

October 30, 2017

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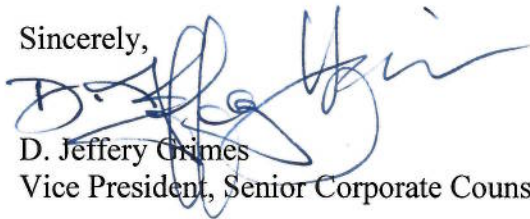
By Alameda County Environmental Health 5:11 pm, Oct 30, 2017

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

Re: American Reprographics, LLC (Formerly City Blue Print)
ACEH LOP RO#151
1700 Jefferson Street Oakland, CA 94612

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Sincerely,



D. Jeffery Grimes
Vice President, Senior Corporate Counsel & Corporate Secretary

Attachment: Report

October 30, 2017

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

RE: 3rd Quarter 2017 - Ground Water Monitoring Report
1700 Jefferson Street, Oakland, California
Fuel Leak Case No. RO 151

Dear Mr. Grimes:

Applied Water Resources (AWR) encloses herein one copy of the 3rd Quarter 2017 Ground water Monitoring Report 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
Mr. Matthew Westbrook, ARC Document Solutions

3rd QUARTER 2017 GROUND WATER MONITORING REPORT

1700 Jefferson, Oakland, CA

October 2017



3rd QUARTER 2017
GROUND WATER MONITORING REPORT

October 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

October 2017



Prepared By:
Yola Bayram
Staff Geologist



Reviewed By:
Steve Michelson, PG
Principal Geologist

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1.0 INTRODUCTION

This 3rd Quarter 2017 Ground Water Monitoring Report was prepared by Applied Water Resources Corporation (AWR) on behalf of ARC Document Solutions. This Report describes the quarterly ground water monitoring work performed at 1700 Jefferson Street, Oakland, California (Site). The project objectives were to analyze ground water samples collected from the 9 monitor wells installed at and adjacent to the Site, measure the depth to ground water in the wells, calculate magnitude and direction of the ground water gradient, and evaluate analytical results.

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.
- From September 1987 to March 1991, free product was removed from well MW-1 daily yielding an estimated 2,300 gallons of free product (HLA, 1991).
- In June 1992, a ground water extraction and treatment system was installed. The system was removed in July 1999, after extracting an additional 867 gallons of free product.
- From January 1994 through March 2009, quarterly ground water monitoring of wells MW-1, MW-3, MW-5, and MW-6 was conducted. Ground water extraction wells MW-1A and MW-4 were periodically sampled from August 1991 to June 1999.

- In March 1995, five Cone Penetrometer Test (CPT) borings were advanced both south of the Site and north of well MW-5.
- 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.
- 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-dichloroethane (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 courtyard of the adjacent property located at 581 18th Street.
- In July 2017, samples of soil vapor and grab ground water samples were collected from the basement portion of the adjacent property located at 581 18th Street.
- The July 19, 2017 letter from ACDEH restarted quarterly ground water monitoring.
- In August 2017, samples of soil vapor and grab ground water samples were collected from the basement and parking lot of the adjacent property located at 1701 San Pablo Avenue.

2.1 Subsurface Conditions

Geologic materials generally consist of mixtures of sand with some silt to approximately 10 feet below ground surface (feet bgs), silt with some sand to about 20 feet bgs, and fine to medium grained sand to about 30 feet bgs. These three uppermost units are further discussed in Section 4.2. Underlying this deeper sand is a stiff lean clay to approximately 34 feet bgs, which is underlain by clayey silt; a silty sand lens was encountered at the maximum explored depth of 42 feet bgs.

3.0 GROUND WATER MONITORING AND SAMPLING ACTIVITIES

Ground water monitoring and sampling of the Site was performed on July 24 and September 29, 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.

3.1 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. On July 24, 2017, the presence of free product was also evaluated by using separate phase meter in each monitor well after measuring depth to water. On September 29, a slight sheen was observed on the water purged from MW-3

Ground water elevation contours are illustrated on Figure 3. The ground water gradient direction is based on MW-1 through MW-6 and is to the west at an average of 0.002 ft/ft. Results from the elevation survey of wells MW-7 through MW-10 are pending. 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).

3.2 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.

4.0 RESULTS OF GROUND WATER SAMPLING

Ground water samples collected 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. TPHg 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 and laboratory analytical reports are included as Appendix B. Analytical results are summarized in Table 3.

5.0 DISCUSSION

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 are selected for BTEX compounds. In Table 3, ground water concentrations are compared to RWQCB Environmental Screening Levels (ESLs) for “vapor intrusion human health risk” in a residential scenario with shallow ground water and sandy geologic materials (RWQCB 2016). Because there is no ground water based threat to indoor air ESL listed for TPHg, the direct exposure limit is listed instead. Although some of the samples contain concentrations above these ESLs, recent sub-slab vapor samples collected beneath the apartment building basement contain concentrations below ESL screening levels, which indicates that soil vapor poses no current risk to indoor air.

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.

6.0 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).
- Benzene in MW-1 has decreased since 2010. Benzene in MW-3 and MW-5 appears relatively stable.
- 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 at least 70% in MW-4.
- In all monitor wells with detectable petroleum, DO is less than 0.5mg/L and the ORP is negative, indicating anaerobic conditions consistent with ongoing biodegradation.

7.0 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*, , 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		MW-7		MW-8		MW-9		MW-10			
Top of Casing (ft above MSL)	36.81		35.25		36.23		36.77		35.21		35.91		Pending		Pending		Pending		Pending			
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)	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	11.06	--	--	25.50	10.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
7/12/1989	26.00	10.81	--	--	24.44	11.79	--	--	24.91	10.30	--	--	--	--	--	--	--	--	--	--		
Data not available from 1990 to 1995													--	--	--	--	--	--	--	--	--	--
3/6/1996	NS	--	--	--	24.79	11.44	--	--	23.53	11.68	NA	---	--	--	--	--	--	--	--	--		
6/11/1996	FP	--	--	--	25.60	10.63	--	--	23.78	11.43	25.16	10.75	--	--	--	--	--	--	--	--		
9/19/1996	FP	--	--	--	26.09	10.14	--	--	24.48	10.73	25.76	10.15	--	--	--	--	--	--	--	--		
12/23/1996	FP	--	--	--	FP	--	--	--	24.83	10.38	25.88	10.03	--	--	--	--	--	--	--	--		
3/27/1997	FP	--	--	--	FP	--	--	--	23.82	11.39	24.78	11.13	--	--	--	--	--	--	--	--		
6/4/1997	26.41	10.40	--	--	25.11	11.12	--	--	23.92	11.29	24.60	11.31	--	--	--	--	--	--	--	--		
9/26/1997	26.80	10.01	--	--	25.41	10.82	--	--	24.29	10.92	24.80	11.11	--	--	--	--	--	--	--	--		
12/22/1997	26.00	10.81	--	--	24.91	11.32	--	--	24.02	11.19	24.71	11.20	--	--	--	--	--	--	--	--		
3/31/1998	26.06	10.75	--	--	24.05	12.18	--	--	22.78	12.43	23.75	12.16	--	--	--	--	--	--	--	--		
6/18/1998	25.60	11.21	--	--	23.71	12.52	--	--	22.51	12.70	23.22	12.69	--	--	--	--	--	--	--	--		
8/28/1998	25.45	11.36	--	--	23.70	12.53	--	--	22.74	12.47	22.23	13.68	--	--	--	--	--	--	--	--		
12/2/1998	24.92	11.89	--	--	23.60	12.63	--	--	23.16	12.05	23.72	12.19	--	--	--	--	--	--	--	--		
3/10/1999	24.90	11.91	--	--	22.65	13.58	--	--	22.82	12.39	23.54	12.37	--	--	--	--	--	--	--	--		
6/30/1999	25.53	11.28	--	--	23.07	13.16	--	--	22.41	12.80	23.04	12.87	--	--	--	--	--	--	--	--		
9/29/1999	24.23	12.58	--	--	23.03	13.20	--	--	22.81	12.40	23.42	12.49	--	--	--	--	--	--	--	--		
11/22/1999	24.33	12.48	--	--	23.68	12.55	--	--	22.88	12.33	23.64	12.27	--	--	--	--	--	--	--	--		
2/11/2000	24.38	12.43	--	--	23.74	12.49	--	--	22.74	12.47	23.67	12.24	--	--	--	--	--	--	--	--		
5/30/2000	23.57	13.24	--	--	22.97	13.26	--	--	21.73	13.48	22.82	13.09	--	--	--	--	--	--	--	--		
9/15/2000	23.85	12.96	--	--	23.12	13.11	--	--	22.14	13.07	23.10	12.81	--	--	--	--	--	--	--	--		
11/16/2000	24.14	12.67	--	--	23.40	12.83	--	--	22.39	12.82	23.41	12.50	--	--	--	--	--	--	--	--		
4/2/2001	23.40	13.41	--	--	23.40	12.83	--	--	22.07	13.14	23.33	12.58	--	--	--	--	--	--	--	--		
6/28/2001	23.58	13.23	--	--	23.17	13.06	--	--	22.15	13.06	23.15	12.76	--	--	--	--	--	--	--	--		
8/30/2001	24.00	12.81	--	--	23.35	12.88	--	--	22.35	12.86	23.35	12.56	--	--	--	--	--	--	--	--		
12/26/2001	24.18	12.63	--	--	23.54	12.69	--	--	22.49	12.72	23.27	12.64	--	--	--	--	--	--	--	--		
4/23/2002	NA	--	--	--	22.89	13.34	--	--	21.07	14.14	22.89	13.02	--	--	--	--	--	--	--	--		
6/14/2002	23.41	13.40	--	--	22.85	13.38	--	--	21.80	13.41	22.81	13.10	--	--	--	--	--	--	--	--		
8/20/2002	23.85	12.96	--	--	23.11	13.12	--	--	22.14	13.07	23.15	12.76	--	--	--	--	--	--	--	--		
12/27/2002	24.10	12.71	--	--	23.34	12.89	--	--	NA ¹	NA	23.41	12.50	--	--	--	--	--	--	--	--		
4/1/2003	23.75	13.06	--	--	22.90	13.33	--	--	NA ¹	NA	23.16	12.75	--	--	--	--	--	--	--	--		
7/1/2003	23.50	13.31	--	--	22.80	13.43	--	--	NA ¹	NA	22.75	13.16	--	--	--	--	--	--	--	--		
9/24/2003	23.82	12.99	--	--	23.15	13.08	--	--	22.21	13.00	23.16	12.75	--	--	--	--	--	--	--	--		
12/29/2003	24.07	12.74	--	--	23.45	12.78	--	--	22.56	12.65	23.47	12.44	--	--	--	--	--	--	--	--		
5/18/2004	23.64	13.17	--	--	22.98	13.25	--	--	21.85	13.36	22.87	13.04	--	--	--	--	--	--	--	--		
6/30/2004	23.64	13.17	--	--	23.04	13.19	--	--	22.00	13.21	22.43	13.48	--	--	--	--	--	--	--	--		
9/23/2004	23.98	12.83	--	--	23.32	12.91	--	--	22.36	12.85	23.30	12.61	--	--	--	--	--	--	--	--		
12/28/2004	24.07	12.74	--	--	28.71	7.52	--	--	22.42	12.79	23.42	12.49	--	--	--	--	--	--	--	--		
3/16/2005	23.80	13.01	--	--	23.70	12.53	--	--	22.11	13.10	23.60	12.31	--	--	--	--	--	--	--	--		
6/23/2005	22.90	13.91	--	--	22.40	13.83	--	--	21.20	14.01	22.27	13.64	--	--	--	--	--	--	--	--		
9/9/2005	23.27	13.54	--	--	22.63	13.60	--	--	21.68	13.53	22.55	13.36	--	--	--	--	--	--	--	--		
12/2/2005	23.75	13.06	--	--	23.06	13.17	--	--	22.19	13.02	23.05	12.86	--	--	--	--	--	--	--	--		
3/24/2006	23.05	13.76	--	--	22.57	13.66	--	--	21.01	14.20	22.50	13.41	--	--	--	--	--	--	--	--		
6/29/2006	22.56	14.25	--	--	23.91	12.32	--	--	20.78	14.43	21.85	14.06	--	--	--	--	--	--	--	--		
9/13/2006	23.00	13.81	--	--	22.35	13.88	--	--	21.35	13.86	22.31	13.60	--	--	--	--	--	--	--	--		
12/27/2006	23.47	13.34	--	--	22.82	13.41	--	--	21.82	13.39	22.85	13.06	--	--	--	--	--	--	--	--		
3/30/2007	23.51	13.30	--	--	22.91	13.32	--	--	21.70	13.51	22.88	13.03	--	--	--	--	--	--	--	--		
7/2/2007	23.39	13.42	--	--	22.88	13.35	--	--	21.81	13.40	22.75	13.16	--	--	--	--	--	--	--	--		
10/2/2007	23.87	12.94	--	--	23.20	13.03	--	--	22.22	12.99	23.17	12.74	--	--	--	--	--	--	--	--		
12/13/2007	24.05	12.76	--	--	23.40	12.83	--	--	22.31	12.90	23.37	12.54	--	--	--	--	--	--	--	--		
3/26/2008	23.56	13.25	--	--	23.00	13.23	--	--	21.77	13.44	22.97	12.94	--	--	--	--	--	--	--	--		
6/2/2008	23.70	13.11	--	--	23.08	13.15	--	--	22.04	13.17	23.07	12.84	--	--	--	--	--	--	--	--		
9/10/2008	24.07	12.74	--	--	23.55	12.68	--	--	22.52	12.69	23.49	12.42	--	--	--	--	--	--	--	--		
11/19/2008	24.33	12.48	--	--	23.68	12.55	--	--	22.63	12.58	23.64	12.27	--	--	--	--	--	--	--	--		
3/3/2009	24.31	12.50	--	--	23.78	12.45	--	--	22.51	12.70	22.51	13.40	--	--	--	--	--	--	--	--		
9/3/2009	24.16	12.65	--	--	23.55	12.68	--	--	22.36	12.85	23.49	12.42	--	--	--	--	--	--	--	--		
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	--	--	--	--	--					

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
7/24/2017	0.002	W

Notes:

¹ MACTEC reported an error in grou

Table 3
2017 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-Dichloroethane	Napthalene	Free Product
		(µg/L)								
ESLs ¹		50,000	1.1	3,600	13	1,300	1,200	6.1	20	--
MW-1	3/22/2017	12,000	2,000	350	190	120	<50	<50	--	--
	9/29/2017	12,300	3,070	256	362	167	<1	--	7	<0.04
MW-3	3/22/2017	1,200	46	6	20	4	<2.5	<2.5	--	--
	9/29/2017	1,610	87	<1	3	4	<1	--	<5	<0.04
MW-4	3/22/2017	2,900	290	55	61	53	<12	<12	--	--
	9/29/2017	2,920	162	20	45	27	<1	--	<5	<0.04
MW-5	3/22/2017	73,000	8,400	11,000	1,400	5,500	<500	<500	--	--
	9/29/2017	53,800	6,110	10,700	1,450	6,010	<1	--	417	<0.04
MW-6	3/22/2017	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
	9/29/2017	<100	<1.0	<1.0	<1.0	<3.0	<0.5	<0.5	--	<0.04
MW-7	3/31/2017	89,500	11,700	15,300	1,690	9,740	349 ³	--	--	--
	7/24/2017	46,800	7,030	5,570	1,310	5,070	<20	--	425	<0.04
MW-8	3/31/2017	153,000	24,800	32,700	1,790	9,790	665 ³	--	--	--
	7/24/2017	119,000	20,600	29,400	1,820	10,900	<50	--	471	<0.04
MW-9	3/31/2017	83,500	9,200	15,000	1,550	11,100	337 ³	--	--	--
	7/24/2017	59,300	8,080	8,990	1,480	7,290	<20	--	482	<0.04
MW-10	3/31/2017	123,000	18,100	28,700	1,600	8,290	453 ³	--	--	--
	7/24/2017	108,000	17,400	25,100	1,770	9,290	<50	--	555	<0.04

Notes:

- ¹: Environmental screening levels for shallow ground water vapor intrusion human health risk for residential and sand scenario (SFBay Feb 2016 Rev3)
 - ²: Gross Contamination Level 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.
- <: Concentration is below the reporting limit of the lab
 --: not applicable, not analyzed, or none
 Concentration is above selected screening criteria

**Table 4
GROUND WATER ANALYTICAL RESULTS (1988 to 2016)
1700 Jefferson Street, Oakland, California**

Well ID	Date Sampled	TPH as Gasoline ²	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dichloroethane	Free Product	Well ID	Date Sampled	TPH as Gasoline ²	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dichloroethane	Free Product
		(µg/L)										(inches)	(µg/L)						
MW-1	ESLs ¹	50,000	1.1	3,600	13	1,300	1,200	6.1	--	MW-1A	ESLs ¹	50,000	1.1	3,600	13	1,300	1,200	6.1	--
	7/8/1987	190,000	18,000	26,000	--	3,700	--	--	30		6/27/1995	53,000	11,000	9,900	500	6,300	NA	--	--
	9/12/1988	--	--	--	--	--	--	--	25		9/19/1995	52,000	8,900	11,000	790	5,300	NA	--	--
	7/12/1989	190,000	1,000	8,900	2,900	19,000	--	--	21.6		12/13/1995	62,000	9,900	9,200	710	6,800	NA	--	--
	8/1/1991	--	--	--	--	--	--	--	12		3/6/1996	200,000	14,000	22,000	2,700	22,000	NA	--	--
	6/18/1992	--	--	--	--	--	--	--	34		6/11/1996	140,000	18,000	28,000	2,800	19,000	NA	--	--
	7/2/1992	--	--	--	--	--	--	--	18		9/19/1996	100,000	16,000	22,000	2,100	14,000	NA	--	--
	7/23/1992	--	--	--	--	--	--	--	10		12/23/1996	FP	FP	FP	FP	FP	NA	--	--
	8/18/1992	--	--	--	--	--	--	--	10		3/27/1997	66,000	12,000	15,000	1,400	100	1,800	--	--
	11/11/1992	--	--	--	--	--	--	--	13		6/4/1997	54,000	11,000	12,000	1,000	7,200	<500	--	--
	1/29/1993	--	--	--	--	--	--	--	25.2		9/26/1997	73,000	10,000	16,000	1,400	8,500	<500	--	--
	2/12/1993	--	--	--	--	--	--	--	10.2		12/23/1997	66,000	10,000	16,000	1,400	12,000	1,900	--	--
	1/6/1994	--	--	--	--	--	--	--	14.8		3/31/1998	51,000	9,100	11,000	1,100	6,800	300	--	--
	3/17/1994	--	--	--	--	--	--	--	23.4		6/18/1998	50,000	11,000	15,000	870	5,800	<50	--	--
	4/13/1994	--	--	--	--	--	--	--	12		8/28/1998	15,000	1,100	830	31	3,000	<50	--	--
	6/29/1994	--	--	--	--	--	--	--	0		12/2/1998	41,000	8,500	11,000	720	6,700	<50	--	--
	12/8/1994	--	--	--	--	--	--	--	FP		3/10/1999	10,000	2,300	1,900	1,600	2,300	<50	--	--
	4/3/1995	--	--	--	--	--	--	--	FP		6/30/1999	18,000	6,400	7,800	660	4,100	<25	--	--
	6/27/1995	--	--	--	--	--	--	--	FP		7/8/1987	8,200	1,500	340	--	87	--	--	--
	9/19/1995	--	--	--	--	--	--	--	FP		11/9/1987	WELL DESTROYED							
	12/13/1995	--	--	--	--	--	--	--	FP		7/8/1987	6,200	180	500	--	170	--	--	0
	3/6/1996	--	--	--	--	--	--	--	FP		7/12/1989	13,000	4	160	210	420	--	--	0
	6/11/1996	--	--	--	--	--	--	--	FP		8/1/1991	74,000	1,600	4,600	670	4,300	--	--	4
	9/19/1996	--	--	--	--	--	--	--	FP		9/30/1992	--	--	--	--	--	--	--	4.1
	12/23/1996	--	--	--	--	--	--	--	FP		11/11/1992	--	--	--	--	--	--	--	2
	3/27/1997	--	--	--	--	--	--	--	FP		1/29/1993	--	--	--	--	--	--	--	1.7
	6/4/1997	68,000	2,200	4,500	1,500	11,000	<500	--	--		2/12/1993	--	--	--	--	--	--	--	1.3
	9/26/1997	59,000	6,000	3,000	1,600	8,600	<500	--	--		1/6/1994	--	--	--	--	--	--	--	2.2
	12/23/1997	41,000	6,800	3,000	1,400	6,600	300	--	--		3/17/1994	--	--	--	--	--	--	--	2.4
	3/31/1998	44,000	8,300	3,700	1,100	4,300	420	--	--		4/13/1994	--	--	--	--	--	--	--	1.8
	6/18/1998	32,000	1,100	3,800	550	3,000	<50	--	--		6/29/1994	39,000	3,200	2,900	580	4,300	--	--	0.5
	8/28/1998	26,000	8,600	2,300	730	2,100	<50	--	--		12/8/1994	4,600,000	1,500	4,200	6,000	95,000	--	--	--
	12/2/1998	26,000	9,200	4,300	820	2,800	<50	--	--		4/3/1995	51,000	1,100	2,300	580	4,800	--	--	--
	3/10/1999	26,000	8,200	5,900	870	3,500	<50	--	--		6/27/1995	20,000	270	550	190	1,700	--	--	--
	6/30/1999	18,000	7,000	5,800	950	2,500	<25	--	--		9/19/1995	6,200	70	140	68	500	--	--	--
	9/29/1999	21,000	9,200	10,000	1,200	5,500	<250	--	--		12/13/1995	19,000	220	480	140	1,700	--	--	--
	9/29/1999	14,000	6,200	5,900	620	3,500	<250	--	--		3/6/1996	7,000	120	170	49	440	--	--	--
	11/22/1999	24,000	4,900	5,000	730	3,500	<100	--	--		6/11/1996	16,000	170	270	68	1,500	--	--	--
	2/11/2000	19,000	4,100	4,800	530	2,800	7	--	--		9/19/1996	6,000	45	30	15	300	--	--	--
	5/30/2000	19,000	5,700	8,400	730	3,500	<5.0	--	--		6/4/1997	85,000	8,500	13,000	2,400	16,000	<500	--	--
	9/15/2000	20,000	4,100	5,700	540	2,700	<12	--	--		9/26/1997	47,000	610	6,000	930	5,900	<100	--	--
	11/16/2000	18,000	3,500	4,300	640	3,200	<40	--	--		12/23/1997	32,000	640	5,300	800	5,900	<300	--	--
	4/2/2001	19,000	4,700	5,200	570	2,600	50	--	--		3/31/1998	32,000	690	3,800	870	5,200	350	--	--
	6/28/2001	39,000	5,200	4,200	660	3,900	9	--	--		6/18/1998	16,000	180	1,500	490	3,700	<25	--	--
	8/30/2001	31,000	5,600	5,100	560	2,500	<100	--	--		8/28/1998	17,000	84	1,100	430	3,800	<50	--	--
12/26/2001	34,000	5,300	5,200	630	2,400	<120	--	--	12/2/1998	3,200	39	85	25	360	<50	--	--		
4/24/2002	35,000	4,900	6,000	740	3,100	<120	--	--	3/10/1999	9,600	86	540	250	2,300	<25	--	--		
6/14/2002	35,000	5,400	6,800	870	3,500	<250	--	--	6/30/1999	7,900	31	330	200	1,800	<25	--	--		
8/20/2002	26,000	4,100	4,700	620	2,700	<120	--	--	9/29/1999	5,000	120	340	230	1,300	10	--	--		
12/27/2002	28,000	4,500	5,000	660	3,000	<120	--	--	9/29/1999	4,100	180	340	130	580	14	--	--		
4/1/2003	16,000	4,500	6,000	680	3,100	<120	--	--	11/22/1999	3,100	7	33	27	260	<1.0	--	--		
7/1/2003	61,000	7,700	11,000	1,200	6,700	<250	--	--	2/11/2000	540	8	20	2	28	31	--	--		
9/25/2003	59,000	7,600	9,400	1,000	4,800	<1,200	--	--	5/30/2000	490	11	6	0	17	<5.0	--	--		
12/29/2003	46,000	6,600	7,900	960	4,000	<250	--	--	9/15/2000	1,500	28	14	3	160	<5.0	--	--		
5/18/2004	23,000	4,100	4,700	450	1,500	<50	--	--	11/16/2000	1,300	20	34	25	28	<5.0	--	--		
6/30/2004	24,000	3,500	3,600	390	1,300	<50	--	--	4/2/2001	170	9	6	1	8	77	--	--		
9/23/2004	24,000	3,800	3,900	470	1,400	<25	--	--	6/28/2001	4,900	150	240	38	160	<2	--	--		
12/28/2004	22,000	3,400	3,400	380	1,400	<250	--	--	8/30/2001	3,100	42	48	26	210	<1.2	--	--		
3/16/2005	21,000	4,100	4,200	470	1,300	<50	--	--	12/26/2001	950	8	5	1	7	<0.5	--	--		
6/23/2005	30,000	5,400	5,500	520	1,900	<1,200	--	--	4/24/2002	300	11	5	1	1	<0.5	--	--		
9/9/2005	7,100	840	950	120	410	<120	--	--	6/14/2002	4,600	130	470	91	390	<0.5	--	--		
12/2/2005	19,000	3,600	3,500	410	1,300	<2.5	--	--	8/20/2002	4,900	330	170	40	150	<5.0	--	--		
3/24/2006	29,000	6,200	6,000	620	2,000	<500	--	--	12/27/2002	4,000	110	280	57	260	19	--	--		
6/29/2006	23,000	4,800	4,000	330	1,200	<500	--	--	4/1/2003	5,900	370	150	44	230	<1.0	--	--		
9/13/2006	20,000	4,500	3,900	400	1,400	<250	--	--	7/1/2003	12,000	200	460	130	390	<5.0	--	--		
12/27/2006	31,000	6,000	5,300	710	2,500	<500	--	--	9/25/2003	10,000	150	300	120	280	<2.5	--	--		
3/30/2007	30,000	5,000	4,600	520	1,700	<500	--	--	12/29/2003	7,300	160	250	79	210	<2.5	--	--		
7/2/2007	14,000	2,500	2,000	280	930	<500	--	--	5/18/2004	1,500	77	72	19	59	<12	--	--		
10/2/2007	19,000	3,400	2,700	400	1,200	<500	--	--	6/30/2004	2,000	81	37	34	40	<1.0	--	--		
12/13/2007	18,000	3,500	2,700	390	1,100	<500													

Table 4
GROUND WATER ANALYTICAL RESULTS (1988 to 2016)
1700 Jefferson Street, Oakland, California

Well ID	Date Sampled	TPH as Gasoline ²	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dichloroethane	Free Product	Well ID	Date Sampled	TPH as Gasoline ²	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	1,2-Dichloroethane	Free Product
		(µg/L)										(inches)	(µg/L)						
	ESLs ¹	50,000	1.1	3,600	13	1,300	1,200	6.1	--		ESLs ¹	50,000	1.1	3,600	13	1,300	1,200	6.1	--
MW-3	3/30/2016	1,200	99	<5	14	<5	<5	<5	--		9/13/2006	5,800	1,600	210	180	270	<120	--	--
MW-4	9/12/1988	--	--	--	--	--	--	--	5.9		12/27/2006	16,000	4,300	610	460	750	<500	--	--
	7/12/1989	93,000	460	4,200	1,200	9,700	NA	--	25.2		3/30/2007	31,000	10,000	1,400	1,100	1,600	<500	--	--
	8/1/1991	86,000	1,500	6,200	1,000	FP	NA	--	18		7/2/2007	33,000	9,400	1,400	1,000	1,500	<500	--	--
	9/30/1992	FP	FP	FP	FP	FP	NA	--	FP		10/2/2007	36,000	11,000	2,100	1,100	1,700	<620	--	--
	2/12/1993	FP	FP	FP	FP	FP	NA	--	8.8		12/13/2007	34,000	11,000	2,600	1,200	1,900	<1,200	--	--
	1/6/1994	FP	FP	FP	FP	3,200	NA	--	6.2		3/26/2008	28,000	7,700	1,900	860	1,300	<1,200	--	--
	4/13/1994	58,000	1,500	2,500	520	7,300	NA	--	--		6/2/2008	43,000	13,000	3,800	1,400	2,400	<1,200	--	--
	6/29/1994	16,000	1,300	790	51	3,400	NA	--	--		9/10/2008	45,000	13,000	3,700	1,200	2,200	<1,200	--	--
	12/8/1994	92,000	1,700	4,100	310	5,400	NA	--	--		11/19/2008	46,000	14,000	3,900	3,900	2,700	<1,200	--	--
	4/3/1995	35,000	1,200	3,400	280	5,800	NA	--	--		3/3/2009	43,400	11,700	3,560	1,290	2,200	<250	--	--
	6/27/1995	13,000	1,300	1,600	77	1,800	NA	--	--		9/3/2009	35,900	8,800	1,240	1,720	2,420	<100	--	--
	9/19/1995	14,000	630	470	14	1,800	NA	--	--		3/3/2010	27,200	6,820	279	1,870	2,050	<100	--	--
	12/13/1995	11,000	2,200	2,100	110	2,100	NA	--	--		9/8/2010	22,000	6,000	250	1,700	1,900	<50	--	--
	3/6/1996	110,000	2,600	3,600	780	10,000	NA	--	--		3/16/2011	31,000	6,400	500	1,900	2,600	<50	--	--
	6/11/1996	260,000	6,600	19,000	3,700	28,000	NA	--	--		9/9/2011	30,000	9,400	1,600	1,800	2,500	<50	--	--
	9/19/1996	95,000	9,900	19,000	2,000	13,000	NA	--	--		4/12/2012	44,000	13,000	5,000	1,700	2,900	<50	--	--
	12/23/1996	FP	FP	FP	FP	FP	NA	--	FP		10/10/2012	47,000	14,000	6,700	1,900	3,400	<50	--	--
	3/27/1997	37,000	2,600	6,900	540	5,500	1,400	--	--		3/25/2013	45,000	14,000	8,200	1,800	3,600	<50	--	--
	6/4/1997	24,000	2,600	3,200	140	3,500	<300	--	--		9/12/2013	50,000	13,000	10,000	2,000	5,300	<50	--	--
	9/26/1997	41,000	2,900	5,000	350	4,800	<500	--	--		4/24/2014	58,000	11,000	12,000	2,000	6,300	<250	--	--
	12/23/1997	48,000	6,000	11,000	580	8,200	270	--	--		9/23/2014	75,000	5,800	7,000	1,200	3,900	<250	95	--
	6/18/1998	25,000	2,000	460	<15	6,400	<50	--	--		2/18/2015	57,000	8,700	12,000	1,800	6,500	<250	--	--
	8/28/1998	48,000	9,700	11,000	890	5,000	<50	--	--		3/30/2016	69,000	7,500	11,000	1,100	3,700	<250	<250	--
	12/2/1998	10,000	1,700	610	<15	2,300	<50	--	--		6/11/1996	<50	<0.5	<0.5	<0.5	<2	--	--	--
	3/10/1999	11,000	2,300	2,100	88	1,600	<25	--	--		9/19/1996	<50	<0.5	<0.5	<0.5	<2	--	--	--
	6/30/1999	88,000	1,800	3,000	150	2,700	<25	--	--		12/23/1996	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	4/12/2012	2,700	380	160	100	100	<0.5	--	--		3/27/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	10/10/2012	4,200	400	200	150	130	<0.5	--	--		6/4/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	3/25/2013	2,900	360	16	120	29	<0.5	--	--		9/26/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	9/12/2013	12,000	230	7	130	59	<0.5	--	--		12/23/1997	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	4/24/2014	4,900	200	10	97	49	<0.5	--	--		3/31/1998	<50	<0.5	<0.5	<0.5	<2	<5	--	--
	9/23/2014	2,800	120	5	81	18	<0.5	2	--		6/18/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
	2/18/2015	1,700	190	24	77	32	<0.5	--	--		8/28/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--
3/30/2016	3,400	300	73	47	83	<10	<10	--		12/2/1998	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
9/12/1988	--	--	--	--	--	--	--	0.5		3/10/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
7/12/1989	14,000	7	190	210	500	--	--	0.4		6/30/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
8/1/1991	120,000	20,000	14,000	1,900	4,900	--	--	0		9/29/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
9/30/1992	51,000	13,000	5,900	1,400	2,600	--	--	0		9/29/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
3/30/1993	74,000	16,000	5,000	1,800	2,700	--	--	0.06		11/22/1999	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
1/6/1994	80,000	19,000	8,200	1,400	2,700	--	--	0		2/11/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
4/13/1994	63,000	14,000	3,500	1,500	2,100	--	--	0		5/30/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
6/29/1994	64,000	29,000	5,400	2,800	4,500	--	--	0		9/15/2000	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	
12/8/1994	59,000	13,000	3,800	1,800	2,900	--	--	--		11/16/2000	<50	<0.3	<0.3	<0.3	<0.3	<1.0	--	--	
4/3/1995	51,000	15,000	2,200	2,800	4,500	--	--	--		4/2/2001	<50	<0.3	<0.3	<0.3	2.7	5	--	--	
6/27/1995	41,000	12,000	2,100	1,400	1,600	--	--	--		6/28/2001	<50	<0.5	<0.5	<0.3	<0.5	17	--	--	
9/19/1995	50,000	1,600	2,700	2,000	2,100	--	--	--		8/30/2001	<50	<0.5	<0.5	<0.3	8.7	<2.5	--	--	
12/13/1995	45,000	13,000	2,100	16,000	1,900	--	--	--		12/26/2001	66	3.6	3.6	3.6	<0.5	<2.5	--	--	
3/6/1996	51,000	15,000	2,800	2,000	2,400	--	--	--		4/24/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/11/1996	48,000	12,000	2,900	2,000	2,700	--	--	--		6/14/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
9/19/1996	48,000	12,000	4,500	2,300	4,000	--	--	--		8/20/2002	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
12/23/1996	45,000	12,000	2,200	2,700	6,500	600	--	--		12/27/2002	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--	
3/27/1997	44,000	11,000	1,100	1,900	2,800	300	--	--		4/1/2003	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--	
6/4/1997	35,000	8,900	560	1,500	1,700	<100	--	--		7/1/2003	<50	<0.5	<0.05	<0.5	<2.5	<2.5	--	--	
9/26/1997	36,000	7,900	270	1,500	1,300	<500	--	--		9/25/2003	<50	<0.5	<0.05	<0.5	<2.5	<2.5	--	--	
12/23/1997	39,000	13,000	500	1,900	1,700	<1,000	--	--		12/29/2003	<50	<0.5	<0.05	<0.5	<0.5	<2.5	--	--	
3/31/1998	48,000	10,000	400	2,000	2,200	350	--	--		5/18/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/18/1998	17,000	9,500	310	420	850	<10	--	--		6/30/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
8/28/1998	16,000	5,400	160	1,100	900	<50	--	--		9/23/2004	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
12/2/1998	15,000	8,400	120	1,500	840	<50	--	--		12/28/2004	59	<0.5	<0.5	<0.5	2	<2.5	--	--	
3/10/1999	23,000	14,000	300	1,800	1,100	<50	--	--		3/16/2005	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/30/1999	7,700	5,200	270	1,100	690	<25	--	--		6/23/2									

CHARTS

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

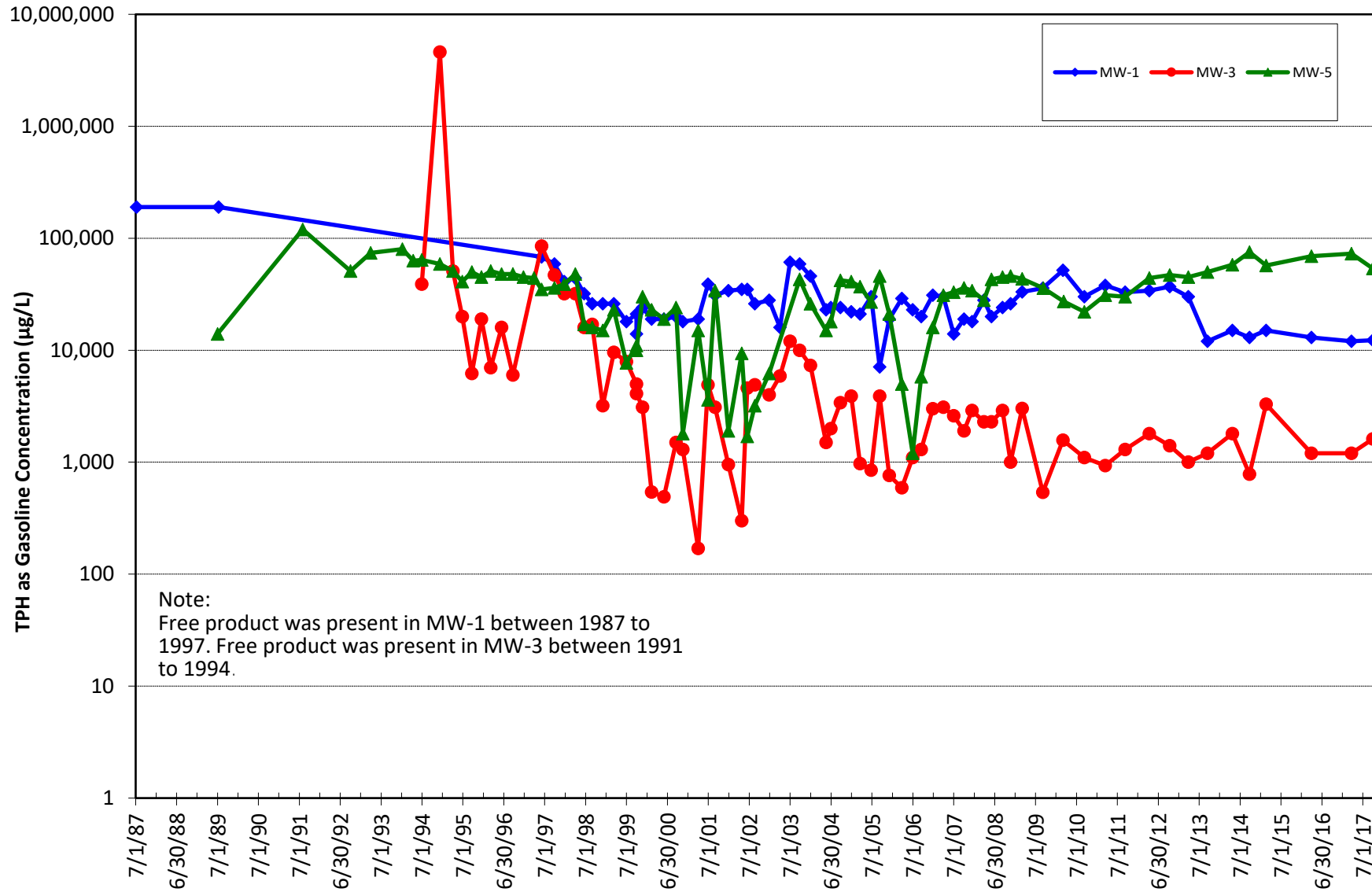
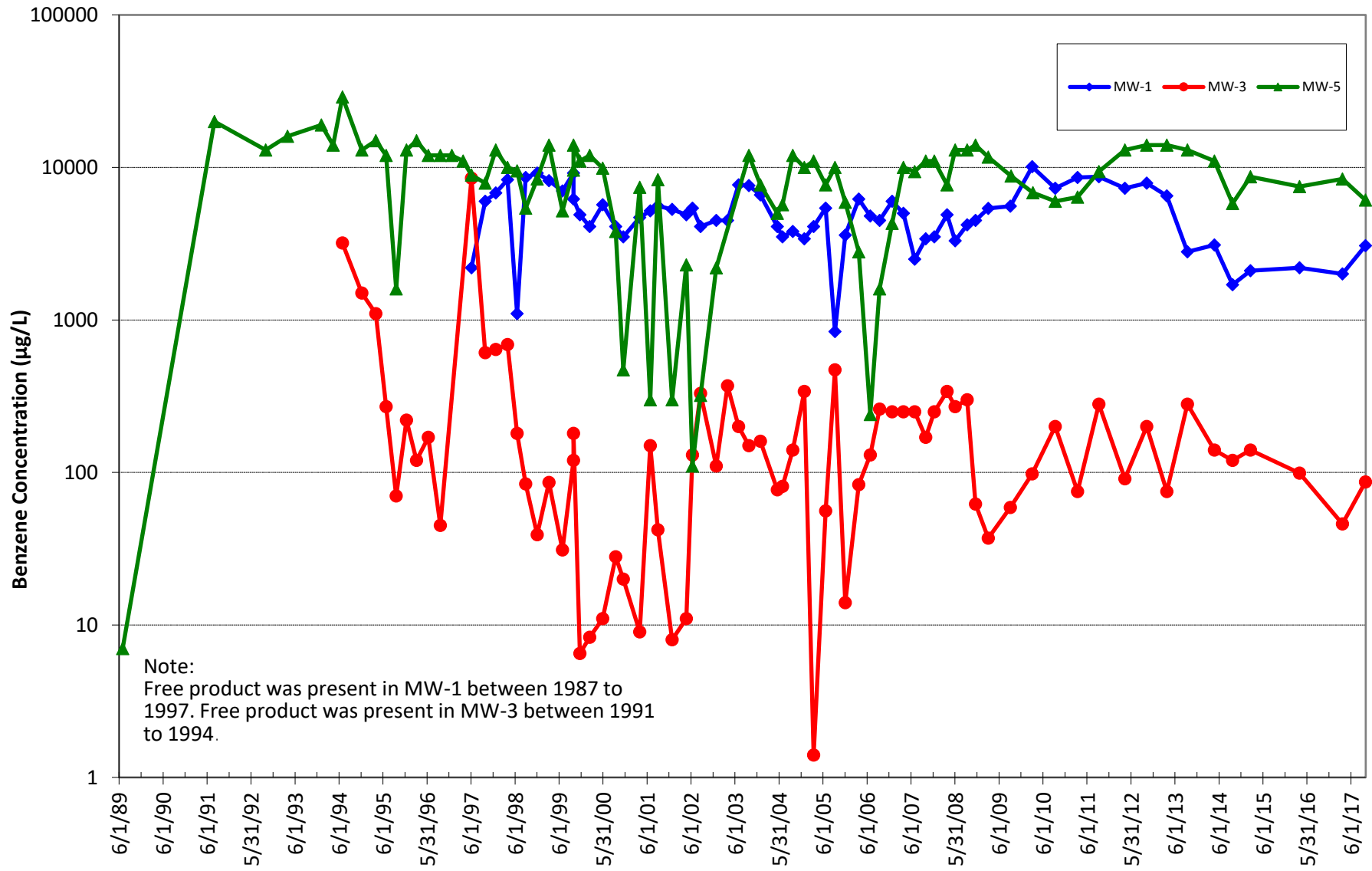


CHART 2
Concentrations of Benzene vs. Time in MW-1, MW-3, and MW-5
1700 Jefferson, Oakland, California



FIGURES



Figure 1
Site Location Map
 1700 Jefferson Street, Oakland, CA

 1700 Jefferson Street



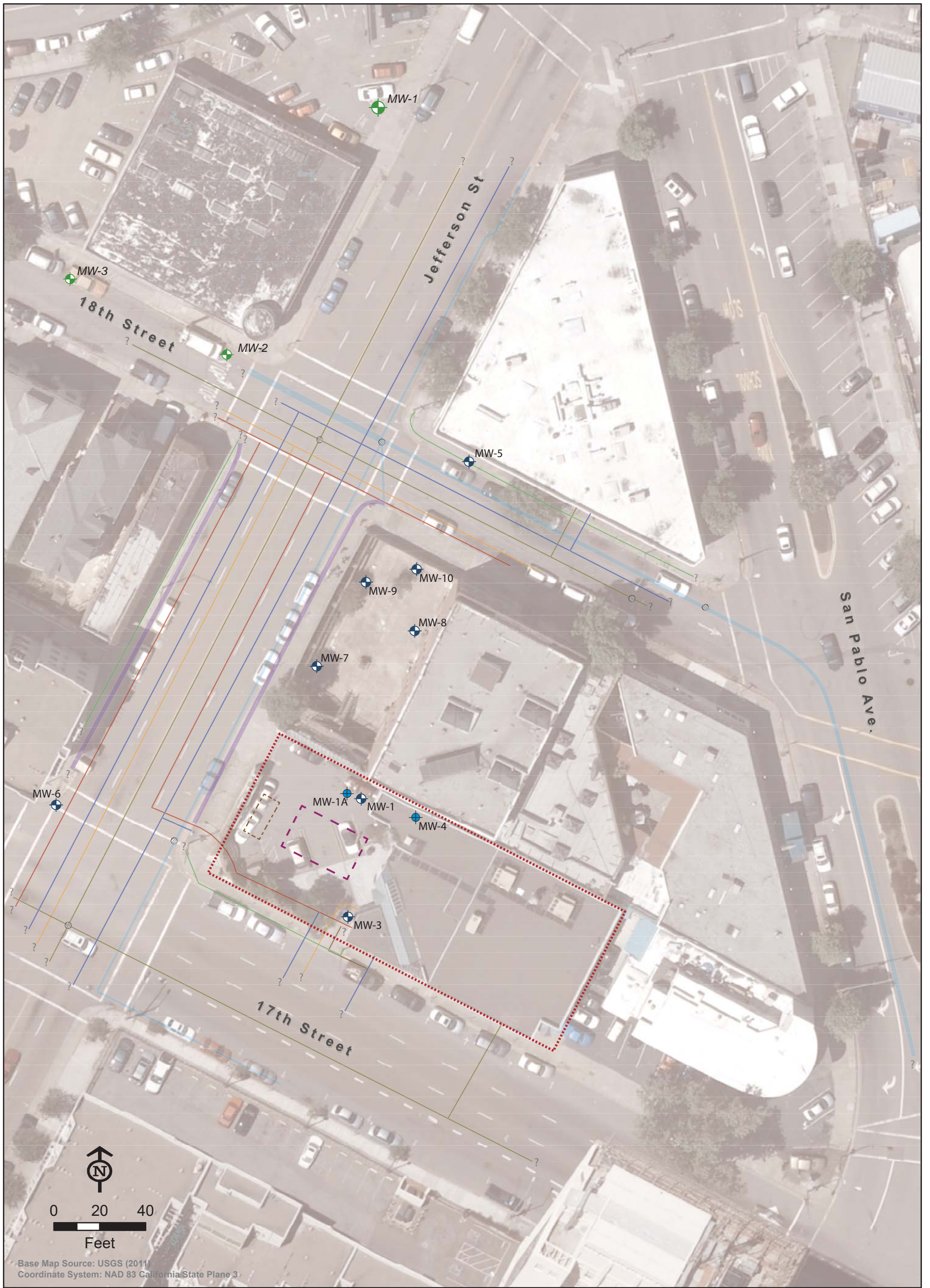


Figure 2

Site Map

1700 Jefferson Street, Oakland, CA



- 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)

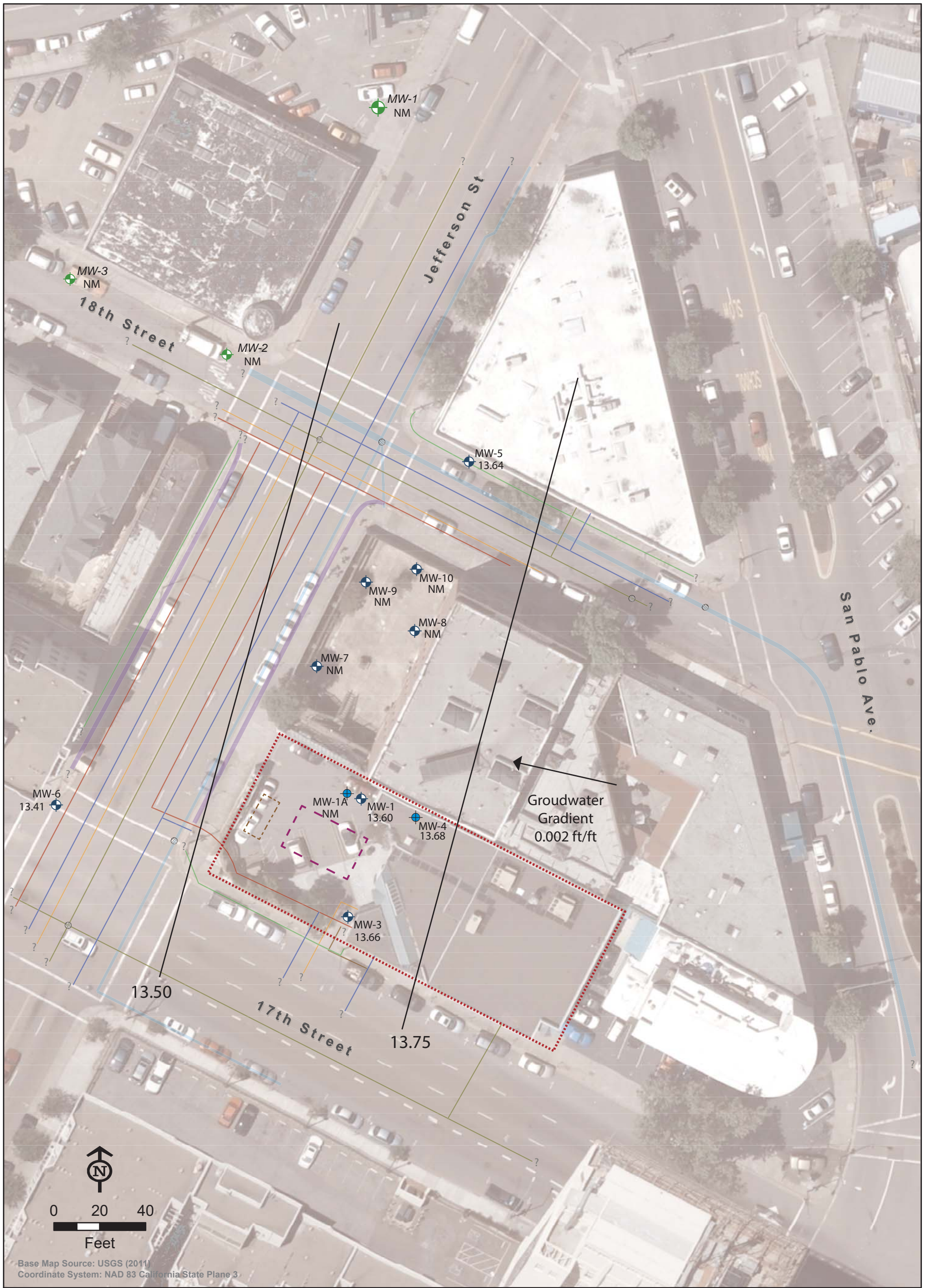











Figure 3
Ground Water Gradient
 July 2017
 1700 Jefferson Street, Oakland, CA



-  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)

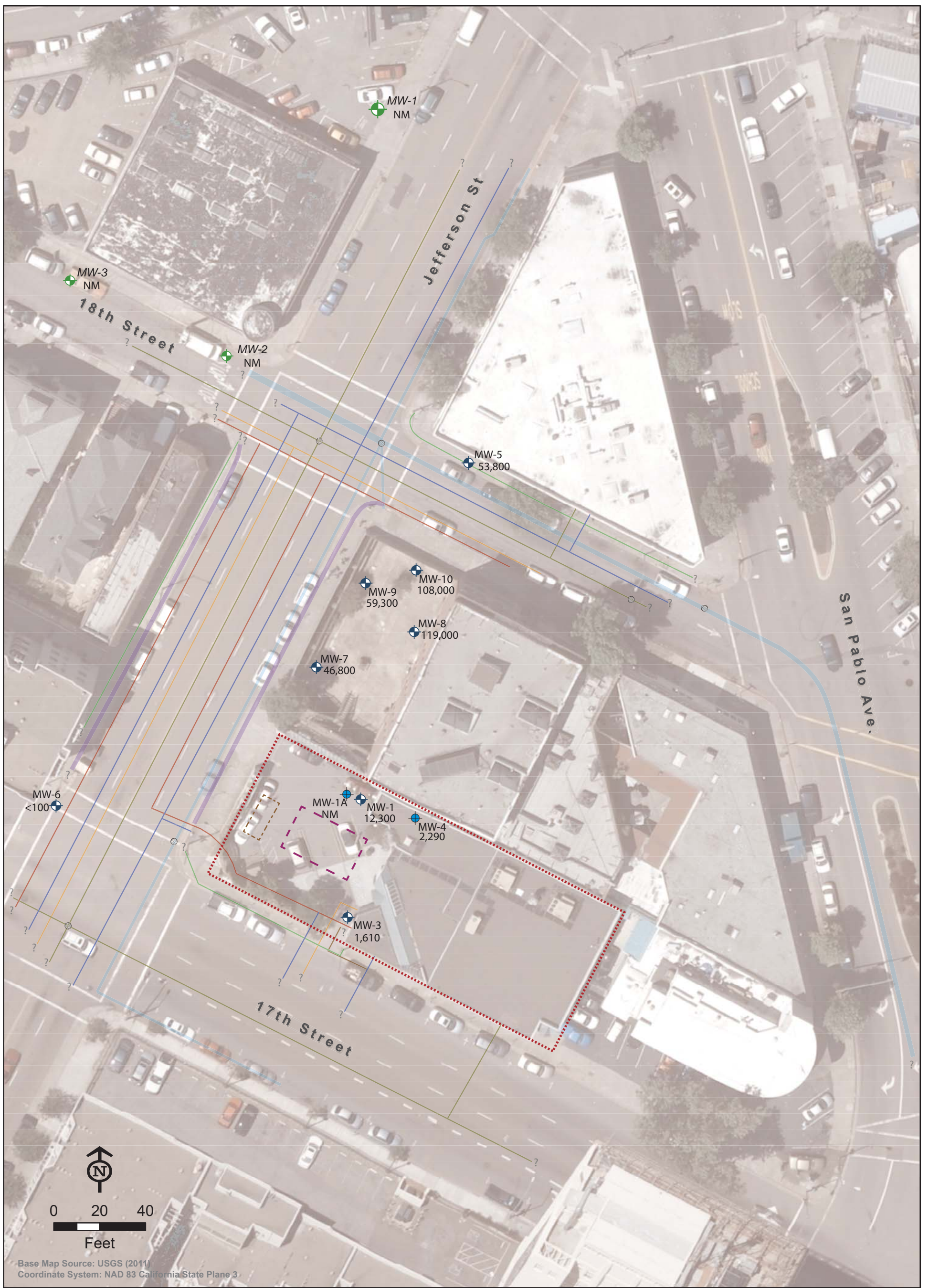


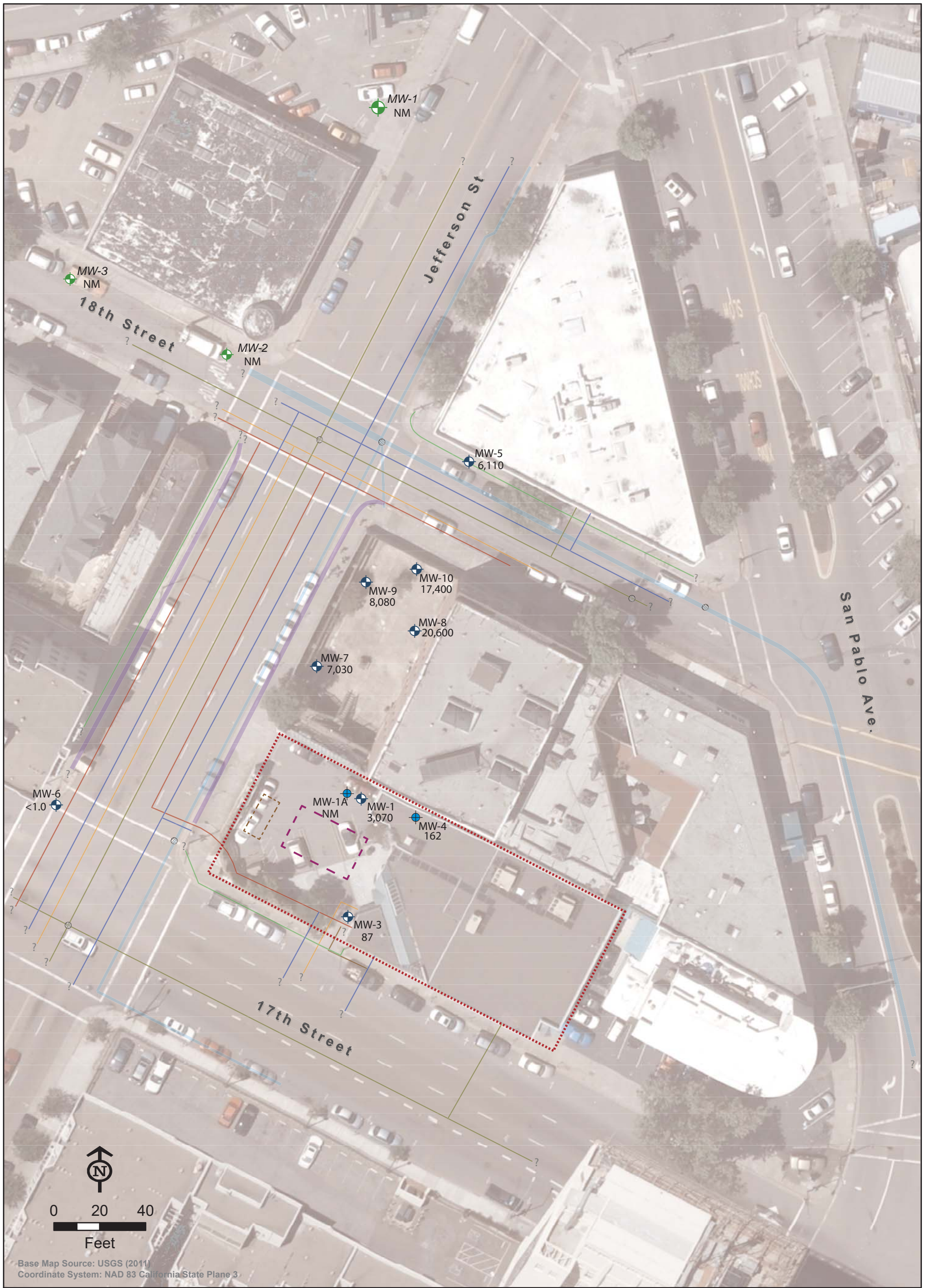
Figure 4
TPHg Concentrations
 July and September 2017
 1700 Jefferson Street, Oakland, CA



- Monitor Well (Wells MW-1 through 6 were sampled 09/2017, and wells MW-7 through 10 were sampled 07/2017)
- Extraction Well
- Monitor Well - 612 18th St
- $\geq 2,000$ TPHg Concentration ($\mu\text{g/L}$)

- 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)



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

Figure 5
Benzene Concentrations
 July and August 2017
 1700 Jefferson Street, Oakland, CA



- Monitor Well (Wells MW-1 through 6 were sampled 09/2017, and wells MW-7 through 10 were sampled 07/2017)
- Extraction Well
- Monitor Well - 612 18th St
- Benzene Concentration ($\mu\text{g/L}$)
- 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)

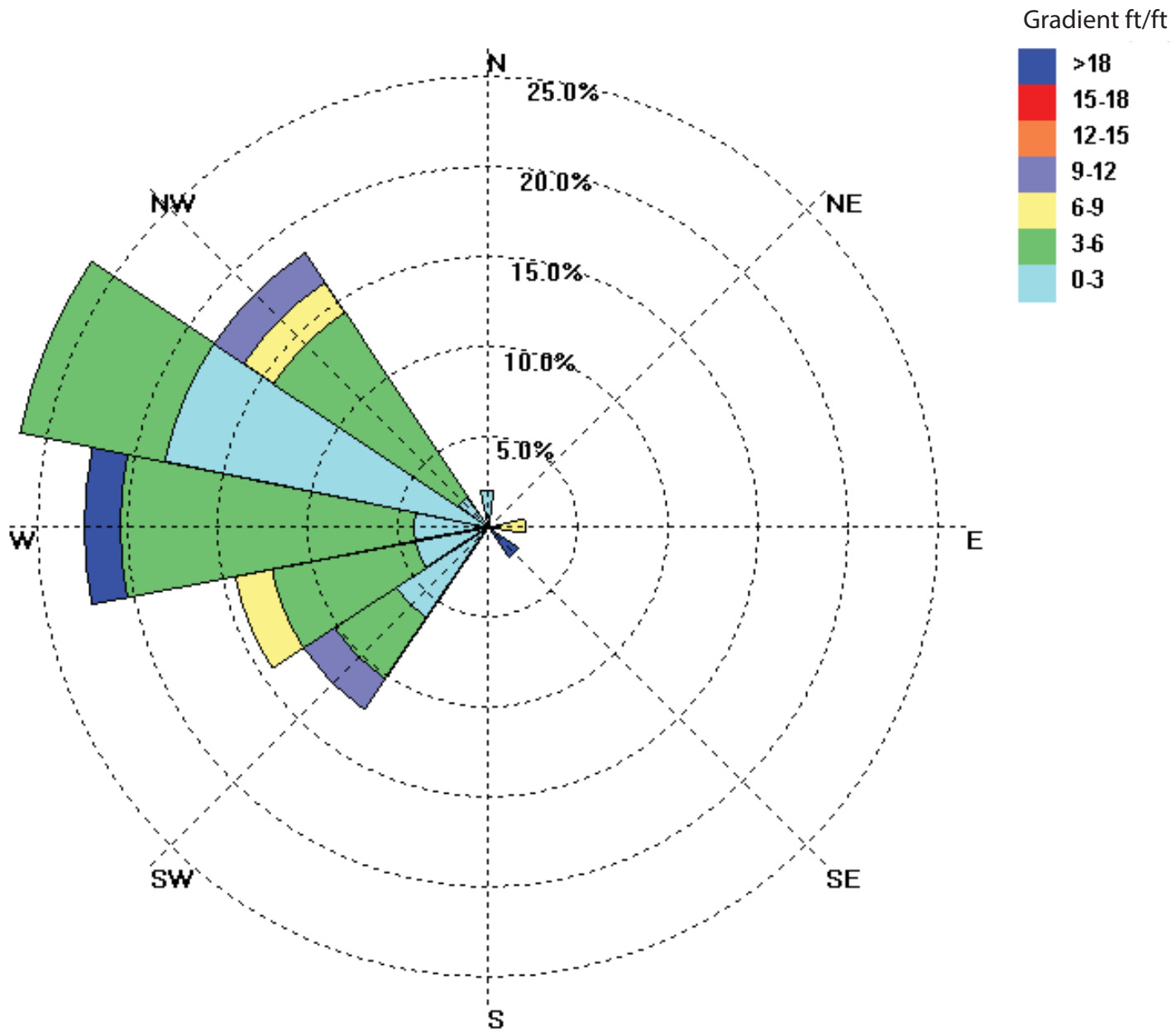


Figure - 5

Ground Water Gradient Rose Diagram

1700 Jefferson St, Oakland, CA



APPENDIX A: MONITOR WELL WORKSHEETS

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-7
Location: 581 18th Street	Initial Depth to Water (DTW): 9.37
Client: ARC	Total Well Depth (TD): 12.93
Sampler: CTC	Well Diameter: 3/4"
Date: 7/24/17	Purge Rate (no more than 500mL/min): 160mL/min
Purge and Sample Method: Low-Flow with Peri Pump	Sampling Rate (no more than 500mL/min or Purge Rate): same ↑

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1401	6.66	812	0.62	19.29	-86.8	9.85	10.48	
1404	6.68	846	0.40	19.32	-104.2	9.87	.96	
1407	6.68	860	0.36	19.35	-109.7	9.87	1.44	
1410	6.68	866	0.37	19.36	-113.4	9.86	1.92	
1413	6.69	876	0.36	19.21	-116.5	9.88	2.40	

Did Well Dewater?	N	Start Purge Time:	1359	DTW prior to sample:	9.88
Total Liters Purged:	2.40 L	Stop Purge Time:	1413	Start Sample Time:	1415
Total Sample Volume:	.24 L	Odor:	Y-GAS	Sheen:	N
Instrument ID(s):	AWR	Last Calibrated:			7/24/17

Notes:

Stability Parameters				
pH	SC	DO	Temp	ORP
± 0.1 units	3%	10% or ± 0.3mg/l, whichever is >	3%	±10mV

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-8
Location: 581 18th Street	Initial Depth to Water (DTW): 9.35
Client: ARC	Total Well Depth (TD): 12.91
Sampler: CTC	Well Diameter: 3/4"
Date: 7/24/17	Purge Rate (no more than 500mL/min): ~200mL/min
Purge and Sample Method: Low-Flow with Peri Pum	Sampling Rate (no more than 500mL/min or Purge Rate): Same↑

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1308	6.77	1003	0.49	19.88	-7.8	9.94	0.6	
1311	6.76	1002	0.40	19.75	-22.0	9.95	1.2	
1314	6.76	1008	0.39	19.76	-26.8	9.96	1.8	
1317	6.76	1005	0.39	19.79	-32.4	9.96	2.4	
1320	6.76	1005	0.38	19.80	-34.1	9.97	2.0	

Did Well Dewater?	N	Start Purge Time:	1305	DTW prior to sample:	9.97
Total Liters Purged:	3.0 L	Stop Purge Time:	1320	Start Sample Time:	1325
Total Sample Volume:	.24 L	Odor:	Y-GAS	Sheen:	N
Instrument ID(s):	AWR	Last Calibrated:			7/24/17

Notes:

Stability Parameters				
pH	SC	DO	Temp	ORP
± 0.1 units	3%	10% or ± 0.3mg/l, whichever is >	3%	±10mV

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-9
Location: 581 18th Street	Initial Depth to Water (DTW): 9.10
Client: ARC	Total Well Depth (TD): 12.91
Sampler: CTC	Well Diameter: 3/4"
Date: 7/24/17	Purge Rate (no more than 500mL/min): 250mL/min
Purge and Sample Method: Low-Flow with Peri Pump	Sampling Rate (no more than 500mL/min or Purge Rate): same ↑

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhos/cm	mg/l	°C	mV	feet bgs	liters	
1435	6.59	560	0.79	20.47	-52.7	9.11	0.75	
1438	6.59	539	0.43	19.64	-64.4	9.50	1.5	
1441	6.61	570	0.39	19.62	-69.4	9.51	2.25	
1444	6.62	570	0.39	19.53	-72.2	9.52	3.0	
1447	6.62	584	0.39	19.55	-73.5	9.53	3.75	

Did Well Dewater?	N	Start Purge Time:	1432	DTW prior to sample:	9.53
Total Liters Purged:	3.75	Stop Purge Time:	1447	Start Sample Time:	1450
Total Sample Volume:	.24	Odor:	Y-GAS	Sheen:	N
Instrument ID(s):	AWR			Last Calibrated:	7/24/17

Notes:

Stability Parameters				
pH	SC	DO	Temp	ORP
± 0.1 units	3%	10% or ± 0.3mg/l, whichever is >	3%	±10mV

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-10
Location: 581 18th Street	Initial Depth to Water (DTW): 9.11
Client: ARC	Total Well Depth (TD): 12.40
Sampler: CTC	Well Diameter: 3/4"
Date: 7/24/17	Purge Rate (no more than 500mL/min): ~150 mL/min
Purge and Sample Method: Low-Flow with Peri Pum	Sampling Rate (no more than 500mL/min or Purge Rate): SAME ↑

Time	pH	SC	DO	Temp	ORP	DTW	Volume	Observations
	SU	µmhoms/cm	mg/l	°C	mV	feet bgs	liters	
1232	6.61	673	0.37	20.94	-21.2	14 9.43	45 cc	.45L purged
1235	6.66	665	0.37	20.97	-25.9	9.46	.30 cc	.90L
1238	6.67	659	0.38	20.82	-25.7	9.50	45 cc	1.35L

Did Well Dewater?	N	Start Purge Time:	1229	DTW prior to sample:	9.50
Total Liters Purged:	1.35L	Stop Purge Time:	1240	Start Sample Time:	1245
Total Sample Volume:	.24L	Odor:	Y-GAS	Sheen:	N
Instrument ID(s):	AWR	Last Calibrated:			7/24/17

Notes:

Stability Parameters				
pH	SC	DO	Temp	ORP
± 0.1 units	3%	10% or ± 0.3mg/l, whichever is >	3%	±10mV

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-1
Location: 1700 JEFFERSON ST	Initial Depth to Water (DTW): 23.69
Client: ARC	Total Well Depth (TD): 33.09
Sampler: CTC	Well Diameter: 4"
Date: 9/29/17	1 Casing Volume: —
Purge Method: LF	Purge Rate: n/50 mL/min
Sample Method: LF	Sampling Rate: ↑ SAME
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	
1135	6.90	1329	0.22	19.21	-246.2	23.77	.45	
1138	6.90	1325	0.21	19.25	-259.5	23.78	.9	
1141	6.90	1325	0.21	19.26	-260.8	23.78	1.35	
1144	6.90	1325	0.21	19.28	-264.1	23.78	1.8	

Did Well Dewater?	N	Start Purge Time:	1132	DTW prior to sample:	23.78
Total Liters Purged:	1.8	Stop Purge Time:	1144	Start Sample Time:	1145
Total Sample Volume:	0.24	Odor:	Y	Seen:	N
Instrument ID(s):	HANNA			Last Calibrated:	9/29/17

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-3
Location: 1700 JEFFERSON ST	Initial Depth to Water (DTW): 23.05
Client: ARC	Total Well Depth (TD): 32.15
Sampler: CTC	Well Diameter: 4"
Date: 9/29/17	1 Gasing Volume: —
Purge Method: LF	Purge Rate: ~150 mL/min
Sample Method: LF	Sampling Rate: ~150 mL/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	µmhos/cm	mg/l	°C	mV	feet bgs	liters	
1038	6.71	706	0.21	20.20	-182.7	23.11	.45	
1041	6.71	704	0.20	20.26	-187.6	23.10	.9	
1044	6.71	701	0.20	20.29	-193.2	23.10	1.35	

Did Well Dewater?	N	Start Purge Time:	1035	DTW prior to sample: 104 23.10
Total Liters Purged:	1.35	Stop Purge Time:	1044	Start Sample Time: 1047
Total Sample Volume:	0.24L	Odor:	SLIGHT	Sheen: SLIGHT
Instrument ID(s):	HANNA			Last Calibrated: 9/29/17

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-4
Location: 1700 JEFFERSON	Initial Depth to Water (DTW): 23.57
Client: ARC	Total Well Depth (TD): 34.17
Sampler: CTC	Well Diameter: 4"
Date: 9/29/17	1 Casing Volume: —
Purge Method: LF	Purge Rate: ~200 mL/min
Sample Method: LF	Sampling Rate: ~200 mL/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	
1103	6.79	1517	0.21	19.35	-249.0	23.60	0.6	
1106	6.76	1495	0.21	19.34	-250.7	23.60	1.2	
1109	6.76	1490	0.21	19.34	-259.9	23.60	1.8	
1112	6.76	1488	0.21	19.34	-263.3	23.60	2.4	

Did Well Dewater?	N	Start Purge Time:	1100	DTW prior to sample:	23.60
Total Liters Purged:	2.4	Stop Purge Time:	1112	Start Sample Time:	1115
Total Sample Volume:	0.24L	Odor:	N	Seen:	N
Instrument ID(s):	HANNA			Last Calibrated:	9/29/17

Notes: FIRST ~.25L VERY DARK, NOT VERY LITTLE SEDIMENT

Monitor Well Data Sheet

Site Name: 1700 JEFFERSON	Well/Sample ID: MW-5 ^{cc} MW-5
Location: 1700 JEFFERSON ST	Initial Depth to Water (DTW): 22.0
Client: ARC	Total Well Depth (TD): 33.33
Sampler: CTC	Well Diameter: 2"
Date: 9/29/17	1 Casing Volume: —
Purge Method: LF	Purge Rate: ~ 200 mL/min
Sample Method: LF	Sampling Rate: ~ 200 mL/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	
1202	7.00	654	0.21	20.75	-197.0	22.03	0.4	
1205	7.00	654	0.21	20.11	-197.2	22.03	0.8	
1208	7.01	654	0.20	20.10	-200.3	22.03	1.2	

Did Well Dewater?	N	Start Purge Time:	1159	DTW prior to sample:	22.03
Total Liters Purged:	1.2	Stop Purge Time:	1208	Start Sample Time:	1210
Total Sample Volume:	0.24L	Odor:	YES	Sheen:	N
Instrument ID(s):	HANNA			Last Calibrated:	9/29/17

Notes:

Monitor Well Data Sheet

Site Name: 1700 JEFFERSON	Well/Sample ID: MW-4
Location: 1700 JEFFERSON	Initial Depth to Water (DTW): 22.88
Client: ARC	Total Well Depth (TD): 32.70
Sampler: CTC	Well Diameter: 2"
Date: 9/29/17	1 Casing Volume: —
Purge Method: LF	Purge Rate: 250 ml/sec cc ~ 160 ml/min
Sample Method: LF	Sampling Rate: 250 ml/sec cc ~ 160 ml/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	
955	6.56	934	0.19	21.15	66.2	23.05	0.48	
958	6.64	928	0.19	21.28	72.7	23.06	0.96	
1001	6.67	926	0.19	21.15	76.5	23.07	1.44	
1004	6.69	926	0.19	21.26	79.1	23.06	1.92	

Did Well Dewater?	N	Start Purge Time:	952	DTW prior to sample:	1004
Total Liters Purged:	1.92	Stop Purge Time:	1004	Start Sample Time:	1005
Total Sample Volume:	.24L	Odor:	N	Sheen:	N
Instrument ID(s): HANNA			Last Calibrated: 9/29/17		

Notes:

APPENDIX B: LABORATORY ANALYTICAL RESULTS


October 10, 2017

Applied Water Resources - Alameda, CA

Sample Delivery Group: L940444
Samples Received: 09/30/2017
Project Number: 1700
Description: 1700 Jefferson St

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










Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



MW-1 L940444-01 GW

Collected by
Cheryl Cary Collected date/time
09/29/17 11:45 Received date/time
09/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1028104	20	10/09/17 14:38	10/09/17 14:38	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/05/17 03:43	10/05/17 03:43	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	50	10/08/17 17:39	10/08/17 17:39	ACG

1
Cp

2
Tc

3
Ss

4
Cn

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Sr

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Qc

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Gl

8
Al

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Sc

MW-3 L940444-02 GW

Collected by
Cheryl Cary Collected date/time
09/29/17 10:47 Received date/time
09/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1028104	1	10/06/17 02:26	10/06/17 02:26	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/05/17 04:02	10/05/17 04:02	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/08/17 17:58	10/08/17 17:58	ACG

MW-4 L940444-03 GW

Collected by
Cheryl Cary Collected date/time
09/29/17 11:15 Received date/time
09/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1028104	1	10/06/17 02:50	10/06/17 02:50	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/05/17 04:20	10/05/17 04:20	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	10	10/08/17 18:17	10/08/17 18:17	ACG

MW-5 L940444-04 GW

Collected by
Cheryl Cary Collected date/time
09/29/17 12:10 Received date/time
09/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1028104	50	10/09/17 15:03	10/09/17 15:03	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/05/17 04:39	10/05/17 04:39	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	250	10/08/17 18:36	10/08/17 18:36	ACG

MW-6 L940444-05 GW

Collected by
Cheryl Cary Collected date/time
09/29/17 10:05 Received date/time
09/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1028104	1	10/09/17 13:01	10/09/17 13:01	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/05/17 04:58	10/05/17 04:58	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1027908	1	10/08/17 18:55	10/08/17 18:55	ACG



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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	12300		2000	20	10/09/2017 14:38	WG1028104
(S) a,a,a-Trifluorotoluene(FID)	83.8		77.0-122		10/09/2017 14:38	WG1028104

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	3070		50.0	50	10/08/2017 17:39	WG1027908
Toluene	256		50.0	50	10/08/2017 17:39	WG1027908
Ethylbenzene	362		50.0	50	10/08/2017 17:39	WG1027908
Total Xylenes	167		3.00	1	10/05/2017 03:43	WG1027908
Methyl tert-butyl ether	ND		1.00	1	10/05/2017 03:43	WG1027908
Naphthalene	6.67		5.00	1	10/05/2017 03:43	WG1027908
(S) Toluene-d8	104		80.0-120		10/08/2017 17:39	WG1027908
(S) Toluene-d8	87.6		80.0-120		10/05/2017 03:43	WG1027908
(S) Dibromofluoromethane	78.0		76.0-123		10/05/2017 03:43	WG1027908
(S) Dibromofluoromethane	86.1		76.0-123		10/08/2017 17:39	WG1027908
(S) a,a,a-Trifluorotoluene	85.8		80.0-120		10/05/2017 03:43	WG1027908
(S) a,a,a-Trifluorotoluene	106		80.0-120		10/08/2017 17:39	WG1027908
(S) 4-Bromofluorobenzene	87.7		80.0-120		10/08/2017 17:39	WG1027908
(S) 4-Bromofluorobenzene	92.4		80.0-120		10/05/2017 03:43	WG1027908

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	1610		100	1	10/06/2017 02:26	WG1028104
(S) a,a,a-Trifluorotoluene(FID)	99.1		77.0-122		10/06/2017 02:26	WG1028104

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	86.7		1.00	1	10/08/2017 17:58	WG1027908
Toluene	ND		1.00	1	10/08/2017 17:58	WG1027908
Ethylbenzene	3.45		1.00	1	10/08/2017 17:58	WG1027908
Total Xylenes	3.57		3.00	1	10/08/2017 17:58	WG1027908
Methyl tert-butyl ether	ND		1.00	1	10/05/2017 04:02	WG1027908
Naphthalene	ND		5.00	1	10/05/2017 04:02	WG1027908
(S) Toluene-d8	106		80.0-120		10/08/2017 17:58	WG1027908
(S) Toluene-d8	83.2		80.0-120		10/05/2017 04:02	WG1027908
(S) Dibromofluoromethane	83.3		76.0-123		10/08/2017 17:58	WG1027908
(S) Dibromofluoromethane	93.2		76.0-123		10/05/2017 04:02	WG1027908
(S) a,a,a-Trifluorotoluene	90.2		80.0-120		10/05/2017 04:02	WG1027908
(S) a,a,a-Trifluorotoluene	111		80.0-120		10/08/2017 17:58	WG1027908
(S) 4-Bromofluorobenzene	90.0		80.0-120		10/08/2017 17:58	WG1027908
(S) 4-Bromofluorobenzene	90.5		80.0-120		10/05/2017 04:02	WG1027908

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	2920		100	1	10/06/2017 02:50	WG1028104
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		10/06/2017 02:50	WG1028104

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	162		10.0	10	10/08/2017 18:17	WG1027908
Toluene	19.8		1.00	1	10/05/2017 04:20	WG1027908
Ethylbenzene	44.6		1.00	1	10/05/2017 04:20	WG1027908
Total Xylenes	27.4		3.00	1	10/05/2017 04:20	WG1027908
Methyl tert-butyl ether	ND		1.00	1	10/05/2017 04:20	WG1027908
Naphthalene	ND		5.00	1	10/05/2017 04:20	WG1027908
(S) Toluene-d8	100		80.0-120		10/08/2017 18:17	WG1027908
(S) Toluene-d8	81.8		80.0-120		10/05/2017 04:20	WG1027908
(S) Dibromofluoromethane	84.7		76.0-123		10/05/2017 04:20	WG1027908
(S) Dibromofluoromethane	86.4		76.0-123		10/08/2017 18:17	WG1027908
(S) a,a,a-Trifluorotoluene	109		80.0-120		10/08/2017 18:17	WG1027908
(S) a,a,a-Trifluorotoluene	89.3		80.0-120		10/05/2017 04:20	WG1027908
(S) 4-Bromofluorobenzene	87.9		80.0-120		10/08/2017 18:17	WG1027908
(S) 4-Bromofluorobenzene	93.9		80.0-120		10/05/2017 04:20	WG1027908

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	53800		5000	50	10/09/2017 15:03	WG1028104
(S) a,a,a-Trifluorotoluene(FID)	80.2		77.0-122		10/09/2017 15:03	WG1028104

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	6110		250	250	10/08/2017 18:36	WG1027908
Toluene	10700		250	250	10/08/2017 18:36	WG1027908
Ethylbenzene	1450		250	250	10/08/2017 18:36	WG1027908
Total Xylenes	6010		750	250	10/08/2017 18:36	WG1027908
Methyl tert-butyl ether	ND		1.00	1	10/05/2017 04:39	WG1027908
Naphthalene	417	<u>Z1</u>	250	250	10/08/2017 18:36	WG1027908
(S) Toluene-d8	104		80.0-120		10/08/2017 18:36	WG1027908
(S) Toluene-d8	64.3	<u>J2</u>	80.0-120		10/05/2017 04:39	WG1027908
(S) Dibromofluoromethane	86.7		76.0-123		10/08/2017 18:36	WG1027908
(S) Dibromofluoromethane	115		76.0-123		10/05/2017 04:39	WG1027908
(S) a,a,a-Trifluorotoluene	84.2		80.0-120		10/05/2017 04:39	WG1027908
(S) a,a,a-Trifluorotoluene	110		80.0-120		10/08/2017 18:36	WG1027908
(S) 4-Bromofluorobenzene	93.9		80.0-120		10/05/2017 04:39	WG1027908
(S) 4-Bromofluorobenzene	90.4		80.0-120		10/08/2017 18:36	WG1027908

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Sample Narrative:

L940444-04 WG1027908: Cannot be reanalyzed at a lower dilution. Reporting naphthalene to the MDL.



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	ND		100	1	10/09/2017 13:01	WG1028104
(S) a,a,a-Trifluorotoluene(FID)	85.1		77.0-122		10/09/2017 13:01	WG1028104

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/08/2017 18:55	WG1027908
Toluene	ND		1.00	1	10/08/2017 18:55	WG1027908
Ethylbenzene	ND		1.00	1	10/08/2017 18:55	WG1027908
Total Xylenes	ND		3.00	1	10/08/2017 18:55	WG1027908
Methyl tert-butyl ether	ND		1.00	1	10/05/2017 04:58	WG1027908
Naphthalene	ND		5.00	1	10/08/2017 18:55	WG1027908
(S) Toluene-d8	91.3		80.0-120		10/05/2017 04:58	WG1027908
(S) Toluene-d8	103		80.0-120		10/08/2017 18:55	WG1027908
(S) Dibromofluoromethane	92.0		76.0-123		10/05/2017 04:58	WG1027908
(S) Dibromofluoromethane	86.8		76.0-123		10/08/2017 18:55	WG1027908
(S) a,a,a-Trifluorotoluene	93.3		80.0-120		10/05/2017 04:58	WG1027908
(S) a,a,a-Trifluorotoluene	111		80.0-120		10/08/2017 18:55	WG1027908
(S) 4-Bromofluorobenzene	87.2		80.0-120		10/08/2017 18:55	WG1027908
(S) 4-Bromofluorobenzene	92.3		80.0-120		10/05/2017 04:58	WG1027908

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255811-3 10/06/17 01:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPHG C5 - C12	48.1	<u>J</u>	30.4	100
^(S) a,a,a-Trifluorotoluene(FID)	97.8			77.0-122

1 Cp

2 Tc

3 Ss

4 Cn

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

(LCS) R3255811-1 10/06/17 00:51 • (LCSD) R3255811-2 10/06/17 01:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5500	5710	5720	104	104	71.0-130			0.220	20
^(S) a,a,a-Trifluorotoluene(FID)				109	109	77.0-122				

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3255684-2 10/05/17 02:46

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
<i>(S) Toluene-d8</i>	88.9			80.0-120
<i>(S) Dibromofluoromethane</i>	96.6			76.0-123
<i>(S) a,a,a-Trifluorotoluene</i>	90.6			80.0-120
<i>(S) 4-Bromofluorobenzene</i>	93.5			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3255684-1 10/05/17 02:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	26.3	105	69.0-123	
Ethylbenzene	25.0	23.7	95.0	77.0-120	
Methyl tert-butyl ether	25.0	27.8	111	64.0-123	
Naphthalene	25.0	28.0	112	62.0-128	
Toluene	25.0	23.2	93.0	77.0-120	
Xylenes, Total	75.0	70.5	94.0	77.0-120	
<i>(S) Toluene-d8</i>			87.8	80.0-120	
<i>(S) Dibromofluoromethane</i>			96.4	76.0-123	
<i>(S) a,a,a-Trifluorotoluene</i>			90.6	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			90.9	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
Z1	The identification of the analyte is acceptable; the reported value is an estimate.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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
Connecticut	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 ¹⁴	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		

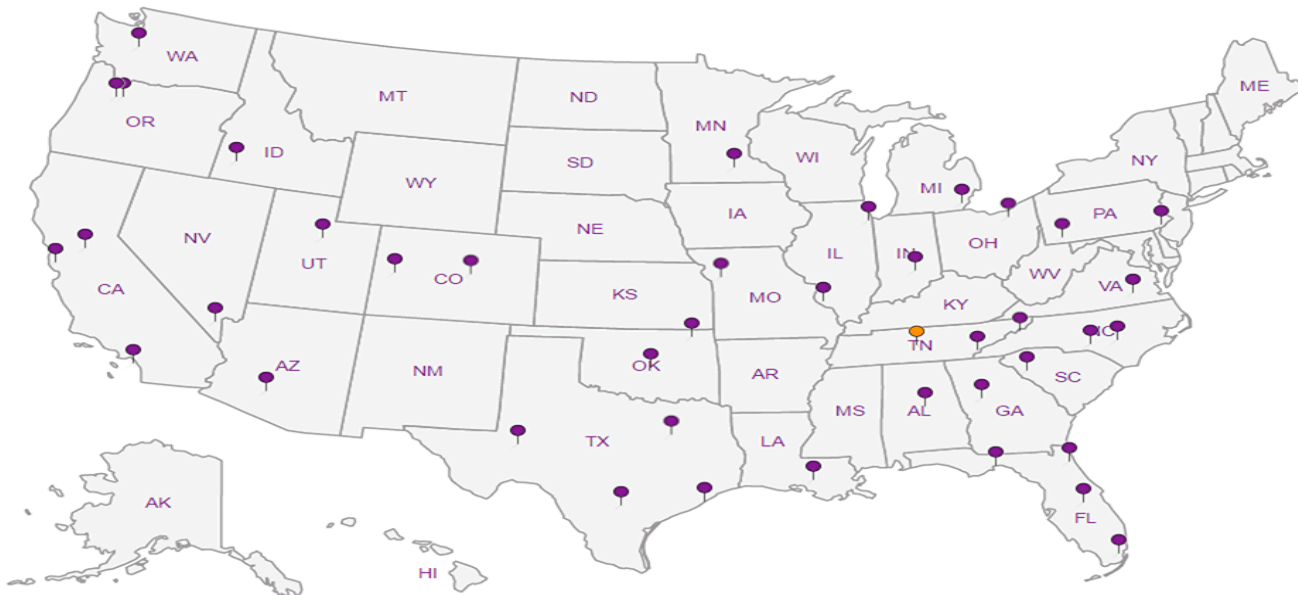
Third Party & Federal Accreditations

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.**



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Applied Water Resources
2363 Mariner Square Dr, Suite 245
Alameda, CA 94501

Billing Information:
Applied Water Resources
2363 Mariner Square Dr, Suite 245
Alameda, CA 94501

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page of



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



L# 940444

H237

Accnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:
Yola Bayram

Email To:
yabyram@awrcorp.net

Project Description:
1700 Jefferson St

City/State **Oakland, CA**
 Collected:

Phone: **510-671-2088**
 Fax: **510-227-5495**

Client Project #
1700

Lab Project #

Collected by (print):
Cheryl Cary

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

Immediately Packed on ice Y X

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPHg by 8015	BTEX, MTBE, and Naphthalene by 8260
MW-1	Grab	GW		9/29/2017	1145	6	X	X
MW-3	Grab	GW		9/29/2017	1047	6	X	X
MW-4	Grab	GW		9/29/2017	1115	6	X	X
MW-5	Grab	GW		9/29/2017	1210	6	X	X
MW-6	Grab	GW		9/29/2017	1005	6	X	X

61
 92
 87
 69
 05

* 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 # 72150 4518 8751

Sample Receipt Checklist
 COC Seal Present/Intact: 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 Headpace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Date: 9/29/17

Time: 4:05

Received by: (Signature)

Trip Blank Received: Yes/No
 Yes No
 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 2.8 °C
30
 Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 9-30-17 Time: 8:45

Hold:

Condition:
 NCF / OK

Applied Water Resources - Alameda, CA

Sample Delivery Group: L924892
Samples Received: 07/26/2017
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
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
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MW-7 L924892-02	6	
MW-10 L924892-03	7	
MW-9 L924892-04	8	
Qc: Quality Control Summary	9	⁶Qc
Volatile Organic Compounds (GC) by Method 8015	9	
Volatile Organic Compounds (GC/MS) by Method 8260B	10	
Gl: Glossary of Terms	11	⁷Gl
Al: Accreditations & Locations	12	⁸Al
Sc: Chain of Custody	13	⁹Sc

SAMPLE SUMMARY



MW-8 L924892-01 GW

Collected by
Yola Bayram
Collected date/time
07/24/17 13:25
Received date/time
07/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1003179	100	08/01/17 14:25	08/01/17 14:25	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	250	07/27/17 15:10	07/27/17 15:10	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	50	07/26/17 18:31	07/26/17 18:31	LRL

1
Cp

2
Tc

3
Ss

MW-7 L924892-02 GW

Collected by
Yola Bayram
Collected date/time
07/24/17 14:15
Received date/time
07/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1003179	50	08/01/17 14:47	08/01/17 14:47	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	100	07/27/17 15:27	07/27/17 15:27	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	20	07/26/17 18:48	07/26/17 18:48	LRL

4
Cn

5
Sr

6
Qc

MW-10 L924892-03 GW

Collected by
Yola Bayram
Collected date/time
07/24/17 12:45
Received date/time
07/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1003179	50	08/01/17 15:09	08/01/17 15:09	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	200	07/27/17 15:44	07/27/17 15:44	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	50	07/26/17 19:05	07/26/17 19:05	LRL

7
Gl

8
Al

9
Sc

MW-9 L924892-04 GW

Collected by
Yola Bayram
Collected date/time
07/24/17 14:50
Received date/time
07/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015	WG1003179	50	08/01/17 15:31	08/01/17 15:31	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	100	07/27/17 16:00	07/27/17 16:00	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1002881	20	07/26/17 19:21	07/26/17 19:21	LRL



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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
TPHG C5 - C12	119000		10000	100	08/01/2017 14:25	WG1003179
(S) a,a,a-Trifluorotoluene(FID)	91.7		77.0-122		08/01/2017 14:25	WG1003179

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	20600		250	250	07/27/2017 15:10	WG1002881
Toluene	29400		250	250	07/27/2017 15:10	WG1002881
Ethylbenzene	1820		50.0	50	07/26/2017 18:31	WG1002881
Total Xylenes	10900		150	50	07/26/2017 18:31	WG1002881
Methyl tert-butyl ether	ND		50.0	50	07/26/2017 18:31	WG1002881
Naphthalene	471		250	50	07/26/2017 18:31	WG1002881
(S) Toluene-d8	101		80.0-120		07/27/2017 15:10	WG1002881
(S) Toluene-d8	102		80.0-120		07/26/2017 18:31	WG1002881
(S) Dibromofluoromethane	96.3		76.0-123		07/26/2017 18:31	WG1002881
(S) Dibromofluoromethane	103		76.0-123		07/27/2017 15:10	WG1002881
(S) a,a,a-Trifluorotoluene	99.4		80.0-120		07/26/2017 18:31	WG1002881
(S) a,a,a-Trifluorotoluene	99.8		80.0-120		07/27/2017 15:10	WG1002881
(S) 4-Bromofluorobenzene	109		80.0-120		07/27/2017 15:10	WG1002881
(S) 4-Bromofluorobenzene	110		80.0-120		07/26/2017 18:31	WG1002881

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	46800		5000	50	08/01/2017 14:47	WG1003179
(S) a,a,a-Trifluorotoluene(FID)	89.9		77.0-122		08/01/2017 14:47	WG1003179

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	7030		100	100	07/27/2017 15:27	WG1002881
Toluene	5570		100	100	07/27/2017 15:27	WG1002881
Ethylbenzene	1310		20.0	20	07/26/2017 18:48	WG1002881
Total Xylenes	5070		60.0	20	07/26/2017 18:48	WG1002881
Methyl tert-butyl ether	ND		20.0	20	07/26/2017 18:48	WG1002881
Naphthalene	425		100	20	07/26/2017 18:48	WG1002881
(S) Toluene-d8	101		80.0-120		07/27/2017 15:27	WG1002881
(S) Toluene-d8	102		80.0-120		07/26/2017 18:48	WG1002881
(S) Dibromofluoromethane	104		76.0-123		07/27/2017 15:27	WG1002881
(S) Dibromofluoromethane	98.5		76.0-123		07/26/2017 18:48	WG1002881
(S) a,a,a-Trifluorotoluene	100		80.0-120		07/27/2017 15:27	WG1002881
(S) a,a,a-Trifluorotoluene	98.7		80.0-120		07/26/2017 18:48	WG1002881
(S) 4-Bromofluorobenzene	109		80.0-120		07/27/2017 15:27	WG1002881
(S) 4-Bromofluorobenzene	109		80.0-120		07/26/2017 18:48	WG1002881

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	108000		5000	50	08/01/2017 15:09	WG1003179
(S) a,a,a-Trifluorotoluene(FID)	88.0		77.0-122		08/01/2017 15:09	WG1003179

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	17400		200	200	07/27/2017 15:44	WG1002881
Toluene	25100		200	200	07/27/2017 15:44	WG1002881
Ethylbenzene	1770		50.0	50	07/26/2017 19:05	WG1002881
Total Xylenes	9290		150	50	07/26/2017 19:05	WG1002881
Methyl tert-butyl ether	ND		50.0	50	07/26/2017 19:05	WG1002881
Naphthalene	555		250	50	07/26/2017 19:05	WG1002881
(S) Toluene-d8	102		80.0-120		07/26/2017 19:05	WG1002881
(S) Toluene-d8	100		80.0-120		07/27/2017 15:44	WG1002881
(S) Dibromofluoromethane	97.4		76.0-123		07/26/2017 19:05	WG1002881
(S) Dibromofluoromethane	101		76.0-123		07/27/2017 15:44	WG1002881
(S) a,a,a-Trifluorotoluene	99.8		80.0-120		07/27/2017 15:44	WG1002881
(S) a,a,a-Trifluorotoluene	101		80.0-120		07/26/2017 19:05	WG1002881
(S) 4-Bromofluorobenzene	108		80.0-120		07/27/2017 15:44	WG1002881
(S) 4-Bromofluorobenzene	111		80.0-120		07/26/2017 19:05	WG1002881

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
TPHG C5 - C12	59300		5000	50	08/01/2017 15:31	WG1003179
(S) a,a,a-Trifluorotoluene(FID)	90.5		77.0-122		08/01/2017 15:31	WG1003179

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	8080		100	100	07/27/2017 16:00	WG1002881
Toluene	8990		100	100	07/27/2017 16:00	WG1002881
Ethylbenzene	1480		20.0	20	07/26/2017 19:21	WG1002881
Total Xylenes	7290		60.0	20	07/26/2017 19:21	WG1002881
Methyl tert-butyl ether	ND		20.0	20	07/26/2017 19:21	WG1002881
Naphthalene	482		100	20	07/26/2017 19:21	WG1002881
(S) Toluene-d8	100		80.0-120		07/27/2017 16:00	WG1002881
(S) Toluene-d8	101		80.0-120		07/26/2017 19:21	WG1002881
(S) Dibromofluoromethane	97.5		76.0-123		07/26/2017 19:21	WG1002881
(S) Dibromofluoromethane	106		76.0-123		07/27/2017 16:00	WG1002881
(S) a,a,a-Trifluorotoluene	98.8		80.0-120		07/26/2017 19:21	WG1002881
(S) a,a,a-Trifluorotoluene	99.3		80.0-120		07/27/2017 16:00	WG1002881
(S) 4-Bromofluorobenzene	110		80.0-120		07/26/2017 19:21	WG1002881
(S) 4-Bromofluorobenzene	107		80.0-120		07/27/2017 16:00	WG1002881

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3237502-3 07/27/17 12:45

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
TPHG C5 - C12	U		30.4	100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-122

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

(LCS) R3237502-1 07/27/17 11:34 • (LCSD) R3237502-2 07/27/17 11:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
TPHG C5 - C12	5500	7080	7070	129	129	71.0-130			0.110	20
(S) a,a,a-Trifluorotoluene(FID)				112	111	77.0-122				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3236580-3 07/26/17 09:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	104			76.0-123
(S) a,a,a-Trifluorotoluene	100			80.0-120
(S) 4-Bromofluorobenzene	113			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3236580-1 07/26/17 08:43 • (LCSD) R3236580-2 07/26/17 09:00

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	25.0	26.4	25.3	106	101	69.0-123			4.29	20
Ethylbenzene	25.0	22.3	21.9	89.1	87.6	77.0-120			1.77	20
Methyl tert-butyl ether	25.0	25.7	24.9	103	99.7	64.0-123			3.19	20
Naphthalene	25.0	22.3	21.9	89.1	87.7	62.0-128			1.60	20
Toluene	25.0	22.9	22.4	91.7	89.7	77.0-120			2.12	20
Xylenes, Total	75.0	69.0	67.0	92.0	89.3	77.0-120			2.94	20
(S) Toluene-d8				101	101	80.0-120				
(S) Dibromofluoromethane				107	105	76.0-123				
(S) a,a,a-Trifluorotoluene				97.7	98.1	80.0-120				
(S) 4-Bromofluorobenzene				111	111	80.0-120				



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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
Connecticut	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 ¹⁴	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		

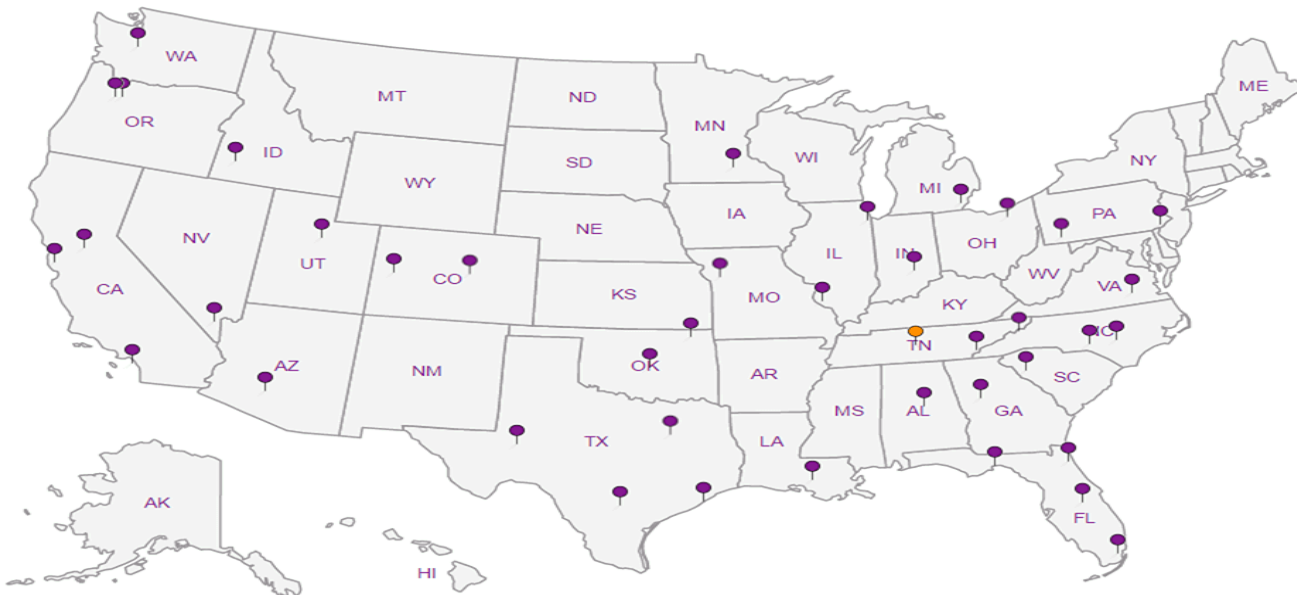
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
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Canada	1461.01	USDA	S-67674
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1 Cp

2 Tc

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Applied Water Resources
 2363 Mariner Square Drive Suite 245
 Alameda, CA 94501

Billing Information:
Applied Water Resources
 2363 Mariner Square Drive Suite
 245
 Alameda, CA 94501

Pres
 Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



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 St

City/State Collected:
Oakland, CA

Phone: **510-671-2088**
 Fax:

Client Project #
1700

Lab Project #

Collected by (print):
Yola Bayram

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 #
 Date Results Needed

Immediately Packed on Ice N ___ Y

No. of
 Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPHg by 8015	BTEX, MTBE, AND Naphthalene by 8260
MW-8	Grab	GW		7-24-17	1325	16	X	X
MW-7	↓	↓			1415	↓	↓	↓
MW-10	↓	↓			1245	↓	↓	↓
MW-9	↓	↓			1450	↓	↓	↓
						↓	↓	↓

L# **L924892**
G218

Acctnum:
 Template:
 Prelogin:
 TSR:
 PB:
 Shipped Via:

Remarks	Sample # (lab only)
	-01
	02
	03
	04

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

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

Samples returned via:
 ___ UPS FedEx ___ Courier ___

Tracking # **7384 4202 5806**

Relinquished by: (Signature)

Date: **7-25**

Time: **1237**

Received by: (Signature)

Trip Blank Received: Yes / No
 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **2.6 SW** °C
 Bottles Received: **16**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **7/26/17** Time: **0845**

Hold:

Condition:
 NCF / OK