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

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By Alameda County Environmental Health at 9:38 am, Nov 10, 2014

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 Westbrook - Asst. Corp. Controller
Authorized Representative

Attachment: Report



October 31, 2014

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

RE: Semi-Annual Ground Water Monitoring Report, September 2014
1700 Jefferson Street, Oakland, California
Fuel Leak Case No. RO 151

Dear Mr. Westbrook:

Applied Water Resources (AWR) encloses herein one copy of the Semi-Annual 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 (925) 426-1112 or email me at ybayram@awrcorp.net

Sincerely,

Staff Geologist

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

**SEMI-ANNUAL
GROUND WATER MONITORING REPORT**

September 2014

**1700 Jefferson Street
Oakland, California**

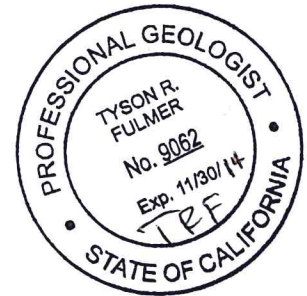
Prepared for:

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

Prepared by:

Applied Water Resources Corporation
Alameda, California

October 2014



Prepared By:
Yola Bayram
Staff Geologist



Reviewed By:
Tyson Fulmer, PG
Project Geologist



SEMI-ANNUAL GROUND WATER MONITORING REPORT

1700 Jefferson, Oakland, CA

September 2014



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1.0 INTRODUCTION

This Semi-Annual Ground Water Monitoring Report, September 2014 was prepared by Applied Water Resources Corporation (AWR) on behalf of ARC Document Solutions. This Report describes ground water monitoring work performed at 1700 Jefferson Street, Oakland, California (Site). The project objectives were to sample and analyze ground water from five existing monitor wells, measure the depth to ground water in all existing 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. 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 on a daily basis 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).

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 GROUND WATER MONITORING AND SAMPLING ACTIVITIES

Ground water monitoring and sampling of the Site was performed on September 23, 2014 by AWR personnel. Work at the Site included measuring depth to water, subjectively evaluating the possible presence of petroleum in ground water in the wells, purging and sampling the wells using ASTM low-flow sampling techniques (ASTM, 2006), and submitting the samples under chain of custody to a NELAP laboratory for analysis. All field work was conducted under the direct 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.

Ground water elevation contours are illustrated on Figure 3. The ground water gradient direction is to the west-northwest at an average of 0.002 ft/ft. The gradient is adjusted due to the knowledge of previous data collected from the Merrill Sign site. A rose diagram depicting cumulative ground water gradients is presented in Figure 6.

3.2 Ground Water Sampling

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

From each monitor well, four laboratory-supplied 40-milliliter HCL-preserved sample vials were filled with ground water and sealed with zero headspace. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled and stored in a pre-chilled and transported to Curtis and Tompkins, a NELAP certified analytical laboratory, 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 from wells MW-1, MW-3, MW-4, MW-5, and MW-6 were analyzed for Total Petroleum Hydrocarbon as Gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. 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. In addition, for this round of ground water sampling, samples were also analyzed for lead scavengers, fuel oxygenates, and ethanol by EPA Method 8260B. 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.



5.0 DISCUSSION

The available data collected at 1700 Jefferson Street indicates that ground water has been affected by fuel from the former USTs. In Table 3, ground water concentrations are compared to RWQCB Environmental Screening Levels (ESLs) (RWQCB 2013). Ground water use as a potential source of drinking water in this area is highly unlikely due to the site location and the high quality public drinking water supplied by EBMUD. Therefore, ground water ESLs for evaluation of potential vapor intrusion were selected for BTEX compounds. Because there is no vapor intrusion ESL listed for TPHg, the ceiling value 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.

6.0 SUMMARY

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

- Ground water gradient direction is to the west-northwest at an average of 0.002 ft/ft.
- Compared to the concentrations measured in April 2014, benzene decreased in all remaining wells in the September monitoring event. TPHg concentrations increased in MW-5 and decreased in all other wells.
- No detectable TPHg and BTEX concentrations were reported in the downgradient well MW-6.
- From 1999 to 2014, concentrations of TPHg, benzene, toluene, and total xylenes all decreased by an order of magnitude in MW-4.
- Ethanol was not detected in any of the ground water samples.
- 1,2-dichloroethane (1,2-DCA) was detected in MW-1, MW-4, and MW-5. However, concentrations were below the ESL for vapor intrusion.
- No other lead scavengers or fuel oxygenates were detected in the ground water samples.
- Despite seasonal fluctuations, concentrations in ground water have remained relatively stable over the past 10 years as depicted in Charts 1 and 2.



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*

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

HLA, *Additional Investigations*, October 1989.

HLA, *Drilled Pier Soil Analysis*, January 1988.

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

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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 2013



TABLES



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

1700 Jefferson St, ARC Document Solutions

| 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 |

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 |

Notes:

¹ MACTEC reported an error in groundwater measurement

**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-Dichloroethane | Free Product |
|-------------------|--------------|------------------------------|---------|---------|--------------|---------------|-------|--------------------|--------------|
| | | | | | | | | | |
| ESLs ¹ | | 5,000 | 27 | 95,000 | 310 | 37,000 | 9,900 | 100 | -- |
| MW-1 | 7/8/1987 | 190,000 | 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 | -- | |
| MW-1A | 9/12/1988 | -- | -- | -- | -- | -- | -- | -- | 28.2 |
| | 7/12/1989 | 220,000 | 1,200 | 9,210 | 3,100 | 24,000 | NA | -- | 18.6 |
| | 8/1/1991 | 350,000 | 17,000 | 31,000 | 3,000 | FP | NA | -- | FP |
| | 7/2/1992 | FP | FP | FP | FP | FP | NA | -- | 18 |
| | 9/30/1992 | FP | FP | FP | FP | FP | NA | -- | 10 - 13 |
| | 2/12/1993 | FP | FP | FP | FP | FP | NA | -- | 13 |
| | 3/30/1993 | FP | FP | FP | FP | FP | NA | -- | 10.2-14.8 |
| | 1/6/1994 | FP | FP | FP | FP | 14,000 | NA | -- | 16.2 |
| | 4/13/1994 | 170,000 | 17,000 | 31,000 | 2,100 | 22,000 | NA | -- | 12 |
| | 6/29/1994 | 95,000 | 16,000 | 21,000 | 1,500 | 12,000 | NA | -- | 4.5+/- |
| | 12/8/1994 | 190,000 | 13,000 | 21,000 | 1,400 | 11,000 | NA | -- | -- |
| | 4/3/1995 | 67,000 | 11,000 | 13,000 | 910 | 9,800 | NA | -- | -- |
| 6/27/1995 | 53,000 | 11,000 | 9,900 | 500 | 6,300 | NA | -- | -- | |

| Well ID | Date Sampled | TPH as Gasoline ² | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | 1,2-Dichloroethane | Free Product |
|---------|--------------|------------------------------|---------|---------|--------------|---------------|-------|--------------------|--------------|
| | | | | | | | | | |
| ESLs | | 5,000 | 27 | 95,000 | 310 | 37,000 | 9900 | 100 | -- |
| MW-1A | 9/19/1995 | 52,000 | 8,900 | 11,000 | 790 | 5,300 | NA | -- | -- |
| | 12/13/1995 | 62,000 | 9,900 | 9,200 | 710 | 6,800 | NA | -- | -- |
| | 3/6/1996 | 200,000 | 14,000 | 22,000 | 2,700 | 22,000 | NA | -- | -- |
| | 6/11/1996 | 140,000 | 18,000 | 28,000 | 2,800 | 19,000 | NA | -- | -- |
| | 9/19/1996 | 100,000 | 16,000 | 22,000 | 2,100 | 14,000 | NA | -- | -- |
| | 12/23/1996 | FP | FP | FP | FP | FP | NA | -- | -- |
| | 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 | -- | -- |
| | 7/8/1987 | 8,200 | 1,500 | 340 | -- | 87 | -- | -- | -- |
| | 11/9/1987 | WELL DESTROYED | | | | | | | |
| MW-2 | 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</ | | | |

**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-Dichloroethane | Free Product | |
|----------|-------------------|------------------------------|---------|---------|--------------|---------------|--------|--------------------|--------------|--------|
| | | | | | | | | | | (µg/L) |
| | ESLs ¹ | 5,000 | 27 | 95,000 | 310 | 37,000 | 9,900 | 100 | -- | |
| MW-4 | 9/12/1988 | -- | -- | -- | -- | -- | -- | -- | 5.9 | |
| | 7/12/1989 | 93,000 | 460 | 4,200 | 1,200 | 9,700 | NA | -- | 25.2 | |
| | 8/1/1991 | 86,000 | 1,500 | 6,200 | 1,000 | FP | NA | -- | 18 | |
| | 9/30/1992 | FP | FP | FP | FP | FP | NA | -- | FP | |
| | 2/12/1993 | FP | FP | FP | FP | FP | NA | -- | 8.8 | |
| | 1/6/1994 | FP | FP | FP | FP | 3,200 | NA | -- | 6.2 | |
| | 4/13/1994 | 58,000 | 1,500 | 2,500 | 520 | 7,300 | NA | -- | -- | |
| | 6/29/1994 | 16,000 | 1,300 | 790 | 51 | 3,400 | NA | -- | -- | |
| | 12/8/1994 | 92,000 | 1,700 | 4,100 | 310 | 5,400 | NA | -- | -- | |
| | 4/3/1995 | 35,000 | 1,200 | 3,400 | 280 | 5,800 | NA | -- | -- | |
| | 6/27/1995 | 13,000 | 1,300 | 1,600 | 77 | 1,800 | NA | -- | -- | |
| | 9/19/1995 | 14,000 | 630 | 470 | 14 | 1,800 | NA | -- | -- | |
| | 12/13/1995 | 11,000 | 2,200 | 2,100 | 110 | 2,100 | NA | -- | -- | |
| | 3/6/1996 | 110,000 | 2,600 | 3,600 | 780 | 10,000 | NA | -- | -- | |
| | 6/11/1996 | 260,000 | 6,600 | 19,000 | 3,700 | 28,000 | NA | -- | -- | |
| | 9/19/1996 | 95,000 | 9,900 | 19,000 | 2,000 | 13,000 | NA | -- | -- | |
| | 12/23/1996 | FP | FP | FP | FP | FP | NA | -- | 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 | 4.8 | 81 | 18.4 | <0.5 | 2.3 | -- | |
| 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 | -- | -- | |
| | 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 | -- | -- | |

Notes:

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

<: Concentration is below the reporting limit of the lab

J: Estimated value

--: not applicable or none

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

Environmental Screening Levels - San Francisco Bay Regional Water Quality Control Board revised December 2013. Ground water screening levels fro evaluation of potential vapor intrusion are selected under a

1. residential land use in fine to coarse mix of soil conditions (Table E-1)

2. Drinking water ESL is listed for TPH as gasoline

FP: Free product measured (amount unknown)

Concentration is above selected screening criteria

CHARTS



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

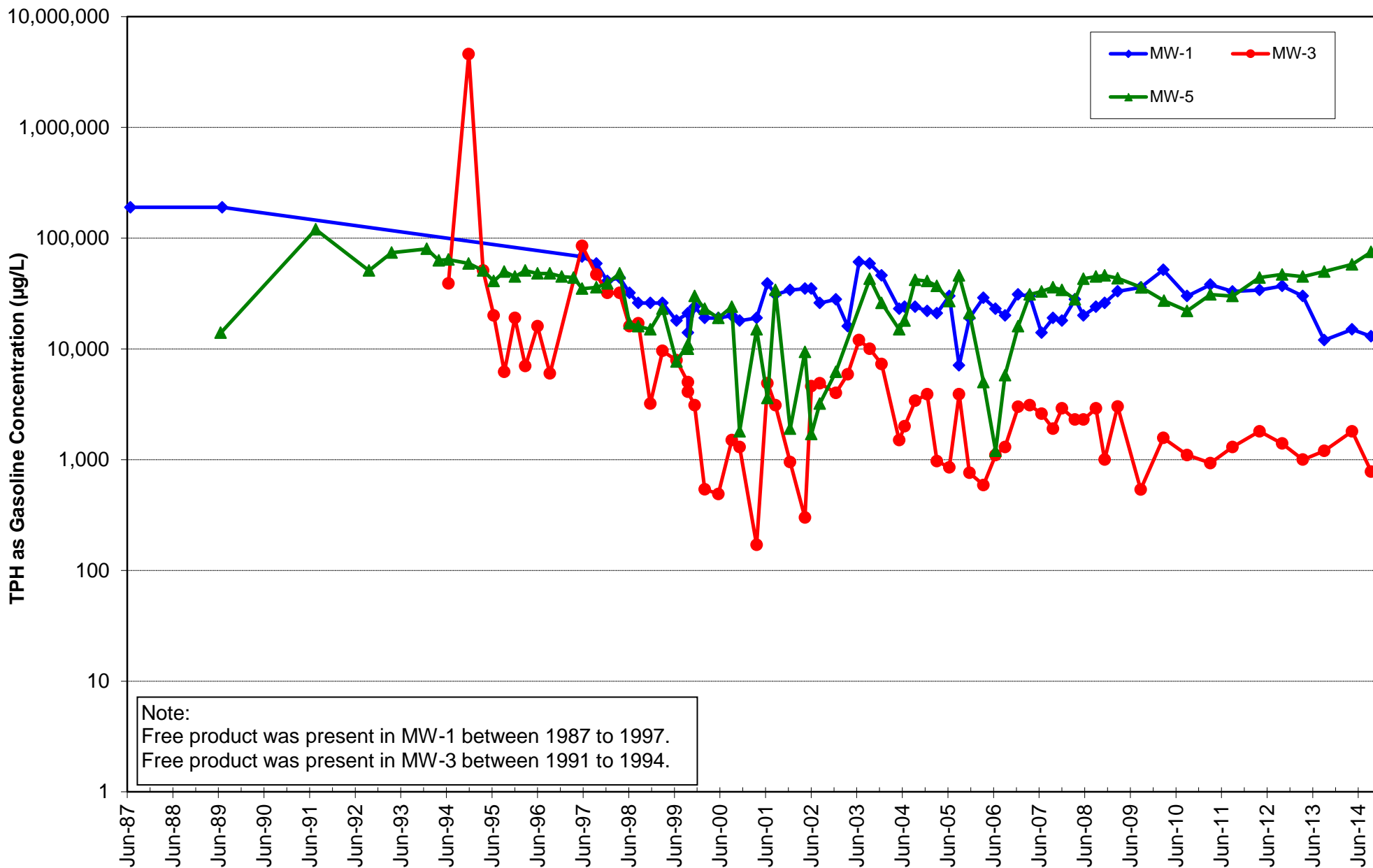
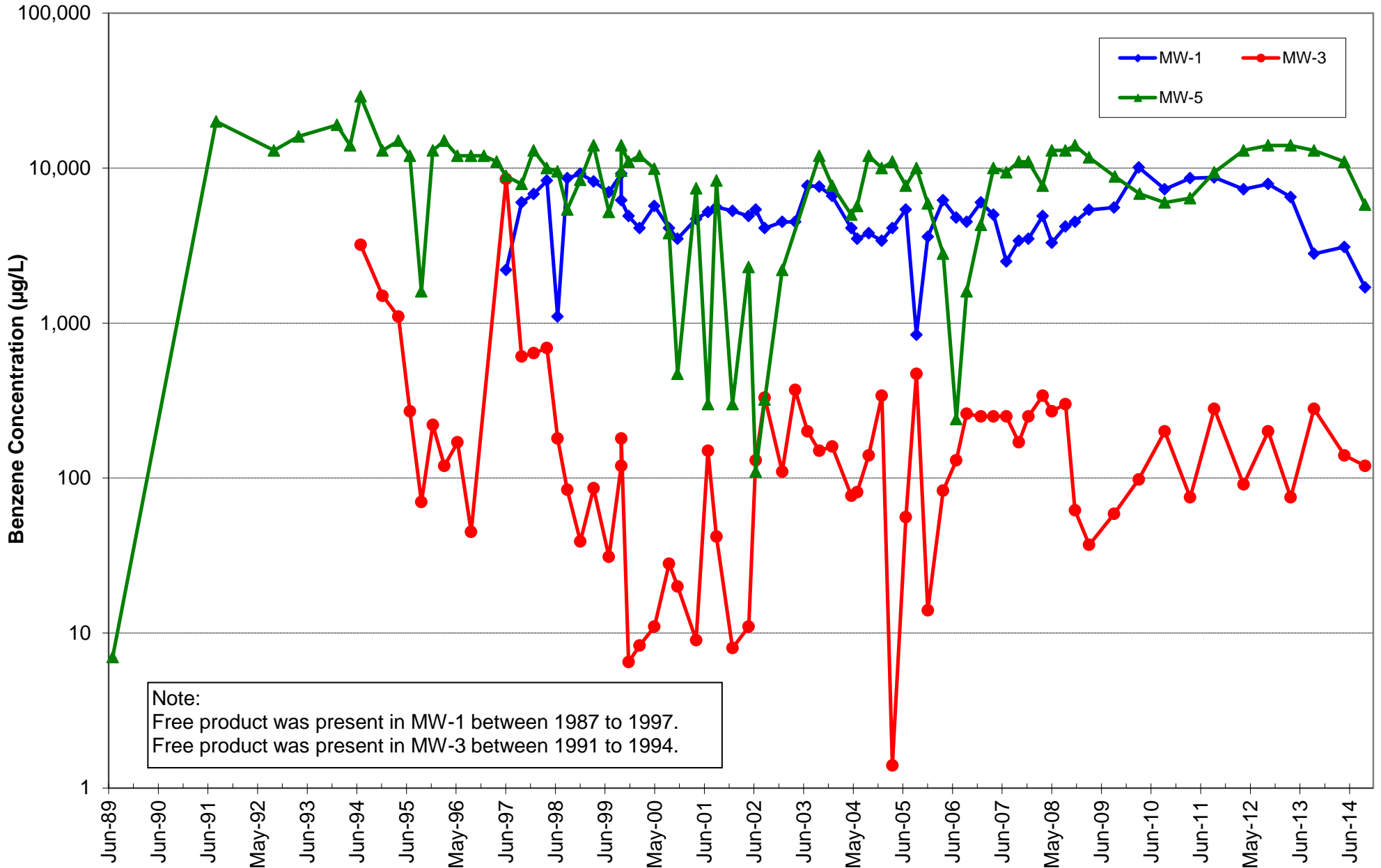


CHART 2
Concentrations of Benzene vs. Time in MW-1, MW-3, and MW-5
1700 Jefferson, Oakland, California



FIGURES

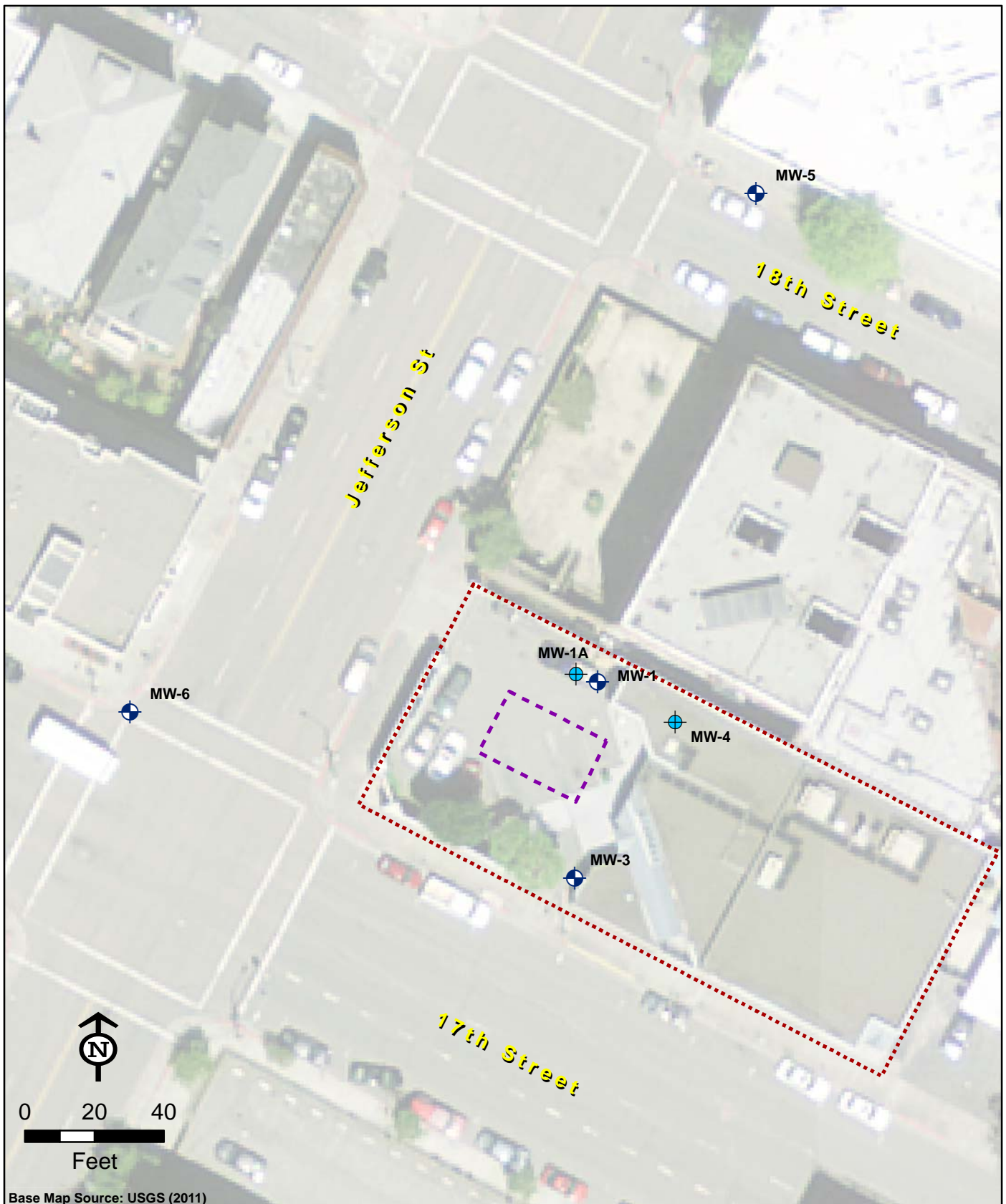




Figure - 1
Site Location Map
300 Hegenberger Road

 1700 Jefferson Street









Base Map Source: USGS (2011)



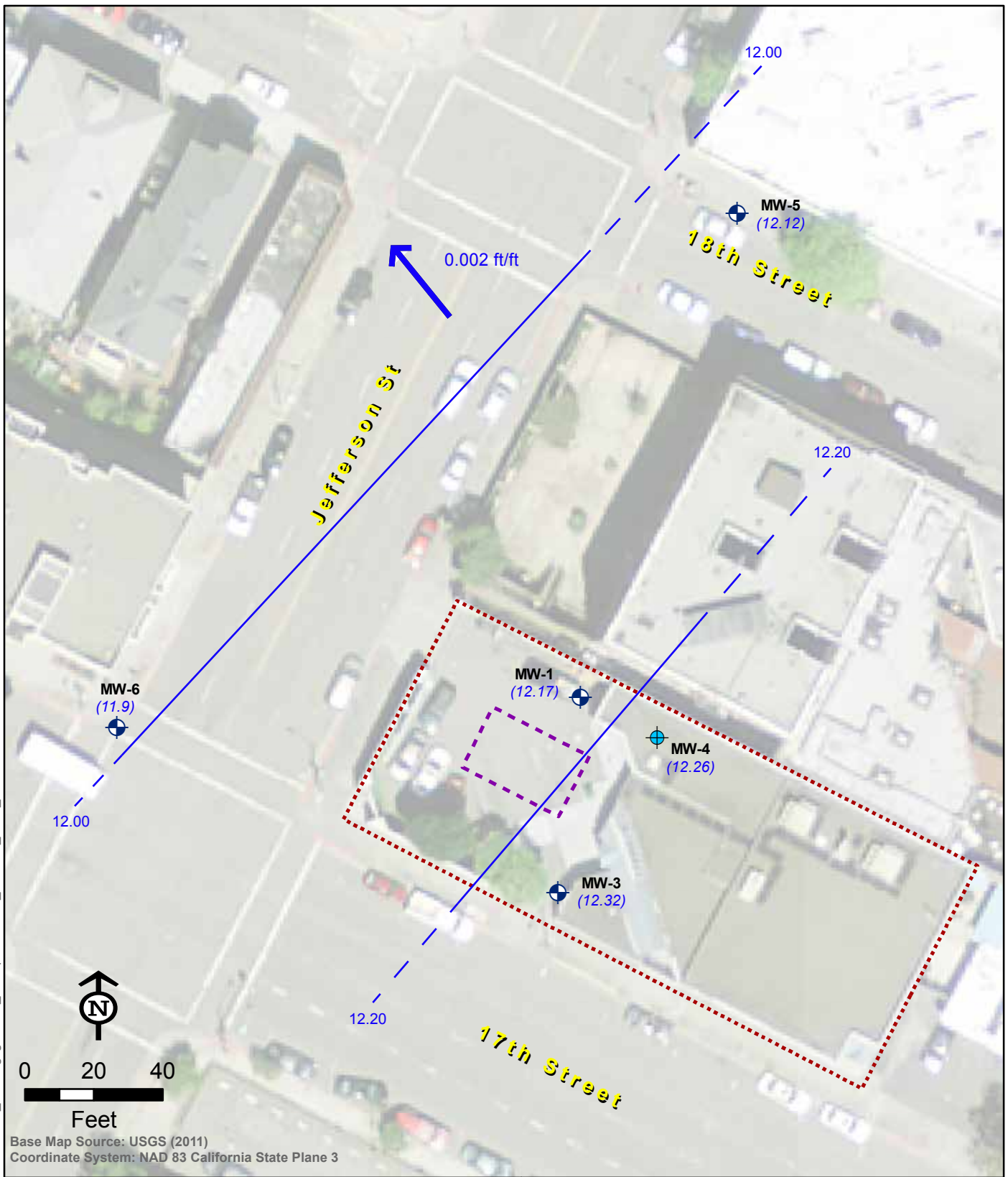
Figure - 2
Site Plan

1700 Jefferson Street, Oakland, CA

-  Monitor Well
-  Extraction Well

-  Tank Removal Excavation Area (approx)
-  Property Boundary








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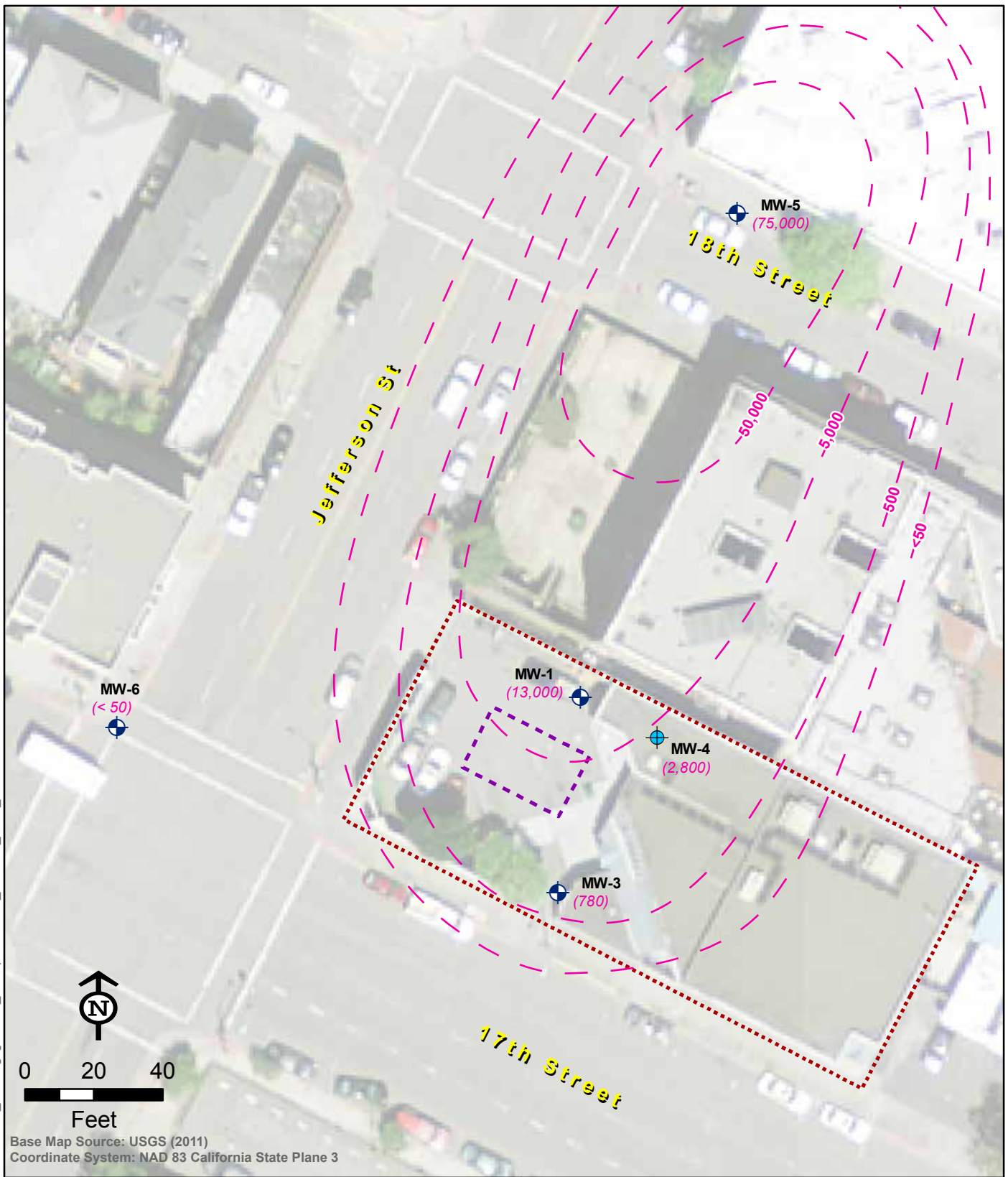
Base Map Source: USGS (2011)
Coordinate System: NAD 83 California State Plane 3



Figure - 3
Ground Water Gradient
September 2014
1700 Jefferson Street, Oakland, CA

-  Ground Water Elevation Contours (Dashed Where Inferred)
-  (12.32) Ground Water Elevation
-  Gradient Direction
-  Monitor Well
-  Extraction Well
-  Tank Removal Excavation Area (approx)
-  Property Boundary

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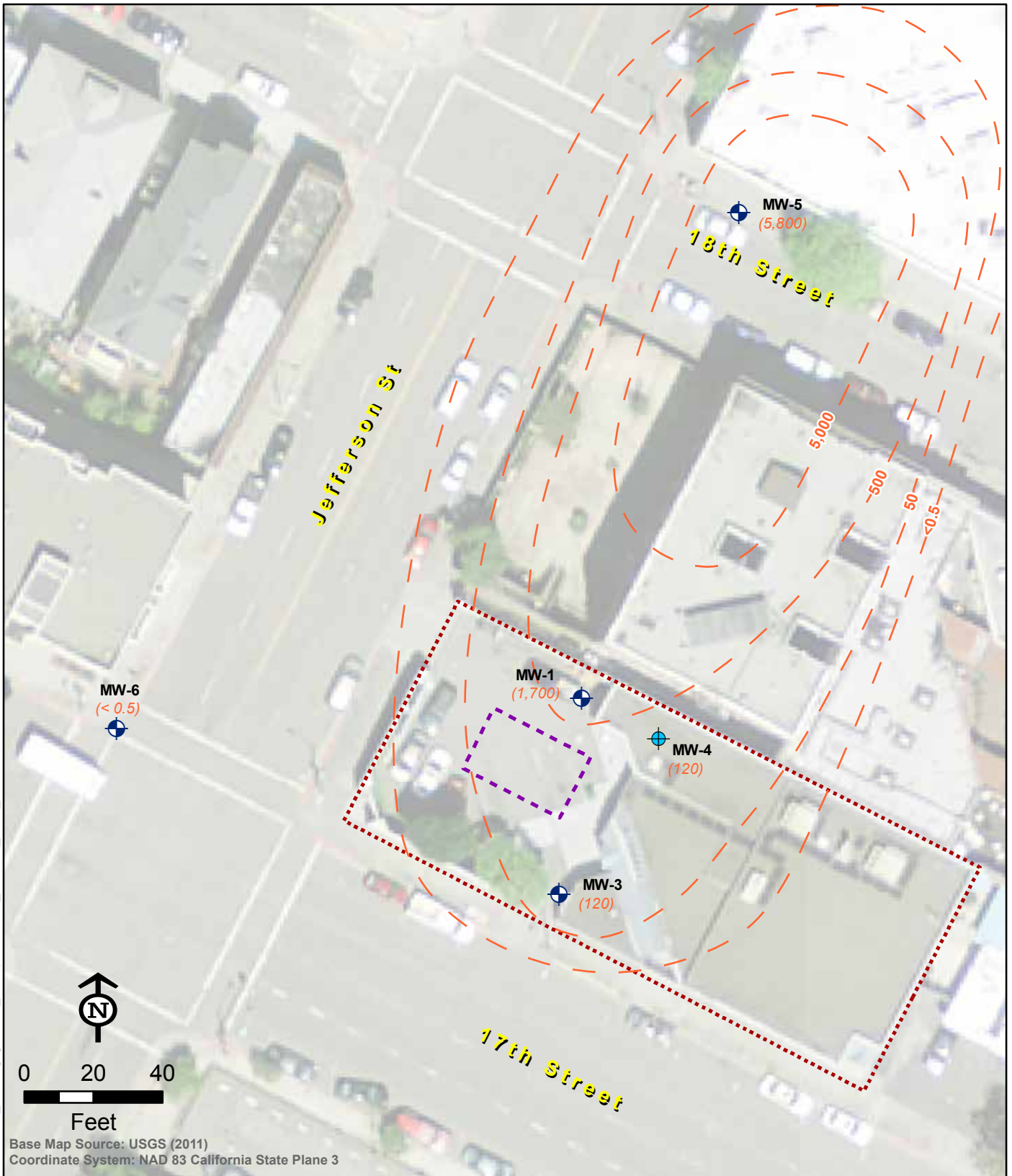
Base Map Source: USGS (2011)
 Coordinate System: NAD 83 California State Plane 3



Figure - 4
TPH as Gasoline
Iso Concentration
Contours September 2014
 1700 Jefferson Street, Oakland, CA

- TPH as Gasoline Iso-Concentration Contours in Ground Water (Dashed Where Inferred)
- (75,000) TPH as Gasoline Concentration (ug/L)
- Monitor Well
- Extraction Well
- Tank Removal Excavation Area (approx)
- Property Boundary

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



Figure - 5
Benzene
Iso Concentration
Contours September 2014
1700 Jefferson Street, Oakland, CA

- Benzene Iso-Concentration Contours in Ground Water (Dashed Where Inferred)
- Monitor Well
- Extraction Well
- Tank Removal Excavation Area (approx)
- Property Boundary
- Benzene Concentration (ug/L)

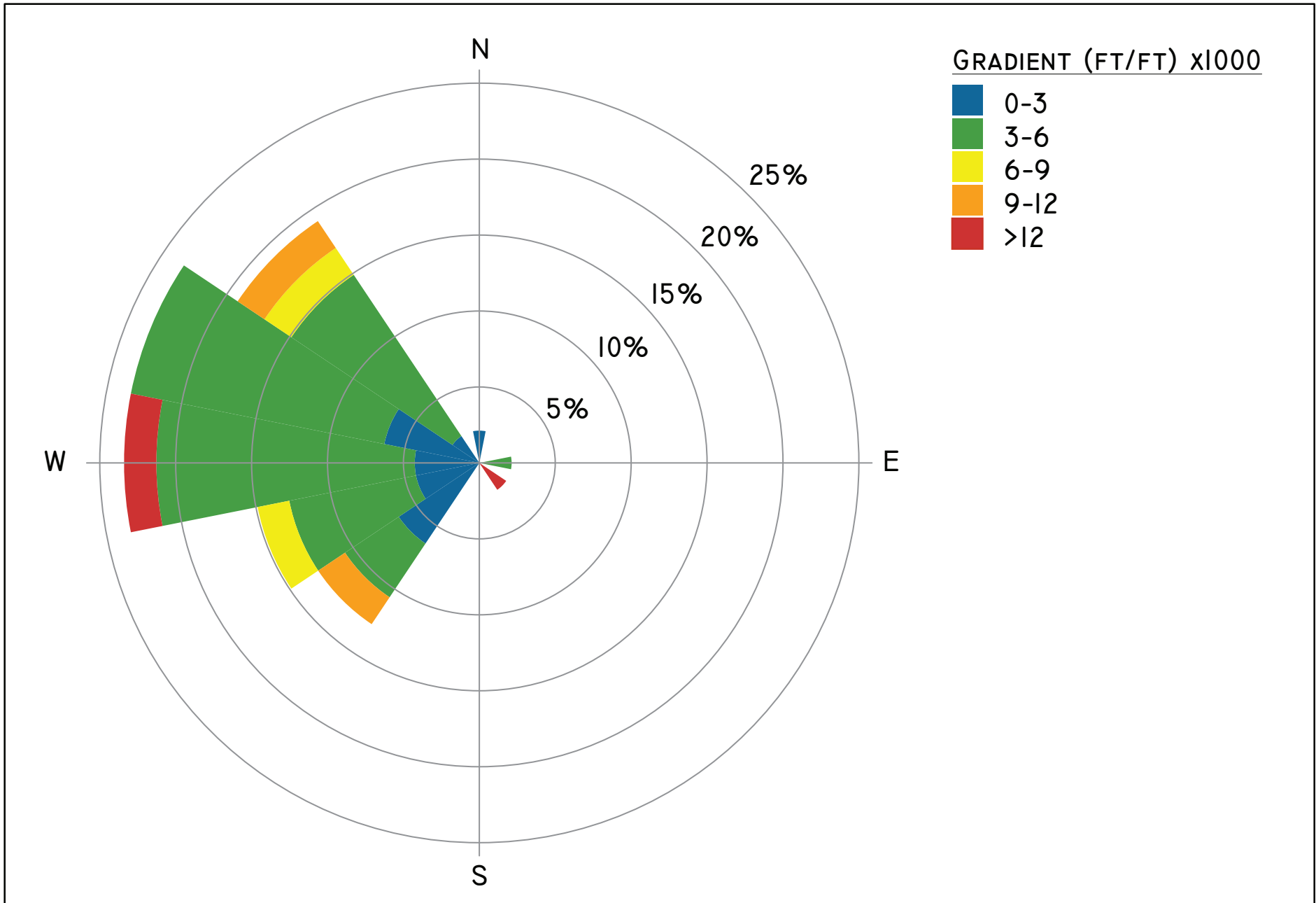


Figure - 6
 Ground Water Gradient Rose Diagram
 1700 Jefferson St, Oakland, CA

APPENDIX A: MONITOR WELL WORKSHEETS



Depth to Water Data Sheet

Site Name: 1700 Jefferson Date: 9.23.14

Location: 11 Field Tech: VB

Client: ARC

| Well ID | Well Diameter | Time | DTW | Total Depth | Comments |
|---------|---------------|------|-------|-------------|----------|
| MW-1A | 4 | 904 | 23.08 | | |
| MW-1 | 4 | 902 | 24.64 | | |
| MW-4 | 4 | 835 | 24.51 | | |
| MW-3 | 4 | 805 | 23.91 | | |
| MW-6 | 2 | 710 | 24.01 | | |
| MW-5 | 2 | 930 | 23.09 | | |
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Notes:

Monitor Well Data Sheet

| | |
|--------------------------------|-------------------------------------|
| Site Name: 1700 Jefferson | Well/Sample ID: MW-1 |
| Location: 1700 Jefferson | Initial Depth to Water (DTW): 24.64 |
| Client: ARC Document Solutions | Total Well Depth (TD): |
| Sampler: YB | Well Diameter: 4" |
| Date: 09/23/14 | Purge Method: Per: w/ dead tube |
| 0.3 L/min | Sample Method: 11 |

| Time | ph | SC | DO | Temp (C) | ORP | DTW (feet) | Cumulative Volume(L) | Observations |
|------|------|------|------|----------|--------|------------|----------------------|--------------|
| 905 | 6.65 | 1434 | 0.74 | 18.8 | -371.6 | 24.75 | 0.9 | |
| 908 | 6.64 | 1429 | 0.66 | 18.8 | -389.6 | 24.75 | 1.8 | |
| 912 | 6.64 | 1432 | 0.66 | 18.8 | -407.7 | 24.75 | 3.0 | |
| 915 | 6.64 | 1430 | 0.61 | 18.8 | -411.7 | 24.75 | 3.9 | |
| 918 | 6.65 | 1432 | 0.53 | 18.8 | -413.6 | 24.75 | 4.8 | |
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|-------------------|-------|-------------------|-----|----------------------|-------|
| Did Well Dewater? | N | Start Purge Time: | 902 | DTW prior to sample: | 24.75 |
| Odor? | yes | Stop Purge Time: | 918 | Start Sample Time: | 918 |
| Color | Clear | | | Total Sample Volume: | 120ml |

Notes:

Monitor Well Data Sheet

| | |
|--------------------------------|-------------------------------------|
| Site Name: 1700 Jefferson | Well/Sample ID: MW-3 |
| Location: 1700 Jefferson | Initial Depth to Water (DTW): 23.91 |
| Client: ARC Document Solutions | Total Well Depth (TD): |
| Sampler: YB | Well Diameter: 4" |
| Date: 09/23/14 | Purge Method: Per: w/ ded tubing |
| 0.4 L/min | Sample Method: Per: w/ ded tubing |

| Time | ph | SC | DO | Temp (C) | ORP | DTW (feet) | Cumulative Volume | Observations |
|------|------|-----|------|----------|--------|------------|-------------------|--------------|
| 801 | 6.54 | 775 | 0.40 | 19.8 | -131.2 | 24.11 | 1.2L | |
| 804 | 6.52 | 773 | 0.37 | 19.8 | -149.5 | 24.11 | 2.4L | |
| 807 | 6.50 | 774 | 0.28 | 19.9 | -162.2 | 24.11 | 3.6L | |
| 810 | 6.51 | 773 | 0.26 | 19.9 | -167.3 | 24.11 | 4.8L | |
| 813 | 6.50 | 772 | 0.25 | 19.9 | -171.3 | 24.11 | 5.0L | |
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|-------------------|-----------------------|-------------------|-----|----------------------|----------------------|-------|
| Did Well Dewater? | N | Start Purge Time: | 758 | DTW prior to sample: | 24.11 | |
| Odor? | yes yes | Stop Purge Time: | 813 | Start Sample Time: | 813 | |
| Color | clear | | | | Total Sample Volume: | 120mL |

Notes:

Monitor Well Data Sheet

| | |
|--------------------------------|-------------------------------------|
| Site Name: 1700 Jefferson | Well/Sample ID: MW-4 |
| Location: 1700 Jefferson | Initial Depth to Water (DTW): 24.51 |
| Client: ARC Document Solutions | Total Well Depth (TD): |
| Sampler: YB | Well Diameter: 4" |
| Date: 09/23/14 | Purge Method: Perc: w/ ded tube |
| 0.3 L/min | Sample Method: 1' |

| Time | ph | SC | DO | Temp (C) | ORP | DTW (feet) | Cumulative Volume | Observations |
|------|------|------|------|----------|--------|------------|-------------------|--------------|
| 837 | 6.64 | 1662 | 0.28 | 18.9 | -290.3 | 24.71 | 0.9L | |
| 841 | 6.67 | 1639 | 0.32 | 18.9 | -314.9 | 24.71 | 2.1L | |
| 844 | 6.65 | 1622 | 0.32 | 19.0 | -329.0 | 24.71 | 3.0L | |
| 847 | 6.63 | 1609 | 0.28 | 18.9 | -344.6 | 24.71 | 3.9L | |
| 850 | 6.61 | 1592 | 0.25 | 18.9 | -349.0 | 24.71 | 4.8L | |
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|-------------------|-------|-------------------|-----|----------------------|-------|
| Did Well Dewater? | N | Start Purge Time: | 834 | DTW prior to sample: | 24.71 |
| Odor? | yes | Stop Purge Time: | 850 | Start Sample Time: | 850 |
| Color | black | | | Total Sample Volume: | 120mL |

Notes:

Monitor Well Data Sheet

| | |
|--------------------------------|-------------------------------------|
| Site Name: 1700 Jefferson | Well/Sample ID: MW-5 |
| Location: 1700 Jefferson | Initial Depth to Water (DTW): 23.09 |
| Client: ARC Document Solutions | Total Well Depth (TD): |
| Sampler: YB | Well Diameter: 2" |
| Date: 09/23/14 | Purge Method: Perc: w/ ded tube |
| 0.3 L/min | Sample Method: 11 |

| Time | ph | SC | DO | Temp (C) | ORP | DTW (feet) | Cumulative Volume | Observations |
|------|------|-----|------|----------|--------|------------|-------------------|--------------|
| 939 | 6.87 | 801 | 0.55 | 19.6 | -339.4 | 23.22 | 0.9 | |
| 942 | 6.82 | 792 | 0.69 | 19.6 | -356.7 | 23.22 | 1.8 | |
| 945 | 6.80 | 789 | 0.65 | 19.7 | -367.7 | 23.22 | 2.7 | |
| 948 | 6.79 | 780 | 0.66 | 19.7 | -371.9 | 23.22 | 3.6 | |
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|-------------------|-------|-------------------|-----|----------------------|----------------------|--------|
| Did Well Dewater? | N | Start Purge Time: | 936 | DTW prior to sample: | 23.22 | |
| Odor? | yes | Stop Purge Time: | 948 | Start Sample Time: | 948 | |
| Color | clear | | | | Total Sample Volume: | 120 mL |

Notes:

Monitor Well Data Sheet

| | |
|--------------------------------|-------------------------------------|
| Site Name: 1700 Jefferson | Well/Sample ID: MW-6 |
| Location: 1700 Jefferson | Initial Depth to Water (DTW): 24.01 |
| Client: ARC Document Solutions | Total Well Depth (TD): |
| Sampler: YB | Well Diameter: 2" |
| Date: 09/23/14 | Purge Method: Per: w/ ded tubing |
| Rate: 0.3 L/min | Sample Method: per: w/ ded tubing |

| Time | ph | SC | 10% or 0.2mg/L DO | Temp (C) | ORP | DTW (feet) | Cumulative Volume | Observations |
|------|------|------|-------------------|----------|-------|------------|-------------------|--------------|
| 724 | 6.43 | 1011 | 1.19 | 20.9 | 224.9 | 24.05 | 0.9 | |
| 727 | 6.51 | 1009 | 1.16 | 20.7 | 219.9 | 24.05 | 1.8 | |
| 730 | 6.54 | 1000 | 0.83 | 21.0 | 217.4 | 24.05 | 2.7 | |
| 733 | 6.53 | 1062 | 0.63 | 21.0 | 216.1 | 24.05 | 3.6 | |
| 736 | 6.54 | 998 | 0.37 | 20.8 | 213.9 | 24.05 | 4.5 | |
| 739 | 6.54 | 1000 | 0.28 | 20.8 | 212.9 | 24.05 | 5.4 | |
| 742 | 6.55 | 1002 | 0.24 | 20.9 | 211.0 | 24.05 | 6.3 | |
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|-------------------|-------|-------------------|-----|----------------------|-------|
| Did Well Dewater? | N | Start Purge Time: | 721 | DTW prior to sample: | 24.05 |
| Odor? | No | Stop Purge Time: | 742 | Start Sample Time: | 742 |
| Color | Clear | | | Total Sample Volume: | 120ml |

Notes:

APPENDIX B: LABORATORY ANALYTICAL RESULTS





Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





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

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

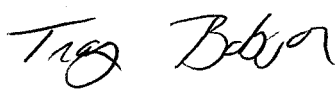
Laboratory Job Number 261211
ANALYTICAL REPORT

Applied Water Resources
2363 Mariner Square Drive
Alameda, CA 94501

Project : STANDARD
Location : 1700 Jefferson Street
Level : II

| <u>Sample ID</u> | <u>Lab ID</u> |
|------------------|---------------|
| MW-1 | 261211-001 |
| MW-3 | 261211-002 |
| MW-4 | 261211-003 |
| MW-5 | 261211-004 |
| MW-6 | 261211-005 |

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

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

Date: 10/02/2014

CASE NARRATIVE

Laboratory number: 261211
Client: Applied Water Resources
Location: 1700 Jefferson Street
Request Date: 09/25/14
Samples Received: 09/25/14

This data package contains sample and QC results for five water samples, requested for the above referenced project on 09/25/14. The samples were received cold and intact.

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

High surrogate recovery was observed for bromofluorobenzene (FID) in MW-4 (lab # 261211-003). MW-3 (lab # 261211-002) and MW-6 (lab # 261211-005) were analyzed with more than 1 mL of headspace in the VOA vial. No other analytical problems were encountered.

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

Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 09/30/14 11:26; this analyte met minimum response criteria, and affected data was qualified with "b". No other analytical problems were encountered.

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878

2323 Fifth Street

Berkeley, CA 94710

(510)486-0900 Phone

(510)486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 261211

Project No: 1700 Jefferson Street
Project Name: 1700 Jefferson Street
EDD Format: _____ **Rpt Level:** II III IV
Turnaround Time: RUSH _____ Standard

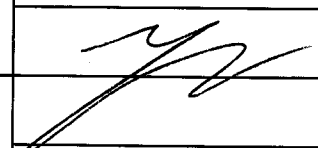
Sampler: Yola Bayram
Report To: Yola Bayram
Company : AWR Corp
Telephone: 313-204-8477
Email: ybayram@awrcorp.net

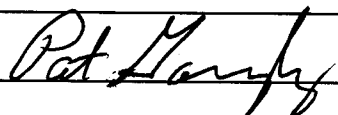
Analytical Request

| Lab No. | Sample ID. | Sampling | | Matrix | | # of Containers | Chemical Preservative | | | | | TPHg by EPA 8015 (C5-C12) | BTEx by 8260 | Ethanol by 8260 | Lead Scavengers 8260 | Fuel Oxygenates 8260 |
|---------|------------|----------|------|--------|------|-----------------|-----------------------|--------------------------------|------------------|------|------|---------------------------|-------------------------|-----------------|----------------------|----------------------|
| | | Date | Time | Water | Soil | | HCl | H ₂ SO ₄ | HNO ₃ | NaOH | None | | | | | |
| 1 | MW-1 | 9-23-14 | 918 | X | | W | X | | | | | X | X | X | X | X |
| 2 | MW-3 | | 813 | | | | | | | | | X | X | X | X | X |
| 3 | MW-4 | | 850 | | | | | | | | | X | X | X | X | X |
| 4 | MW-5 | | | | | | | | | | | X | X | X | X | X |
| 5 | MW-6 | | 342 | | | | | | | | | X | X | X | X | X |

Notes:

SAMPLE RECEIPT
 Intact Cold
 On Ice Ambient

RELINQUISHED BY:

 9-25-14 1200 DATE/TIME

RECEIVED BY:

 9/25/14 12:06 DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST



Login # 261211 Date Received 9/25/14 Number of coolers 3
Client AWR Project 1700 Jefferson
Date Opened By (print) SV (sign)
Date Logged in 9/25 By (print) PJ (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Detections Summary for 261211

Results for any subcontracted analyses are not included in this summary.

Client : Applied Water Resources
 Project : STANDARD
 Location : 1700 Jefferson Street

Client Sample ID : MW-1 Laboratory Sample ID : 261211-001

| Analyte | Result | Flags | RL | Units | Basis | IDF | Method | Prep Method |
|--------------------|--------|-------|-----|-------|---------|-------|-----------|-------------|
| Gasoline C6-C12 | 13,000 | | 500 | ug/L | As Recd | 10.00 | EPA 8015B | EPA 5030B |
| 1,2-Dichloroethane | 99 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |
| Benzene | 1,700 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |
| Toluene | 780 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |
| Ethylbenzene | 280 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |
| m,p-Xylenes | 200 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |
| o-Xylene | 160 | | 13 | ug/L | As Recd | 25.00 | EPA 8260B | EPA 5030B |

Client Sample ID : MW-3 Laboratory Sample ID : 261211-002

| Analyte | Result | Flags | RL | Units | Basis | IDF | Method | Prep Method |
|--------------------|--------|-------|-----|-------|---------|-------|-----------|-------------|
| Gasoline C6-C12 | 780 | | 50 | ug/L | As Recd | 1.000 | EPA 8015B | EPA 5030B |
| 1,2-Dichloroethane | 0.7 | | 0.5 | ug/L | As Recd | 1.000 | EPA 8260B | EPA 5030B |
| Benzene | 120 | | 2.5 | ug/L | As Recd | 5.000 | EPA 8260B | EPA 5030B |
| Toluene | 3.9 | | 0.5 | ug/L | As Recd | 1.000 | EPA 8260B | EPA 5030B |
| Ethylbenzene | 13 | | 0.5 | ug/L | As Recd | 1.000 | EPA 8260B | EPA 5030B |
| m,p-Xylenes | 4.3 | | 0.5 | ug/L | As Recd | 1.000 | EPA 8260B | EPA 5030B |

Client Sample ID : MW-4 Laboratory Sample ID : 261211-003

| Analyte | Result | Flags | RL | Units | Basis | IDF | Method | Prep Method |
|--------------------|--------|-------|-----|-------|---------|-------|-----------|-------------|
| Gasoline C6-C12 | 2,800 | | 50 | ug/L | As Recd | 1.000 | EPA 8015B | EPA 5030B |
| 1,2-Dichloroethane | 2.3 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |
| Benzene | 120 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |
| Toluene | 4.8 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |
| Ethylbenzene | 81 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |
| m,p-Xylenes | 15 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |
| o-Xylene | 3.4 | | 1.0 | ug/L | As Recd | 2.000 | EPA 8260B | EPA 5030B |

Client Sample ID : MW-5

Laboratory Sample ID :

261211-004

| Analyte | Result | Flags | RL | Units | Basis | IDF | Method | Prep Method |
|--------------------|--------|-------|-------|-------|---------|-------|-----------|-------------|
| Gasoline C6-C12 | 75,000 | | 2,500 | ug/L | As Recd | 50.00 | EPA 8015B | EPA 5030B |
| 1,2-Dichloroethane | 95 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |
| Benzene | 5,800 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |
| Toluene | 7,000 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |
| Ethylbenzene | 1,200 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |
| m,p-Xylenes | 2,700 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |
| o-Xylene | 1,200 | | 71 | ug/L | As Recd | 142.9 | EPA 8260B | EPA 5030B |

Client Sample ID : MW-6

Laboratory Sample ID :

261211-005

No Detections

Total Volatile Hydrocarbons

| | | | |
|-----------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Matrix: | Water | Sampled: | 09/23/14 |
| Units: | ug/L | Received: | 09/25/14 |

| | | | |
|-----------|------------|-----------|----------|
| Field ID: | MW-1 | Diln Fac: | 10.00 |
| Type: | SAMPLE | Batch#: | 215931 |
| Lab ID: | 261211-001 | Analyzed: | 09/30/14 |

| Analyte | Result | RL |
|-----------------|--------|-----|
| Gasoline C6-C12 | 13,000 | 500 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 113 | 77-128 |

| | | | |
|-----------|------------|-----------|----------|
| Field ID: | MW-3 | Diln Fac: | 1.000 |
| Type: | SAMPLE | Batch#: | 215975 |
| Lab ID: | 261211-002 | Analyzed: | 10/01/14 |

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | 780 | 50 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 116 | 77-128 |

| | | | |
|-----------|------------|-----------|----------|
| Field ID: | MW-4 | Diln Fac: | 1.000 |
| Type: | SAMPLE | Batch#: | 215821 |
| Lab ID: | 261211-003 | Analyzed: | 09/26/14 |

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | 2,800 | 50 |

| Surrogate | %REC | Limits |
|--------------------------|-------|--------|
| Bromofluorobenzene (FID) | 134 * | 77-128 |

| | | | |
|-----------|------------|-----------|----------|
| Field ID: | MW-5 | Diln Fac: | 50.00 |
| Type: | SAMPLE | Batch#: | 215931 |
| Lab ID: | 261211-004 | Analyzed: | 09/30/14 |

| Analyte | Result | RL |
|-----------------|--------|-------|
| Gasoline C6-C12 | 75,000 | 2,500 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 111 | 77-128 |

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 2

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Matrix: | Water | Sampled: | 09/23/14 |
| Units: | ug/L | Received: | 09/25/14 |

Field ID: MW-6 Diln Fac: 1.000
 Type: SAMPLE Batch#: 215931
 Lab ID: 261211-005 Analyzed: 09/30/14

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | ND | 50 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 110 | 77-128 |

Type: BLANK Batch#: 215821
 Lab ID: QC759305 Analyzed: 09/26/14
 Diln Fac: 1.000

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | ND | 50 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 106 | 77-128 |

Type: BLANK Batch#: 215931
 Lab ID: QC759734 Analyzed: 09/30/14
 Diln Fac: 1.000

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | ND | 50 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 112 | 77-128 |

Type: BLANK Batch#: 215975
 Lab ID: QC759896 Analyzed: 10/01/14
 Diln Fac: 1.000

| Analyte | Result | RL |
|-----------------|--------|----|
| Gasoline C6-C12 | ND | 50 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 104 | 77-128 |

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Type: | LCS | Diln Fac: | 1.000 |
| Lab ID: | QC759304 | Batch#: | 215821 |
| Matrix: | Water | Analyzed: | 09/26/14 |
| Units: | ug/L | | |

| Analyte | Spiked | Result | %REC | Limits |
|-----------------|--------|--------|------|--------|
| Gasoline C6-C12 | 1,000 | 985.9 | 99 | 80-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 106 | 77-128 |

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Field ID: | ZZZZZZZZZZ | Batch#: | 215821 |
| MSS Lab ID: | 261220-002 | Sampled: | 09/22/14 |
| Matrix: | Water | Received: | 09/25/14 |
| Units: | ug/L | Analyzed: | 09/26/14 |
| Diln Fac: | 1.000 | | |

Type: MS Lab ID: QC759306

| Analyte | MSS Result | Spiked | Result | %REC | Limits |
|-----------------|------------|--------|--------|------|--------|
| Gasoline C6-C12 | 2,860 | 2,000 | 4,690 | 92 | 75-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 127 | 77-128 |

Type: MSD Lab ID: QC759307

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-----------------|--------|--------|------|--------|-----|-----|
| Gasoline C6-C12 | 2,000 | 4,664 | 90 | 75-120 | 1 | 20 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 126 | 77-128 |

RPD= Relative Percent Difference

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Type: | LCS | Diln Fac: | 1.000 |
| Lab ID: | QC759733 | Batch#: | 215931 |
| Matrix: | Water | Analyzed: | 09/30/14 |
| Units: | ug/L | | |

| Analyte | Spiked | Result | %REC | Limits |
|-----------------|--------|--------|------|--------|
| Gasoline C6-C12 | 1,000 | 1,116 | 112 | 80-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 114 | 77-128 |

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Field ID: | ZZZZZZZZZZ | Batch#: | 215931 |
| MSS Lab ID: | 261260-001 | Sampled: | 09/26/14 |
| Matrix: | Water | Received: | 09/26/14 |
| Units: | ug/L | Analyzed: | 09/30/14 |
| Diln Fac: | 1.000 | | |

Type: MS Lab ID: QC759735

| Analyte | MSS Result | Spiked | Result | %REC | Limits |
|-----------------|------------|--------|--------|------|--------|
| Gasoline C6-C12 | 19.43 | 2,000 | 1,971 | 98 | 75-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 101 | 77-128 |

Type: MSD Lab ID: QC759736

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-----------------|--------|--------|------|--------|-----|-----|
| Gasoline C6-C12 | 2,000 | 2,041 | 101 | 75-120 | 3 | 20 |

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

RPD= Relative Percent Difference

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8015B |
| Matrix: | Water | Batch#: | 215975 |
| Units: | ug/L | Analyzed: | 10/01/14 |
| Diln Fac: | 1.000 | | |

Type: BS Lab ID: QC759894

| Analyte | Spiked | Result | %REC | Limits |
|-----------------|--------|--------|------|--------|
| Gasoline C6-C12 | 1,000 | 975.7 | 98 | 80-120 |

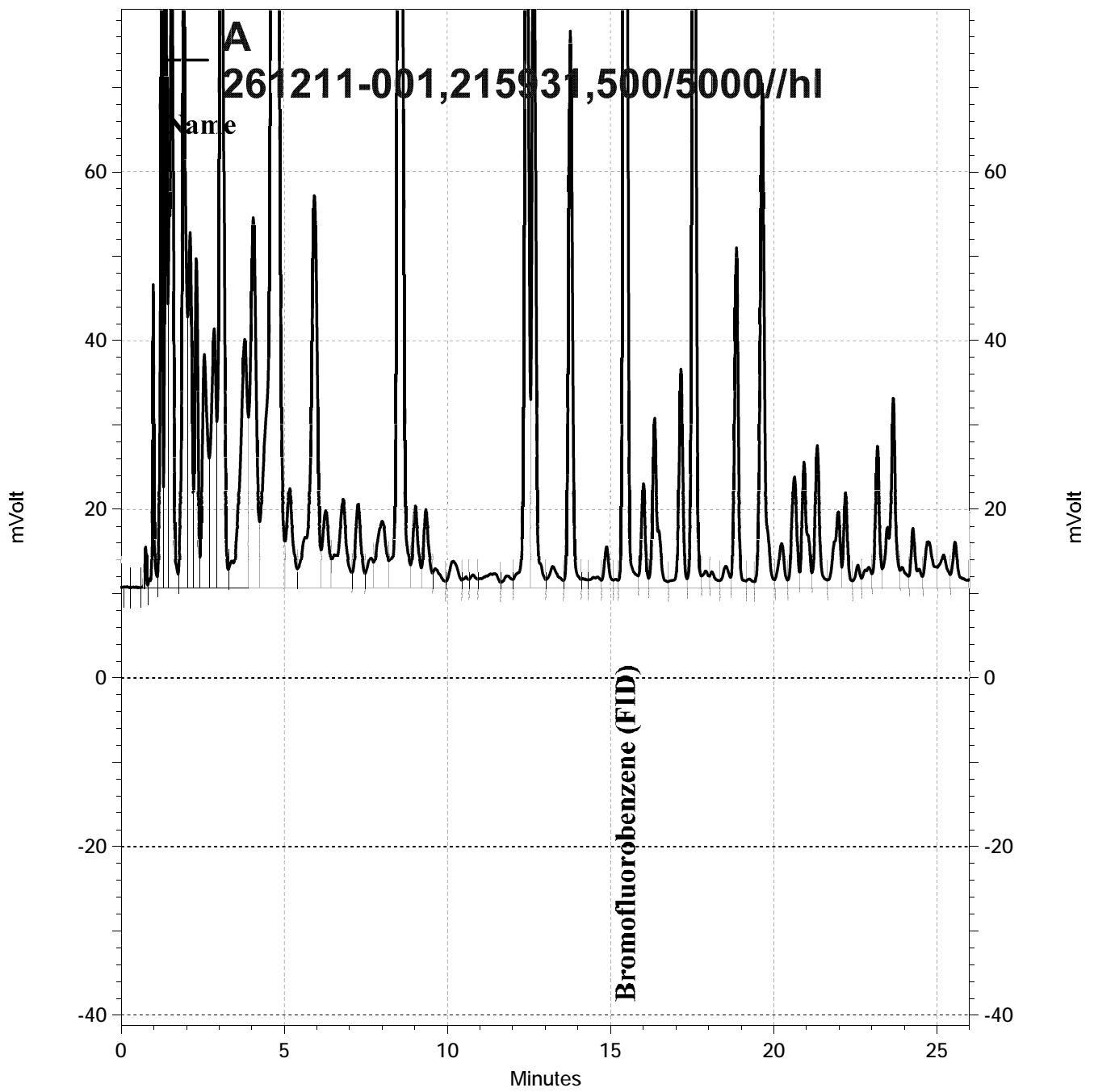
| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 107 | 77-128 |

Type: BSD Lab ID: QC759895

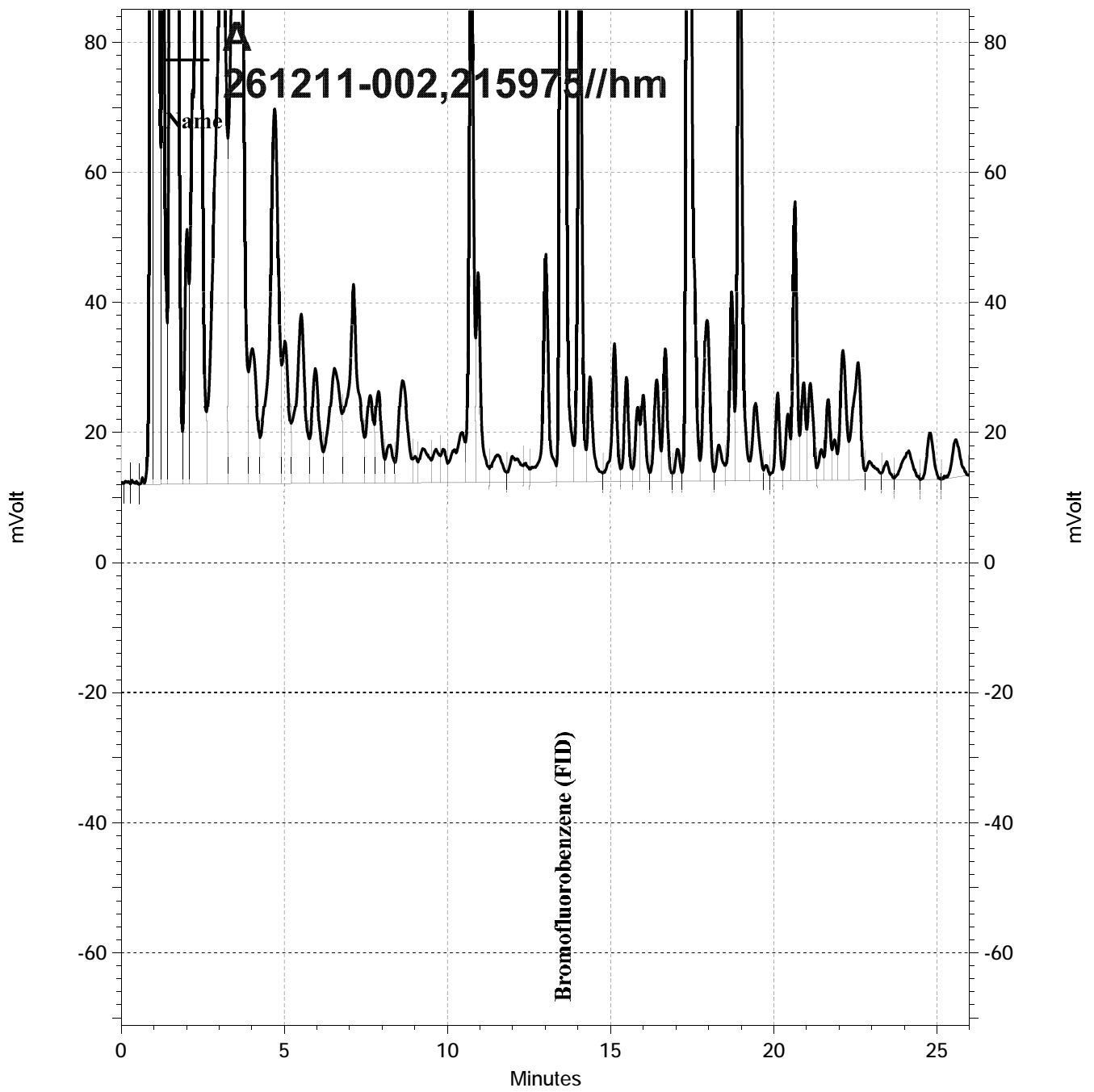
| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-----------------|--------|--------|------|--------|-----|-----|
| Gasoline C6-C12 | 2,000 | 1,941 | 97 | 80-120 | 1 | 20 |

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

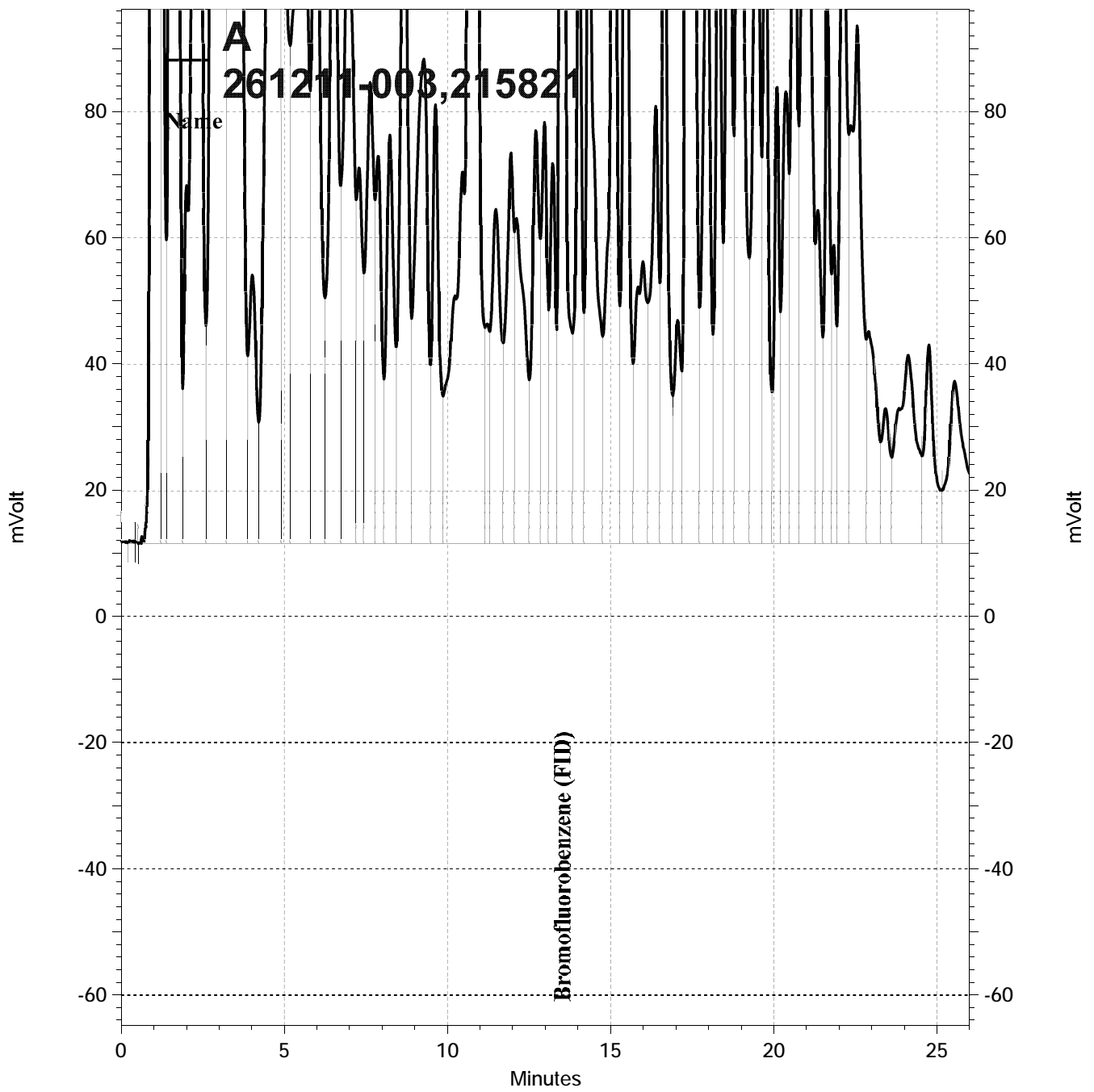
RPD= Relative Percent Difference



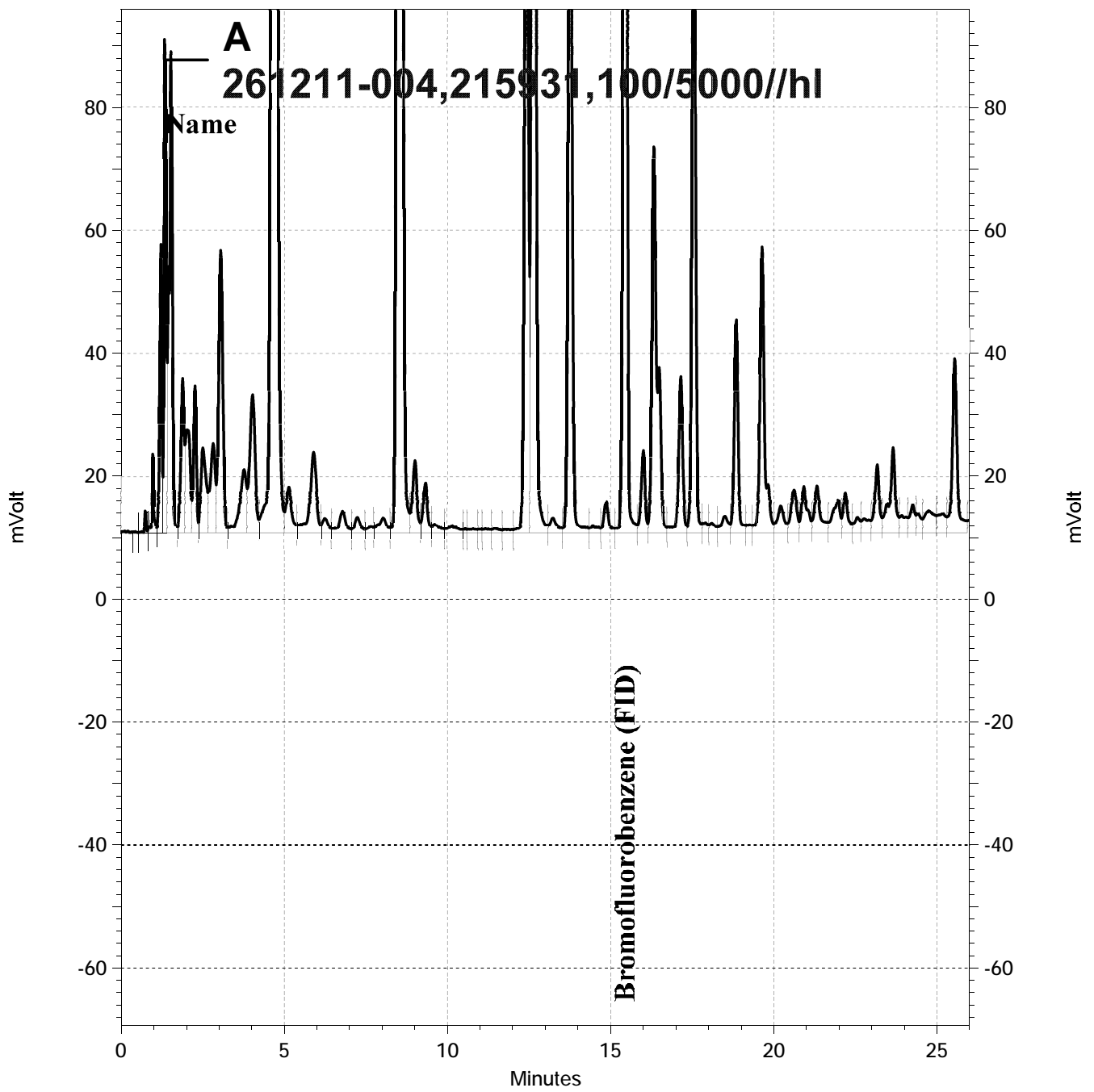
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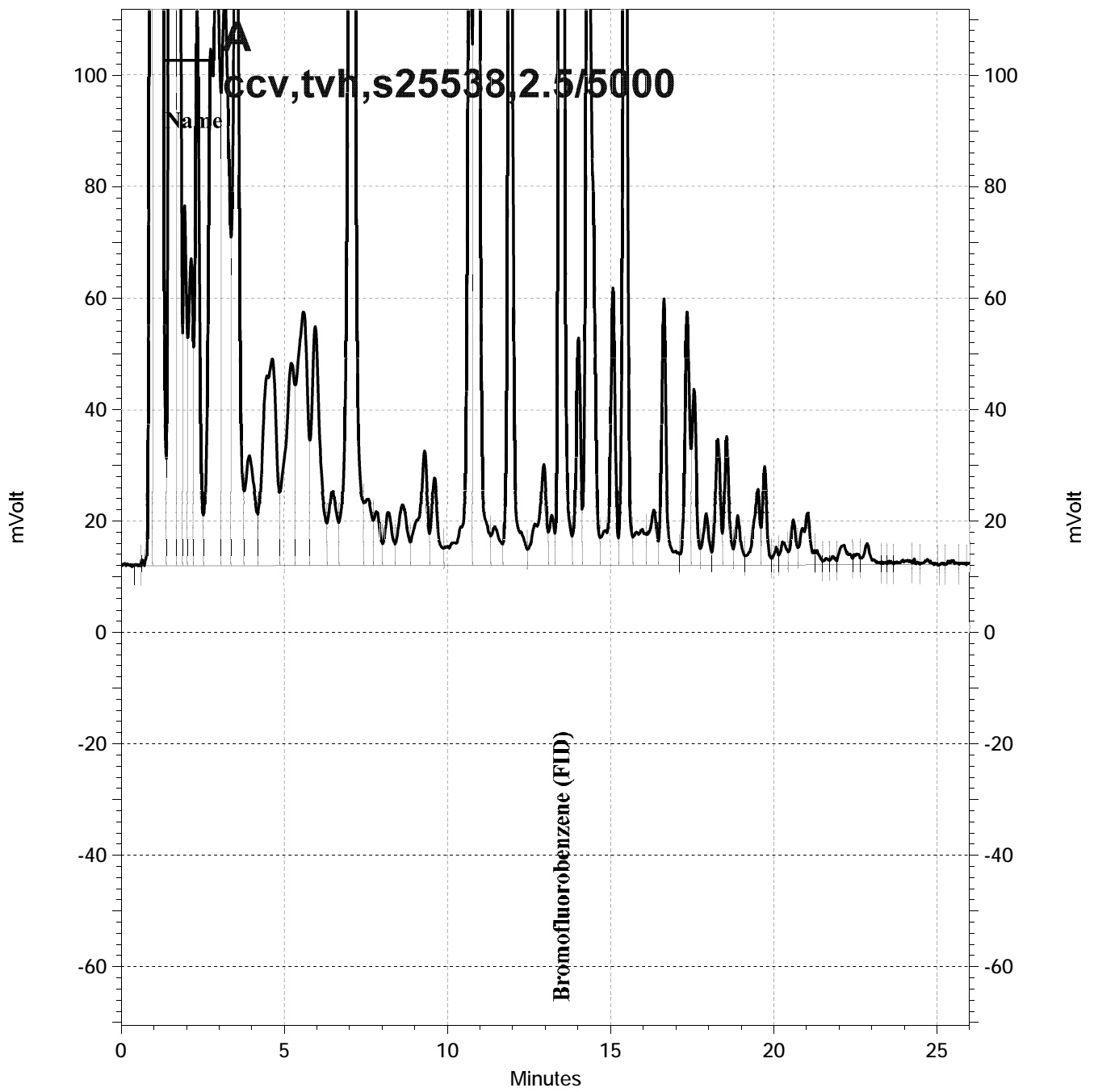
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— \\Lims\gdrive\ezchrom\Projects\GC07\Data\273-020, A



— \\Lims\gdrive\ezchrom\Projects\GC04\Data\269-002, A

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Field ID: | MW-1 | Batch#: | 215809 |
| Lab ID: | 261211-001 | Sampled: | 09/23/14 |
| Matrix: | Water | Received: | 09/25/14 |
| Units: | ug/L | Analyzed: | 09/26/14 |
| Diln Fac: | 25.00 | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 250 |
| MTBE | ND | 13 |
| Isopropyl Ether (DIPE) | ND | 13 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 13 |
| 1,2-Dichloroethane | 99 | 13 |
| Benzene | 1,700 | 13 |
| Methyl tert-Amyl Ether (TAME) | ND | 13 |
| Ethanol | ND | 6,300 |
| Toluene | 780 | 13 |
| 1,2-Dibromoethane | ND | 13 |
| Ethylbenzene | 280 | 13 |
| m,p-Xylenes | 200 | 13 |
| o-Xylene | 160 | 13 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 93 | 77-136 |
| 1,2-Dichloroethane-d4 | 120 | 75-139 |
| Toluene-d8 | 97 | 80-120 |
| Bromofluorobenzene | 88 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Field ID: | MW-3 | Units: | ug/L |
| Lab ID: | 261211-002 | Sampled: | 09/23/14 |
| Matrix: | Water | Received: | 09/25/14 |

| Analyte | Result | RL | Diln Fac | Batch# | Analyzed |
|-------------------------------|---------------|-----------|-----------------|---------------|-----------------|
| tert-Butyl Alcohol (TBA) | ND | 50 | 5.000 | 215809 | 09/26/14 |
| MTBE | ND | 0.5 | 1.000 | 215928 | 09/30/14 |
| Isopropyl Ether (DIPE) | ND | 0.5 | 1.000 | 215928 | 09/30/14 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 0.5 | 1.000 | 215928 | 09/30/14 |
| 1,2-Dichloroethane | 0.7 | 0.5 | 1.000 | 215928 | 09/30/14 |
| Benzene | 120 | 2.5 | 5.000 | 215809 | 09/26/14 |
| Methyl tert-Amyl Ether (TAME) | ND | 0.5 | 1.000 | 215928 | 09/30/14 |
| Ethanol | ND | 250 | 1.000 | 215928 | 09/30/14 |
| Toluene | 3.9 | 0.5 | 1.000 | 215928 | 09/30/14 |
| 1,2-Dibromoethane | ND | 0.5 | 1.000 | 215928 | 09/30/14 |
| Ethylbenzene | 13 | 0.5 | 1.000 | 215928 | 09/30/14 |
| m,p-Xylenes | 4.3 | 0.5 | 1.000 | 215928 | 09/30/14 |
| o-Xylene | ND | 0.5 | 1.000 | 215928 | 09/30/14 |

| Surrogate | %REC | Limits | Diln Fac | Batch# | Analyzed |
|-----------------------|-------------|---------------|-----------------|---------------|-----------------|
| Dibromofluoromethane | 105 | 77-136 | 1.000 | 215928 | 09/30/14 |
| 1,2-Dichloroethane-d4 | 113 | 75-139 | 1.000 | 215928 | 09/30/14 |
| Toluene-d8 | 100 | 80-120 | 1.000 | 215928 | 09/30/14 |
| Bromofluorobenzene | 102 | 80-120 | 1.000 | 215928 | 09/30/14 |

ND= Not Detected
 RL= Reporting Limit

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Field ID: | MW-4 | Batch#: | 215866 |
| Lab ID: | 261211-003 | Sampled: | 09/23/14 |
| Matrix: | Water | Received: | 09/25/14 |
| Units: | ug/L | Analyzed: | 09/29/14 |
| Diln Fac: | 2.000 | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 20 |
| MTBE | ND | 1.0 |
| Isopropyl Ether (DIPE) | ND | 1.0 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 1.0 |
| 1,2-Dichloroethane | 2.3 | 1.0 |
| Benzene | 120 | 1.0 |
| Methyl tert-Amyl Ether (TAME) | ND | 1.0 |
| Ethanol | ND | 500 |
| Toluene | 4.8 | 1.0 |
| 1,2-Dibromoethane | ND | 1.0 |
| Ethylbenzene | 81 | 1.0 |
| m,p-Xylenes | 15 | 1.0 |
| o-Xylene | 3.4 | 1.0 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 101 | 77-136 |
| 1,2-Dichloroethane-d4 | 96 | 75-139 |
| Toluene-d8 | 99 | 80-120 |
| Bromofluorobenzene | 100 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Field ID: | MW-5 | Batch#: | 215809 |
| Lab ID: | 261211-004 | Sampled: | 09/23/14 |
| Matrix: | Water | Received: | 09/25/14 |
| Units: | ug/L | Analyzed: | 09/26/14 |
| Diln Fac: | 142.9 | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 1,400 |
| MTBE | ND | 71 |
| Isopropyl Ether (DIPE) | ND | 71 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 71 |
| 1,2-Dichloroethane | 95 | 71 |
| Benzene | 5,800 | 71 |
| Methyl tert-Amyl Ether (TAME) | ND | 71 |
| Ethanol | ND | 36,000 |
| Toluene | 7,000 | 71 |
| 1,2-Dibromoethane | ND | 71 |
| Ethylbenzene | 1,200 | 71 |
| m,p-Xylenes | 2,700 | 71 |
| o-Xylene | 1,200 | 71 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 91 | 77-136 |
| 1,2-Dichloroethane-d4 | 122 | 75-139 |
| Toluene-d8 | 96 | 80-120 |
| Bromofluorobenzene | 88 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Field ID: | MW-6 | Batch#: | 215866 |
| Lab ID: | 261211-005 | Sampled: | 09/23/14 |
| Matrix: | Water | Received: | 09/25/14 |
| Units: | ug/L | Analyzed: | 09/29/14 |
| Diln Fac: | 1.000 | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 10 |
| MTBE | ND | 0.5 |
| Isopropyl Ether (DIPE) | ND | 0.5 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Methyl tert-Amyl Ether (TAME) | ND | 0.5 |
| Ethanol | ND | 250 |
| Toluene | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 99 | 77-136 |
| 1,2-Dichloroethane-d4 | 93 | 75-139 |
| Toluene-d8 | 99 | 80-120 |
| Bromofluorobenzene | 109 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Matrix: | Water | Batch#: | 215809 |
| Units: | ug/L | Analyzed: | 09/26/14 |
| Diln Fac: | 1.000 | | |

Type: BS Lab ID: QC759263

| Analyte | Spiked | Result | %REC | Limits |
|-------------------------------|--------|--------|------|--------|
| tert-Butyl Alcohol (TBA) | 50.00 | 46.90 | 94 | 37-151 |
| MTBE | 10.00 | 9.018 | 90 | 64-121 |
| Isopropyl Ether (DIPE) | 10.00 | 7.354 | 74 | 56-124 |
| Ethyl tert-Butyl Ether (ETBE) | 10.00 | 8.507 | 85 | 61-122 |
| 1,2-Dichloroethane | 10.00 | 12.42 | 124 | 77-137 |
| Benzene | 10.00 | 10.26 | 103 | 80-124 |
| Methyl tert-Amyl Ether (TAME) | 10.00 | 9.950 | 99 | 65-120 |
| Toluene | 10.00 | 10.53 | 105 | 80-122 |
| 1,2-Dibromoethane | 10.00 | 10.97 | 110 | 80-120 |
| Ethylbenzene | 10.00 | 11.51 | 115 | 80-124 |
| m,p-Xylenes | 20.00 | 21.99 | 110 | 80-122 |
| o-Xylene | 10.00 | 11.39 | 114 | 77-120 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 91 | 77-136 |
| 1,2-Dichloroethane-d4 | 118 | 75-139 |
| Toluene-d8 | 97 | 80-120 |
| Bromofluorobenzene | 87 | 80-120 |

Type: BSD Lab ID: QC759264

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-------------------------------|--------|--------|------|--------|-----|-----|
| tert-Butyl Alcohol (TBA) | 50.00 | 50.28 | 101 | 37-151 | 7 | 30 |
| MTBE | 10.00 | 9.368 | 94 | 64-121 | 4 | 20 |
| Isopropyl Ether (DIPE) | 10.00 | 8.184 | 82 | 56-124 | 11 | 20 |
| Ethyl tert-Butyl Ether (ETBE) | 10.00 | 8.603 | 86 | 61-122 | 1 | 22 |
| 1,2-Dichloroethane | 10.00 | 12.44 | 124 | 77-137 | 0 | 20 |
| Benzene | 10.00 | 10.09 | 101 | 80-124 | 2 | 20 |
| Methyl tert-Amyl Ether (TAME) | 10.00 | 10.55 | 105 | 65-120 | 6 | 22 |
| Toluene | 10.00 | 10.12 | 101 | 80-122 | 4 | 20 |
| 1,2-Dibromoethane | 10.00 | 10.91 | 109 | 80-120 | 1 | 20 |
| Ethylbenzene | 10.00 | 11.03 | 110 | 80-124 | 4 | 20 |
| m,p-Xylenes | 20.00 | 21.39 | 107 | 80-122 | 3 | 20 |
| o-Xylene | 10.00 | 11.11 | 111 | 77-120 | 2 | 20 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 93 | 77-136 |
| 1,2-Dichloroethane-d4 | 125 | 75-139 |
| Toluene-d8 | 97 | 80-120 |
| Bromofluorobenzene | 87 | 80-120 |

RPD= Relative Percent Difference

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Type: | BLANK | Diln Fac: | 1.000 |
| Lab ID: | QC759265 | Batch#: | 215809 |
| Matrix: | Water | Analyzed: | 09/26/14 |
| Units: | ug/L | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 10 |
| MTBE | ND | 0.5 |
| Isopropyl Ether (DIPE) | ND | 0.5 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Methyl tert-Amyl Ether (TAME) | ND | 0.5 |
| Ethanol | ND | 250 |
| Toluene | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 91 | 77-136 |
| 1,2-Dichloroethane-d4 | 124 | 75-139 |
| Toluene-d8 | 97 | 80-120 |
| Bromofluorobenzene | 88 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Matrix: | Water | Batch#: | 215866 |
| Units: | ug/L | Analyzed: | 09/29/14 |
| Diln Fac: | 1.000 | | |

Type: BS Lab ID: QC759478

| Analyte | Spiked | Result | %REC | Limits |
|-------------------------------|--------|--------|------|--------|
| tert-Butyl Alcohol (TBA) | 62.50 | 52.46 | 84 | 37-151 |
| MTBE | 12.50 | 10.42 | 83 | 64-121 |
| Isopropyl Ether (DIPE) | 12.50 | 10.25 | 82 | 56-124 |
| Ethyl tert-Butyl Ether (ETBE) | 12.50 | 10.53 | 84 | 61-122 |
| 1,2-Dichloroethane | 12.50 | 11.29 | 90 | 77-137 |
| Benzene | 12.50 | 12.26 | 98 | 80-124 |
| Methyl tert-Amyl Ether (TAME) | 12.50 | 10.76 | 86 | 65-120 |
| Toluene | 12.50 | 12.57 | 101 | 80-122 |
| 1,2-Dibromoethane | 12.50 | 12.17 | 97 | 80-120 |
| Ethylbenzene | 12.50 | 12.40 | 99 | 80-124 |
| m,p-Xylenes | 25.00 | 25.39 | 102 | 80-122 |
| o-Xylene | 12.50 | 12.75 | 102 | 77-120 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 99 | 77-136 |
| 1,2-Dichloroethane-d4 | 90 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 103 | 80-120 |

Type: BSD Lab ID: QC759479

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-------------------------------|--------|--------|------|--------|-----|-----|
| tert-Butyl Alcohol (TBA) | 62.50 | 54.65 | 87 | 37-151 | 4 | 30 |
| MTBE | 12.50 | 10.17 | 81 | 64-121 | 2 | 20 |
| Isopropyl Ether (DIPE) | 12.50 | 10.26 | 82 | 56-124 | 0 | 20 |
| Ethyl tert-Butyl Ether (ETBE) | 12.50 | 10.40 | 83 | 61-122 | 1 | 22 |
| 1,2-Dichloroethane | 12.50 | 11.39 | 91 | 77-137 | 1 | 20 |
| Benzene | 12.50 | 12.01 | 96 | 80-124 | 2 | 20 |
| Methyl tert-Amyl Ether (TAME) | 12.50 | 10.68 | 85 | 65-120 | 1 | 22 |
| Toluene | 12.50 | 12.40 | 99 | 80-122 | 1 | 20 |
| 1,2-Dibromoethane | 12.50 | 12.58 | 101 | 80-120 | 3 | 20 |
| Ethylbenzene | 12.50 | 11.98 | 96 | 80-124 | 3 | 20 |
| m,p-Xylenes | 25.00 | 24.57 | 98 | 80-122 | 3 | 20 |
| o-Xylene | 12.50 | 12.47 | 100 | 77-120 | 2 | 20 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 97 | 77-136 |
| 1,2-Dichloroethane-d4 | 90 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 103 | 80-120 |

RPD= Relative Percent Difference

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Type: | BLANK | Diln Fac: | 1.000 |
| Lab ID: | QC759480 | Batch#: | 215866 |
| Matrix: | Water | Analyzed: | 09/29/14 |
| Units: | ug/L | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 10 |
| MTBE | ND | 0.5 |
| Isopropyl Ether (DIPE) | ND | 0.5 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Methyl tert-Amyl Ether (TAME) | ND | 0.5 |
| Ethanol | ND | 250 |
| Toluene | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 99 | 77-136 |
| 1,2-Dichloroethane-d4 | 93 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 109 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Matrix: | Water | Batch#: | 215928 |
| Units: | ug/L | Analyzed: | 09/30/14 |
| Diln Fac: | 1.000 | | |

Type: BS Lab ID: QC759723

| Analyte | Spiked | Result | %REC | Limits |
|-------------------------------|--------|---------|------|--------|
| tert-Butyl Alcohol (TBA) | 125.0 | 87.14 b | 70 | 37-151 |
| MTBE | 25.00 | 24.86 | 99 | 64-121 |
| Isopropyl Ether (DIPE) | 25.00 | 24.54 | 98 | 56-124 |
| Ethyl tert-Butyl Ether (ETBE) | 25.00 | 24.54 | 98 | 61-122 |
| 1,2-Dichloroethane | 25.00 | 28.98 | 116 | 77-137 |
| Benzene | 25.00 | 27.24 | 109 | 80-124 |
| Methyl tert-Amyl Ether (TAME) | 25.00 | 24.78 | 99 | 65-120 |
| Toluene | 25.00 | 26.63 | 107 | 80-122 |
| 1,2-Dibromoethane | 25.00 | 24.44 | 98 | 80-120 |
| Ethylbenzene | 25.00 | 26.90 | 108 | 80-124 |
| m,p-Xylenes | 50.00 | 55.97 | 112 | 80-122 |
| o-Xylene | 25.00 | 27.65 | 111 | 77-120 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 104 | 77-136 |
| 1,2-Dichloroethane-d4 | 110 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 98 | 80-120 |

Type: BSD Lab ID: QC759724

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-------------------------------|--------|---------|------|--------|-----|-----|
| tert-Butyl Alcohol (TBA) | 125.0 | 102.0 b | 82 | 37-151 | 16 | 30 |
| MTBE | 25.00 | 25.53 | 102 | 64-121 | 3 | 20 |
| Isopropyl Ether (DIPE) | 25.00 | 24.36 | 97 | 56-124 | 1 | 20 |
| Ethyl tert-Butyl Ether (ETBE) | 25.00 | 24.28 | 97 | 61-122 | 1 | 22 |
| 1,2-Dichloroethane | 25.00 | 28.64 | 115 | 77-137 | 1 | 20 |
| Benzene | 25.00 | 26.12 | 104 | 80-124 | 4 | 20 |
| Methyl tert-Amyl Ether (TAME) | 25.00 | 24.86 | 99 | 65-120 | 0 | 22 |
| Toluene | 25.00 | 25.54 | 102 | 80-122 | 4 | 20 |
| 1,2-Dibromoethane | 25.00 | 24.46 | 98 | 80-120 | 0 | 20 |
| Ethylbenzene | 25.00 | 25.78 | 103 | 80-124 | 4 | 20 |
| m,p-Xylenes | 50.00 | 53.80 | 108 | 80-122 | 4 | 20 |
| o-Xylene | 25.00 | 26.51 | 106 | 77-120 | 4 | 20 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 104 | 77-136 |
| 1,2-Dichloroethane-d4 | 111 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 97 | 80-120 |

b= See narrative
 RPD= Relative Percent Difference
 Page 1 of 1

Batch QC Report

| BTXE & Oxygenates | | | |
|------------------------------|-------------------------|-----------|-----------------------|
| Lab #: | 261211 | Location: | 1700 Jefferson Street |
| Client: | Applied Water Resources | Prep: | EPA 5030B |
| Project#: | STANDARD | Analysis: | EPA 8260B |
| Type: | BLANK | Diln Fac: | 1.000 |
| Lab ID: | QC759725 | Batch#: | 215928 |
| Matrix: | Water | Analyzed: | 09/30/14 |
| Units: | ug/L | | |

| Analyte | Result | RL |
|-------------------------------|---------------|-----------|
| tert-Butyl Alcohol (TBA) | ND | 10 |
| MTBE | ND | 0.5 |
| Isopropyl Ether (DIPE) | ND | 0.5 |
| Ethyl tert-Butyl Ether (ETBE) | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Methyl tert-Amyl Ether (TAME) | ND | 0.5 |
| Ethanol | ND | 250 |
| Toluene | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 112 | 77-136 |
| 1,2-Dichloroethane-d4 | 113 | 75-139 |
| Toluene-d8 | 101 | 80-120 |
| Bromofluorobenzene | 100 | 80-120 |

ND= Not Detected
 RL= Reporting Limit