**Water**	**03/22/2017 15:25**	**GC16**	**136337**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	12	25	03/28/2017 22:24
Benzene	**290**	12	25	03/28/2017 22:24
t-Butyl alcohol (TBA)	ND	50	25	03/28/2017 22:24
1,2-Dibromoethane (EDB)	ND	12	25	03/28/2017 22:24
1,2-Dichloroethane (1,2-DCA)	ND	12	25	03/28/2017 22:24
Diisopropyl ether (DIPE)	ND	12	25	03/28/2017 22:24
Ethylbenzene	**61**	12	25	03/28/2017 22:24
Ethyl tert-butyl ether (ETBE)	ND	12	25	03/28/2017 22:24
Methyl-t-butyl ether (MTBE)	ND	12	25	03/28/2017 22:24
Toluene	**55**	12	25	03/28/2017 22:24
Xylenes, Total	**53**	12	25	03/28/2017 22:24

Surrogates	REC (%)	Limits	
Dibromofluoromethane	91	70-130	03/28/2017 22:24
Toluene-d8	97	70-130	03/28/2017 22:24

Analyst(s): JEM

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	**1703C15-004B**	**Water**	**03/22/2017 16:35**	**GC16**	**136337**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	500	1,000	03/28/2017 23:04
Benzene	**8400**	500	1,000	03/28/2017 23:04
t-Butyl alcohol (TBA)	ND	2000	1,000	03/28/2017 23:04
1,2-Dibromoethane (EDB)	ND	500	1,000	03/28/2017 23:04
1,2-Dichloroethane (1,2-DCA)	ND	500	1,000	03/28/2017 23:04
Diisopropyl ether (DIPE)	ND	500	1,000	03/28/2017 23:04
Ethylbenzene	**1400**	500	1,000	03/28/2017 23:04
Ethyl tert-butyl ether (ETBE)	ND	500	1,000	03/28/2017 23:04
Methyl-t-butyl ether (MTBE)	ND	500	1,000	03/28/2017 23:04
Toluene	**11,000**	500	1,000	03/28/2017 23:04
Xylenes, Total	**5500**	500	1,000	03/28/2017 23:04

Surrogates	REC (%)	Limits	
Dibromofluoromethane	90	70-130	03/28/2017 23:04
Toluene-d8	97	70-130	03/28/2017 23:04

Analyst(s): JEM

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/28/17	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	**1703C15-005B**	**Water**	**03/22/2017 14:20**	**GC16**	**136337**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	03/28/2017 16:54
Benzene	ND	0.50	1	03/28/2017 16:54
t-Butyl alcohol (TBA)	ND	2.0	1	03/28/2017 16:54
1,2-Dibromoethane (EDB)	ND	0.50	1	03/28/2017 16:54
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	03/28/2017 16:54
Diisopropyl ether (DIPE)	ND	0.50	1	03/28/2017 16:54
Ethylbenzene	ND	0.50	1	03/28/2017 16:54
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	03/28/2017 16:54
Methyl-t-butyl ether (MTBE)	ND	0.50	1	03/28/2017 16:54
Toluene	ND	0.50	1	03/28/2017 16:54
Xylenes, Total	ND	0.50	1	03/28/2017 16:54

Surrogates	REC (%)	Limits	
Dibromofluoromethane	92	70-130	03/28/2017 16:54
Toluene-d8	95	70-130	03/28/2017 16:54

Analyst(s): JEM

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/26/17	**Analytical Method:**	SW8021B/8015Bm
Project:	1700 Jefferson	**Unit:**	µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**1703C15-001A**	**Water**	**03/22/2017 16:05**	**GC3**	**136224**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**12,000**	500	10	03/26/2017 19:24
MTBE	**---**	500	10	03/26/2017 19:24
Benzene	**---**	5.0	10	03/26/2017 19:24
Toluene	**---**	5.0	10	03/26/2017 19:24
Ethylbenzene	**---**	5.0	10	03/26/2017 19:24
Xylenes	**---**	15	10	03/26/2017 19:24

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	140	S	89-115	03/26/2017 19:24

Analyst(s): IA Analytical Comments: d1,d17,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	**1703C15-002A**	**Water**	**03/22/2017 14:50**	**GC3**	**136224**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**1200**	50	1	03/26/2017 19:54
MTBE	**---**	30	1	03/26/2017 19:54
Benzene	**---**	0.50	1	03/26/2017 19:54
Toluene	**---**	0.50	1	03/26/2017 19:54
Ethylbenzene	**---**	0.50	1	03/26/2017 19:54
Xylenes	**---**	1.5	1	03/26/2017 19:54

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	271	S	89-115	03/26/2017 19:54

Analyst(s): IA Analytical Comments: d1,d17,c4

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/26/17	**Analytical Method:**	SW8021B/8015Bm
Project:	1700 Jefferson	**Unit:**	µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	**1703C15-003A**	**Water**	**03/22/2017 15:25**	**GC3**	**136224**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**2900**	250	5	03/26/2017 20:24
MTBE	**---**	200	5	03/26/2017 20:24
Benzene	**---**	2.5	5	03/26/2017 20:24
Toluene	**---**	2.5	5	03/26/2017 20:24
Ethylbenzene	**---**	2.5	5	03/26/2017 20:24
Xylenes	**---**	7.5	5	03/26/2017 20:24

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	122	S	89-115	03/26/2017 20:24

Analyst(s): IA Analytical Comments: d1,d17,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	**1703C15-004A**	**Water**	**03/22/2017 16:35**	**GC3**	**136224**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	**73,000**	10,000	200	03/26/2017 20:55
MTBE	**---**	2000	200	03/26/2017 20:55
Benzene	**---**	100	200	03/26/2017 20:55
Toluene	**---**	100	200	03/26/2017 20:55
Ethylbenzene	**---**	100	200	03/26/2017 20:55
Xylenes	**---**	300	200	03/26/2017 20:55

Surrogates	REC (%)	Limits	
aaa-TFT	98	89-115	03/26/2017 20:55

Analyst(s): IA Analytical Comments: d1,d17

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Received:	3/23/17 15:40	**Extraction Method:**	SW5030B
Date Prepared:	3/26/17	**Analytical Method:**	SW8021B/8015Bm
Project:	1700 Jefferson	**Unit:**	µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	**1703C15-005A**	**Water**	**03/22/2017 14:20**	**GC3**	**136224**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	03/26/2017 22:55
MTBE	---	5.0	1	03/26/2017 22:55
Benzene	---	0.50	1	03/26/2017 22:55
Toluene	---	0.50	1	03/26/2017 22:55
Ethylbenzene	---	0.50	1	03/26/2017 22:55
Xylenes	---	1.5	1	03/26/2017 22:55

Surrogates	REC (%)	Qualifiers	Limits	
aaa-TFT	121	S	89-115	03/26/2017 22:55

Analyst(s): IA Analytical Comments: c11

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Prepared:	3/28/17	**BatchID:**	136337
Date Analyzed:	3/28/17	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-136337

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	22.8		25	91	70-130
Toluene-d8	24.17		25	97	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.36	10.0	10	94	100	54-140	6.73	20
Benzene	9.97	9.72	10	100	97	47-158	2.49	20
t-Butyl alcohol (TBA)	34.1	42.5	40	85	106	42-140	21.9,F2	20
1,2-Dibromoethane (EDB)	9.71	10.3	10	97	103	44-155	6.32	20
1,2-Dichloroethane (1,2-DCA)	9.28	9.97	10	93	100	66-125	7.13	20
Diisopropyl ether (DIPE)	9.99	10.3	10	100	103	57-136	2.88	20
Ethylbenzene	10.4	10.2	10	104	102	60-152	1.58	20
Ethyl tert-butyl ether (ETBE)	9.58	10.2	10	96	102	55-137	5.85	20
Methyl-t-butyl ether (MTBE)	9.19	10.0	10	92	100	53-139	8.63	20
Toluene	9.41	9.29	10	94	93	52-137	1.35	20
Xylenes, Total	28.3	28.1	30	94	94	70-130	0	20
Surrogate Recovery								
Dibromofluoromethane	22.7	22.7	25	91	91	70-130	0	20
Toluene-d8	24.7	24.6	25	99	98	70-130	0.540	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1703C15
Date Prepared:	3/26/17	**BatchID:**	136224
Date Analyzed:	3/26/17	**Extraction Method:**	SW5030B
Instrument:	GC3	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-136224 1703C15-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	55.4	40	60	-	92	78-116
MTBE	ND	8.97	5.0	10	-	90	72-122
Benzene	ND	9.48	0.50	10	-	95	81-123
Toluene	ND	9.97	0.50	10	-	100	83-129
Ethylbenzene	ND	10.4	0.50	10	-	104	88-126
Xylenes	ND	32.3	1.5	30	-	108	87-131
Surrogate Recovery							
aaa-TFT	10.18	10.2		10	102	102	89-116

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		4100	NR	NR	-	NR	
MTBE	NR	NR		ND	NR	NR	-	NR	
Benzene	NR	NR		2200	NR	NR	-	NR	
Toluene	NR	NR		430	NR	NR	-	NR	
Ethylbenzene	NR	NR		240	NR	NR	-	NR	
Xylenes	NR	NR		210	NR	NR	-	NR	
Surrogate Recovery									
aaa-TFT	NR	NR			NR	NR	-	NR	

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1703C15 **ClientCode: AWR**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party: ccary@awrcorp.net;
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;
Date Received: **03/23/2017**
Date Logged: **03/24/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1703C15-001	MW-1	Water	3/22/2017 16:05	☐	B	A	A									
1703C15-002	MW-3	Water	3/22/2017 14:50	☐	B	A										
1703C15-003	MW-4	Water	3/22/2017 15:25	☐	B	A										
1703C15-004	MW-5	Water	3/22/2017 16:35	☐	B	A										
1703C15-005	MW-6	Water	3/22/2017 14:20	☐	B	A										

Test Legend:

1	8260B_MBTEXOXYPBSCV_W	2	G-MBTEX_W	3	PREDF REPORT	4	
5		6		7		8	
9		10		11		12	

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net
Project: 1700 Jefferson
Comments:
Work Order: 1703C15
QC Level: LEVEL 2
Date Logged: 3/24/2017

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1703C15-001A	MW-1	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	☐	3/22/2017 16:05	5 days	Present	☐	
1703C15-001B	MW-1	Water	SW8260B (Oxygenates, MBTEX & Lead Scav.)	1	VOA w/ HCl	☐	3/22/2017 16:05	5 days	Present	☐	
1703C15-002A	MW-3	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	☐	3/22/2017 14:50	5 days	Present	☐	
1703C15-002B	MW-3	Water	SW8260B (Oxygenates, MBTEX & Lead Scav.)	1	VOA w/ HCl	☐	3/22/2017 14:50	5 days	Present	☐	
1703C15-003A	MW-4	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	☐	3/22/2017 15:25	5 days	Present	☐	
1703C15-003B	MW-4	Water	SW8260B (Oxygenates, MBTEX & Lead Scav.)	1	VOA w/ HCl	☐	3/22/2017 15:25	5 days	Present	☐	
1703C15-004A	MW-5	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	☐	3/22/2017 16:35	5 days	Present	☐	
1703C15-004B	MW-5	Water	SW8260B (Oxygenates, MBTEX & Lead Scav.)	1	VOA w/ HCl	☐	3/22/2017 16:35	5 days	Present	☐	
1703C15-005A	MW-6	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	☐	3/22/2017 14:20	5 days	Present	☐	
1703C15-005B	MW-6	Water	SW8260B (Oxygenates, MBTEX & Lead Scav.)	1	VOA w/ HCl	☐	3/22/2017 14:20	5 days	Present	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 1703C15

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD ● | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Bottle Order #
Delivery Format: GeoTracker EDF X | PDF | EDD | Write On (DW) | EQuIS

Report To: Yola Bayram | Bill To: Applied Water Resources
Company: Applied Water Resources
Email: ybayram@awrcorp.net
Alt Email: ccary@awrcorp.net | Tele: 510-671-~~2087~~ 2088
Project Name/#: 1700 Jefferson
Project Location: 1700 Jefferson St. Oakland, CA | PO #
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: TPHg by EPA 8015, C6-C12	BTEX by 8260	MTBE by 8260	Lead Scavengers by 8260	Fuel Oxygenates by 8260
MW-1	3/22	1605	3	Water	HCL	X	X	X	X	X
MW-3	3/22	1450	3	Water	HCL	X	X	X	X	X
MW-4	3/22	1525	3	Water	HCL	X	X	X	X	X
MW-5	3/22	1635	3	Water	HCL	X	X	X	X	X
MW-6	3/22	1420	3	Water	HCL	X	X	X	X	X

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Cheryl Cary AWR	3/23	1340		3-23-17	1340
	3-22-17	1540		3/23	1540

Comments / Instructions

Geotracker EDF:
T0600100196

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 3.2 °C Initials

Page of

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received	**3/23/2017 15:40**
Project Name:	**1700 Jefferson**	Date Logged:	**3/24/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1703C15** Matrix: Water	Logged by:	Maria Venegas
Carrier:	Bernie Cummins (MAI Courier)		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Sample IDs noted by Client on COC?	Yes	☑	No	☐	
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐	
Sampler's name noted on COC?	Yes	☐	No	☑	

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA ☑
Shipping container/cooler in good condition?	Yes	☑	No	☐	
Samples in proper containers/bottles?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Sample/Temp Blank temperature	Temp: 3.2°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA ☐
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
Samples Received on Ice?	Yes	☑	No	☐	
	(Ice Type: WET ICE)				

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes	☐	No	☐	NA ☑

Comments:

ANALYTICAL REPORT

April 10, 2017

Applied Water Resources - Alameda, CA

Sample Delivery Group:	L899761
Samples Received:	04/01/2017
Project Number:	1700
Description:	1700 Jefferson

Report To: Yola Bayram
2363 Mariner Square Dr
Suite 245
Alameda, CA 94501

Entire Report Reviewed By: Brian Ford

Brian Ford
Technical Service Representative

TABLE OF CONTENTS

MW-7 L899761-01 GW

Collected by: Cheryl Cary
Collected date/time: 03/31/17 14:48
Received date/time: 04/01/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG967904	10	04/08/17 19:50	04/08/17 19:50	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	10	04/08/17 19:50	04/08/17 19:50	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	200	04/10/17 00:54	04/10/17 00:54	DWR

MW-8 L899761-02 GW

Collected by: Cheryl Cary
Collected date/time: 03/31/17 14:05
Received date/time: 04/01/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG967904	25	04/08/17 20:12	04/08/17 20:12	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	25	04/08/17 20:12	04/08/17 20:12	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	500	04/10/17 01:17	04/10/17 01:17	DWR

MW-9 L899761-03 GW

Collected by: Cheryl Cary
Collected date/time: 03/31/17 11:47
Received date/time: 04/01/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG967904	10	04/08/17 20:35	04/08/17 20:35	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	10	04/08/17 20:35	04/08/17 20:35	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	100	04/10/17 01:39	04/10/17 01:39	DWR

MW-10 L899761-04 GW

Collected by: Cheryl Cary
Collected date/time: 03/31/17 13:25
Received date/time: 04/01/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG967904	20	04/08/17 20:57	04/08/17 20:57	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	20	04/08/17 20:57	04/08/17 20:57	JAH
Volatile Organic Compounds (GC) by Method 8021	WG967904	500	04/10/17 02:01	04/10/17 02:01	DWR

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	11700		100	200	04/10/2017 00:54	WG967904
TPHG C5 - C12	89500		1000	10	04/08/2017 19:50	WG967904
Toluene	15300		200	200	04/10/2017 00:54	WG967904
Ethylbenzene	1690		5.00	10	04/08/2017 19:50	WG967904
Total Xylene	9740		300	200	04/10/2017 00:54	WG967904
Methyl tert-butyl ether	349		10.0	10	04/08/2017 19:50	WG967904
(S) a,a,a-Trifluorotoluene(FID)	*96.9*		*77.0-122*		*04/08/2017 19:50*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*93.2*		*80.0-121*		*04/08/2017 19:50*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*102*		*80.0-121*		*04/10/2017 00:54*	WG967904

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	24800		250	500	04/10/2017 01:17	WG967904
TPHG C5 - C12	153000		2500	25	04/08/2017 20:12	WG967904
Toluene	32700		500	500	04/10/2017 01:17	WG967904
Ethylbenzene	1790		12.5	25	04/08/2017 20:12	WG967904
Total Xylene	9790		37.5	25	04/08/2017 20:12	WG967904
Methyl tert-butyl ether	662		25.0	25	04/08/2017 20:12	WG967904
(S) a,a,a-Trifluorotoluene(FID)	*92.7*		*77.0-122*		*04/08/2017 20:12*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*91.0*		*80.0-121*		*04/08/2017 20:12*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*102*		*80.0-121*		*04/10/2017 01:17*	WG967904

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	9200		50.0	100	04/10/2017 01:39	WG967904
TPHG C5 - C12	83500		1000	10	04/08/2017 20:35	WG967904
Toluene	15000		100	100	04/10/2017 01:39	WG967904
Ethylbenzene	1550		5.00	10	04/08/2017 20:35	WG967904
Total Xylene	11100		150	100	04/10/2017 01:39	WG967904
Methyl tert-butyl ether	337		10.0	10	04/08/2017 20:35	WG967904
(S) a,a,a-Trifluorotoluene(FID)	*94.0*		*77.0-122*		*04/08/2017 20:35*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*83.6*		*80.0-121*		*04/08/2017 20:35*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*99.5*		*80.0-121*		*04/10/2017 01:39*	WG967904

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	18100		250	500	04/10/2017 02:01	WG967904
TPHG C5 - C12	123000		2000	20	04/08/2017 20:57	WG967904
Toluene	28700		500	500	04/10/2017 02:01	WG967904
Ethylbenzene	1600		10.0	20	04/08/2017 20:57	WG967904
Total Xylene	8290		30.0	20	04/08/2017 20:57	WG967904
Methyl tert-butyl ether	453		20.0	20	04/08/2017 20:57	WG967904
(S) a,a,a-Trifluorotoluene(FID)	*91.6*		*77.0-122*		*04/08/2017 20:57*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*84.8*		*80.0-121*		*04/08/2017 20:57*	WG967904
(S) a,a,a-Trifluorotoluene(PID)	*102*		*80.0-121*		*04/10/2017 02:01*	WG967904

Method Blank (MB)

(MB) R3209388-5 04/08/17 12:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.190	0.500
Toluene	U		0.412	1.00
Ethylbenzene	U		0.160	0.500
Total Xylene	U		0.510	1.50
Methyl tert-butyl ether	U		0.340	1.00
TPHG C5 - C12	U		30.4	100
(S) a,a,a-Trifluorotoluene(FID)	*98.7*			*77.0-122*
(S) a,a,a-Trifluorotoluene(PID)	*106*			*80.0-121*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209388-1 04/08/17 10:50 • (LCSD) R3209388-2 04/08/17 11:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	50.0	49.2	49.7	98.3	99.4	71.0-121			1.08	20
Toluene	50.0	51.5	50.4	103	101	72.0-120			2.19	20
Ethylbenzene	50.0	52.9	51.8	106	104	75.0-122			2.04	20
Total Xylene	150	162	158	108	105	74.0-124			2.57	20
Methyl tert-butyl ether	50.0	44.9	47.5	89.9	95.1	63.0-126			5.62	21
(S) a,a,a-Trifluorotoluene(FID)				*98.1*	*97.8*	*77.0-122*				
(S) a,a,a-Trifluorotoluene(PID)				*103*	*102*	*80.0-121*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209388-3 04/08/17 11:35 • (LCSD) R3209388-4 04/08/17 11:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPHG C5 - C12	5500	5600	5750	102	105	71.0-130			2.71	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*102*	*77.0-122*				
(S) a,a,a-Trifluorotoluene(PID)				*112*	*112*	*80.0-121*				

L899799-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899799-01 04/08/17 17:14 • (MS) R3209388-6 04/08/17 17:37 • (MSD) R3209388-7 04/08/17 17:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	50.0	0.333	36.5	38.1	72.4	75.6	1	29.0-146			4.31	20
Toluene	50.0	U	39.0	40.5	77.9	80.9	1	35.0-140			3.75	20
Ethylbenzene	50.0	U	44.1	45.7	88.2	91.4	1	39.0-143			3.51	20

L899799-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899799-01 04/08/17 17:14 • (MS) R3209388-6 04/08/17 17:37 • (MSD) R3209388-7 04/08/17 17:58

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Xylene	150	U	133	138	88.9	92.0	1	42.0-142			3.46	20
Methyl tert-butyl ether	50.0	U	45.9	47.8	91.8	95.7	1	41.0-138			4.13	20
(S) a,a,a-Trifluorotoluene(FID)					*98.7*	*98.7*		*77.0-122*				
(S) a,a,a-Trifluorotoluene(PID)					*103*	*103*		*80.0-121*				

L899799-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899799-01 04/08/17 17:14 • (MS) R3209388-8 04/08/17 18:20 • (MSD) R3209388-9 04/08/17 18:43

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5500	61.5	3290	3340	58.7	59.6	1	18.0-158			1.51	20
(S) a,a,a-Trifluorotoluene(FID)					*98.5*	*98.9*		*77.0-122*				
(S) a,a,a-Trifluorotoluene(PID)					*107*	*107*		*80.0-121*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

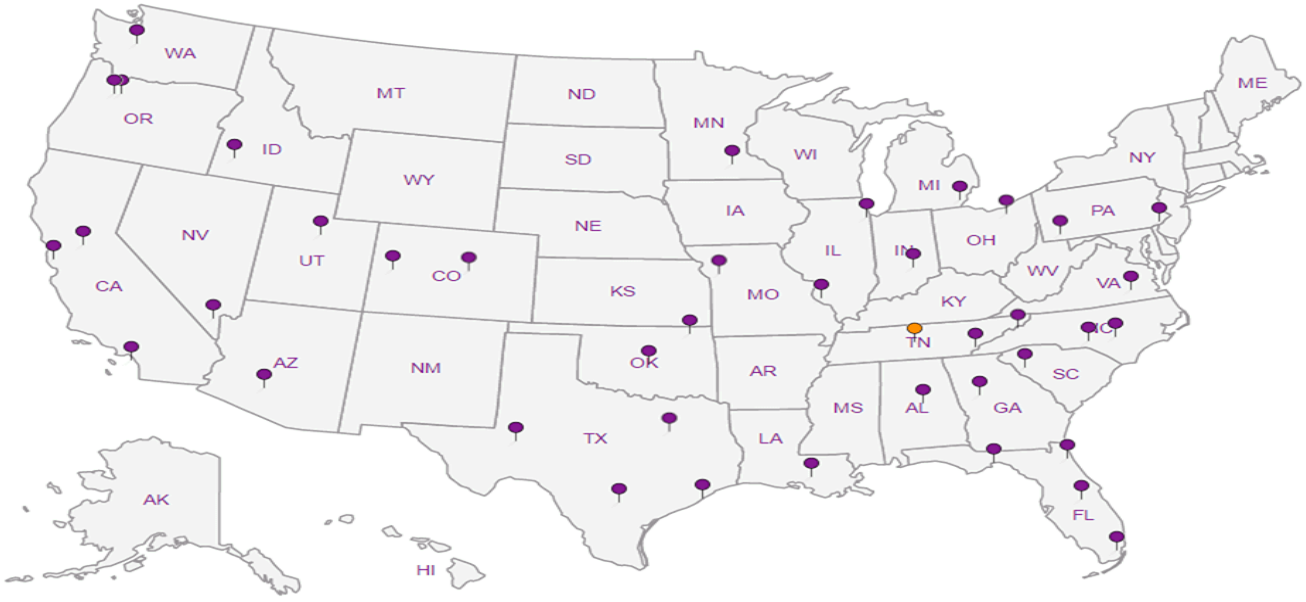
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Billing Information:

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES

YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: YOLA BAYRAM	Email To: YBAYRAM@AWRCORP.NET	
Project Description: 1700 JEFFERSON	City/State Collected: OAKLAND, CA	
Phone: Fax: 510-671-2088	Client Project # 1700	Lab Project #
Collected by (print): CHERYL CARY	Site/Facility ID #	P.O. #
Collected by (signature):	Rush? (Lab MUST Be Notified) ___ Same Day ___ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day	Quote #
Immediately Packed on Ice N ___ Y X	Date Results Needed	

L # 849761

G124

Acctnum:
Template:
Prelogin:
TSR:
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	TPH g, BTEX, MTBE 8015/8020	Remarks	Sample # (lab only)
MW-7		GW		3/31	1448	3	X	X		01
MW-8		GW		3/31	1405	3	X	X		02
MW-9		GW		3/31	1147	3	X	X		03
MW-10		GW		3/31	1325	3	X	X		04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N

Relinquished by: (Signature) Cheryl Cary	Date: 3/31	Time: 1552	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1 °C Bottles Received: 12-VP
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/1/17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

APPENDIX C:

BORING LOGS AND WELL CONSTRUCTION DETAILS

APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: MW-7

Date: 3/27/2017	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: WRC	
Drilling Method: 2" HSA	**Driller:** Beto
Well Sand Filter: #2/12	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Neat cement/Tremie	
Completion: Well Box	
Groundwater Sampling Method: Peristaltic Pump	
Soil Sampling Method: N/A	

Well Specifications

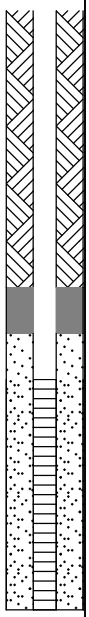
Elevation
TOC: ~13 **GSE:**

Depth to Water
Initial: 23.38 ft. **Static:** ft.

Total Boring Depth: 26 ft.
Lat.: **Long:**
PVC Diameter: 0.75
Screen Interval: 21-26 ft.
Screen Slot Size: 0.01

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description
5						Sunken courtyard
10						
						Concrete
15	0					Silty sand (SM) yellowish-brown, moderate plasticity, fg sand, well rounded, 25-35% silt, moist
	15			SM		
	54					Silt content decreasing with depth: 15-25%
20						Sand with trace silt (SP-SM), gley, fg sand, rounded, 5% silt, TPH odor, moist to wet.
	210		▽	SP-SM		
25	369					
						Total Depth: 26 ft.

Remarks/Well Diagram



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: MW-8

Date: 3/28/2017	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: WRC	
Drilling Method: 2" HSA	**Driller:** Beto
Well Sand Filter: #2/12	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Neat cement/Tremie	
Completion: Well Box	
Groundwater Sampling Method: Peristaltic Pump	
Soil Sampling Method: N/A	

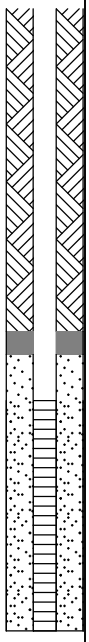
Well Specifications

Elevation
TOC: ~13 **GSE:**

Depth to Water
Initial: 23.37 ft. **Static:** ft.

Total Boring Depth: 26.5 ft.
Lat.: **Long:**
PVC Diameter: 0.75
Screen Interval: 21.5-26.5 ft.
Screen Slot Size: 0.01

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
5						Sunken courtyard	
10							
						Concrete	
15	0					Silty sand (SM) yellowish-brown, moderate plasticity, fg sand, well rounded, 25-35% silt, moist	
	11.9			SM			
						Silt content decreasing with depth: 15-25%	
20	58						
	110					Sand with trace silt (SP-SM), gley, fg sand, rounded, 5% silt, TPH odor, moist to wet.	
			▽	SP-SM			
25	239						
						Total Depth: 26.5 ft.	



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: MW-9

Date: 3/27/2017	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: WRC	
Drilling Method: 2" HSA	**Driller:** Beto
Well Sand Filter: #2/12	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Neat cement/Tremie	
Completion: Well Box	
Groundwater Sampling Method: Peristaltic Pump	
Soil Sampling Method: N/A	

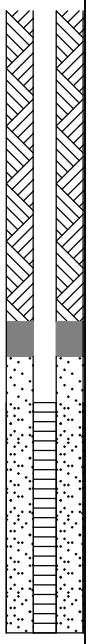
Well Specifications

Elevation
TOC: ~13 **GSE:**

Depth to Water
Initial: 23.34 ft. **Static:** ft.

Total Boring Depth: 26.5 ft.
Lat.: **Long:**
PVC Diameter: 0.75
Screen Interval: 21.5-26.5 ft.
Screen Slot Size: 0.01

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
5						Sunken courtyard	
10							
						Concrete	
15	0			SM		Silty sand (SM) yellowish-brown, moderate plasticity, fg sand, well rounded, 25-35% silt, moist	
	21.8					Silt content decreasing with depth: 15-25%	
20	67						
	105		▽	SP-SM		Sand with trace silt (SP-SM), gley, fg sand, rounded, 5% silt, TPH odor, moist to wet.	
25	312						
						Total Depth: 26.5 ft.	



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: MW-10

Date: 3/27/2017 **Logged By:** Yola Bayram	**Well Specifications**
Location: 1700 Jefferson Street Oakland, CA	Elevation
Client: ARC Document Solutions	**TOC:** ~13 **GSE:**
Drilling Co.: WRC	Depth to Water
Drilling Method: 2" HSA **Driller:** Beto	**Initial:** 22.91 ft. **Static:** ft.
Well Sand Filter: #2/12 **Well Seal:** Hydrated Bentonite	**Total Boring Depth:** 25.5 ft.
Grout Materials and Method: Neat cement/Tremie	**Lat.:** **Long:**
Completion: Well Box	**PVC Diameter:** 0.75
Groundwater Sampling Method: Peristaltic Pump	**Screen Interval:** 20.5-25.5 ft.
Soil Sampling Method: N/A	**Screen Slot Size:** 0.01

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
5						Sunken courtyard	
10							
						Concrete	
15	2			SM		Silty sand (SM) yellowish-brown, moderate plasticity, fg sand, well rounded, 25-35% silt, moist	
	55					Silt content decreasing with depth: 15-25%	
20	105					Sand with trace silt (SP-SM), gley, fg sand, rounded, 5% silt, TPH odor, moist to wet.	
	215		▽	SP-SM			
	415						
25						Total Depth: 25.5 ft.