SOMA
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June 24, 2015

RECEIVED
By Alameda County Environmental Health 3:36 pm, Jun 24, 2015

Mr. Martin Musonge
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: **File No. 01-0098 (MYM)**
Site Located at 2844 Mountain Boulevard, Oakland, California

Dear Mr. Musonge:

Enclosed for your review is a copy of SOMA's "Second Quarter 2015 Groundwater Monitoring Report" for the subject property. It has been uploaded to the State's GeoTracker database and Alameda County's FTP site.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have any questions or comments.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

cc: Mr. Tejindar Singh w/enclosure
Ms. Donna Drogos – Alameda County Env. Health

Second Quarter 2015
Groundwater Monitoring Report

2844 Mountain Boulevard
Oakland, California
Regional Board File Number 01-0098

June 24, 2015

Project 5081

Prepared for

Tejindar Singh
6400 Dublin Blvd.
Dublin, California, 94568

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PERJURY STATEMENT

Site Location: 2844 Mountain Boulevard, Oakland, California

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

Tejindar Singh
6400 Dublin Boulevard
Dublin, California 94568
Responsible Party

CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf Tejindar Singh, property owner of 2844 Mountain Blvd., Oakland, California, to comply with requirements of the San Francisco Bay Regional Water Quality Control Board for the Second Quarter 2015 groundwater monitoring event.

Mansour Sepehr, PhD, PE
Principal Hydrogeologist

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1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Mr. Tejindar Singh, property owner of 2844 Mountain Blvd., Oakland, California. The site is located east of Highway 13 and west of Joaquin Miller Park (Figure 1). Former underground storage tank (UST) locations and site features are shown in Figure 2.

This report summarizes results of the Second Quarter 2015 groundwater monitoring event conducted at the site on May 13, 2015. It includes physical and chemical properties measured in the field for each groundwater sample and laboratory analytical results for groundwater samples.

1.1 Previous Activities

In March 1989 soil contamination was identified during replacement of product lines. Analytical results for a soil sample collected from the southern edge of a premium unleaded tank reported total petroleum hydrocarbons (TPHs) as gasoline (TPH-g) concentration of 8,400 mg/kg. Samples from beneath the lines near the pump islands reported TPH concentrations of less than 100 mg/kg.

In July 1989, contaminated soil was excavated and from the area of the southern end of the premium unleaded UST disposed of. Analysis of 12 soil samples collected from the sides of the excavation reported TPH concentrations ranging between ND to 3,300 mg/kg.

In May 1990, further site investigation including installation of four monitoring wells (RS-1 through RS-4) was conducted. Analysis of soil samples collected above the water table reported TPH concentrations ranging from 1 to 240 mg/kg. Hydrocarbons were detected in groundwater samples collected from all the wells; the highest concentration was found in a sample monitoring well RS-2.

In June 1991 soil vapor extraction began in June 1991. Groundwater remediation began in October 1992. Remediation was suspended in 1992, apparently due to responsible party financial issues.

In April 1994, one 280-gallon waste oil UST was removed with approximately 280 gallons of fluid and rinsate. The site operated as a retail gasoline station. Three USTs, two pump islands and an office/garage building were among the site features. The USTs contained various grades of unleaded gasoline and diesel with storage capacities of 3,000, 4,000, and 10,000 gallons.

In 1996 free product was reported in RS-1.

In July 1998, one 4,000-gallon gasoline UST was excavated and disposed of off-site.

Between July 29 and August 18, 2011, two USTs, one 10,000 gallon and one 3,000 gallon capacity, were excavated and disposed of off-site. The site is currently fenced in, which limits public access to the property.

Further soil and groundwater investigation was conducted at the site in March 2012. In October 2012, two wells (RS-1 and RS-2) were decommissioned in anticipation of excavation activities onsite. Excavation activities commenced on October 3, 2012, and an area of approximately 1,200 square feet was excavated to a depth of 15 feet. A total of 788.65 tons of waste soil was removed and replaced with clean fill material.

On May 9 and 10, 2013, two groundwater monitoring wells (MW-1 and MW-2) and soil and groundwater borings (DPT-5/5W) were installed as approved and requested by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). All site wells were surveyed by a licensed surveyor on May 28, 2013.

Based on the success of a multi-phase extraction (MPE) pilot test conducted at the site in December 2013, SFRWQCB approved an extended MPE event. This event was conducted at the site from September 17, 2014 to November 5, 2014. Details and results of this event are documented in SOMA's report dated December 12, 2014.

Based on SFRWQCB's approval, SOMA installed an additional MPE well (MW-3) on May 1, 2015, in the vicinity of historical groundwater sample T-1, where high contaminant concentrations were observed during UST removal of August 2011. An extended MPE event was conducted utilizing this well and other site wells during May and June 2015. Details of well installation and MPE operation will be presented in a separate upcoming report.

1.2 Summary of Field Activities and Laboratory Analysis

1.2.1 Field Activities

On May 13, 2015, five monitoring wells (RS-3, RS-4, MW-1, MW-2, and newly installed MW-3) were measured for depth to groundwater. Additional field measurements and groundwater samples were collected from RS-3, MW-1, and MW-2. Properties measured in the field were pH, temperature, and electrical conductivity (EC). Only a grab sample could be collected from RS-4 because of accessibility issues as this well is fitted with a compression cap that could not be unscrewed. This monitoring event was conducted in accordance with procedures and guidelines of SFBRWQCB.

Figure 2 shows well locations. Appendix A details groundwater monitoring procedures followed during this event.

Purged groundwater was temporarily stored and secured on-site in a 55-gallon drum pending transport to an appropriate disposal facility. Three drums generated during the First Quarter 2015 and current groundwater monitoring events were transported to an appropriate disposal facility on May 28, 2015. Appendix D includes a waste manifest for the removal of purged groundwater.

1.2.2 Laboratory Analysis

Groundwater samples were submitted to a California state-certified laboratory Curtis and Tompkins Laboratories, for the following analysis:

- TPH-g (gasoline by EPA Method 8260), and TPH-d (diesel by EPA Method 8015);
- BTEX (benzene, toluene, ethylbenzene, and total xylenes), MtBE, gasoline oxygenates (by EPA Method 8260).

2. RESULTS

Results of field measurements and laboratory analyses for the groundwater monitoring event conducted on February 12, 2015 follow below.

2.1 Field Measurements

Monitoring wells MW-1, MW-2, MW-3, RS-3 and RS-4 were measured for depth to groundwater (Table 1). Depths to groundwater ranged from 6.60 feet in MW-3 to 9.05 feet in RS-4. Groundwater elevations ranged from 666.22 feet in RS-4 to 669.15 feet in RS-3.

Figure 3 displays the groundwater elevation map. The groundwater flows southeasterly at a gradient of 0.056 ft/ft. Since the previous monitoring event February 2015), the groundwater flow direction has remained southeasterly and the gradient has decreased slightly. Groundwater gradient calculations are included in Appendix B.

2.2 Laboratory Analysis

Groundwater analytical data for this monitoring event is shown in Table 1. Appendix C includes the laboratory report and chain of custody form. No measurable floating product was observed during this monitoring event.

TPH-g was below laboratory-reporting limit in RS-3, RS-4, MW-2, and MW-3 and was detected in MW-1 at 2,700 µg/L. Since the previous monitoring event (February 2015), TPH-g concentrations decreased in MW-1 and remained below

laboratory-reporting limits in RS-3, RS-4, and MW-2. Figure 4 shows a map of TPH-g concentrations in groundwater. The TPH-g plume appears to be centered to the southwest of the pump islands in the vicinity of MW-1.

TPH-d was below laboratory-reporting limit in RS-3 and was detected in concentrations ranging from 1,100 µg/L in RS-4 to 7,100 µg/L in MW-1. Since the previous monitoring event (February 2015), TPH-d has decreased in RS-3, RS-4, MW-1, and MW-2. Figure 5 shows a contour map of TPH-d concentrations in groundwater. TPH-d plume appears to be centered southwest of the pump islands in the vicinity of MW-1.

The following BTEX concentrations were observed during this monitoring event:

- All BTEX analytes were below laboratory-reporting limits in RS-3 and RS-4 and toluene was below laboratory-reporting limit in all site wells.
- Benzene was detected in MW-1 and MW-2 at 150 µg/L and 86 µg/L, respectively and was below laboratory-reporting limits in other groundwater samples. Since the previous monitoring event (February 2015) benzene has decreased in MW-1 and MW-2. Figure 4 shows a map of benzene concentrations in groundwater. The benzene plume appears to be centered to the southwest of the pump islands in the vicinity of MW-1.
- Ethylbenzene was detected in MW-1 and MW-2 at 170 µg/L and 45 µg/L, respectively and was below laboratory-reporting limits in other groundwater samples. Since the previous monitoring event (February 2015) ethylbenzene has decreased in MW-1 and MW-2.
- Total xylenes were detected in MW-1 and MW-3 at 76 µg/L and 0.75 µg/L, respectively and were below laboratory-reporting limits in all other groundwater samples. Since the previous monitoring event (February 2015), total xylenes have decreased in MW-1.

Methyl tertiary-butyl ether (MtBE) concentrations ranged from 4.6 µg/L in RS-3 to 1,000 µg/L in MW-1. Since the previous monitoring event (February 2015), MtBE has decreased in RS-3, RS-4, MW-1, and more significantly in MW-2. Figure 6 shows a contour map of MtBE concentrations in groundwater. The MtBE plume appears to be centered southwest of the pump islands in the vicinity of MW-1.

Tertiary-butyl alcohol (TBA) was below laboratory-reporting limit in RS-3. Detectable TBA concentrations ranged from 380 µg/L in MW-3 to 34,000 µg/L in MW-2. Since the previous monitoring event (February 2015), TBA increased in RS-4 and decreased in MW-1 and MW-2. Figure 7 shows a contour map of TBA concentrations in groundwater. The highest TBA concentrations were detected in the vicinity of the pump islands around MW-2.

Tertiary amyl methyl ether (TAME) was below laboratory-reporting limit in RS-3. Detectable TAME concentrations ranged from 8.4 µg/L in MW-3 to 150 µg/L in MW-1. Since the previous monitoring event (February 2015), TAME has

decreased in RS-4, MW-1, and MW-2. Figure 8 shows a contour map of TAME concentrations in groundwater. The highest TAME concentrations were detected to the southwest of the pump islands in the vicinity of MW-1.

3. CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations based on results of Second Quarter 2015 groundwater monitoring are summarized below.

- The groundwater flows southeasterly across the site.
- No free/floating product was observed in any monitoring wells during this monitoring event.
- The highest TPH-g, TPH-d, benzene, ethylbenzene, and total xylenes MtBE, and TAME concentrations were detected to the southwest of the pump islands around MW-1. The highest TBA concentrations were detected in the vicinity of pump islands around MW-2.
- Since the previous monitoring event in February 2015, TPH-g decreased in MW-1; TPH-d decreased in RS-3, RS-4, MW-1, and MW-2; benzene decreased in MW-1 and MW-2; MtBE decreased in RS-3, RS-4, MW-1, and more significantly in MW-2; TBA increased in RS-4 and decreased in MW-1 and MW-2; and TAME decreased in RS-4, MW-1, and MW-2.
- SOMA will continue conducting quarterly groundwater monitoring events at the site.

As mentioned in section 1.1, an extended MPE event was conducted at the site from May 19, 2015 to June 19, 2015 utilizing RS-4, MW-1, MW-2, and the newly installed well MW-3. Details of field activities and results are being documented in a separate well installation and MPE report which will be uploaded shortly. Any further recommendations will be made in the upcoming report.

4. REPORT LIMITATIONS

This report is the summary of work done by SOMA, including observations and descriptions of site conditions. It includes analytical results produced by Curtis and Tompkins, Laboratories for the current groundwater monitoring event. Quantities and locations of wells were selected to provide the required information, but may not be completely representative of entire site conditions. All conclusions and recommendations are based on results of laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

SOMA warrants that services were provided in accordance with generally accepted environmental engineering and consulting practices at the time of this sampling.

Figures

Source: Google (R) 2012

N

approximate scale in feet

0 100 200

Figure 1: Site Vicinity Map

SOMA ENVIRONMENTAL ENGINEERING, INC.

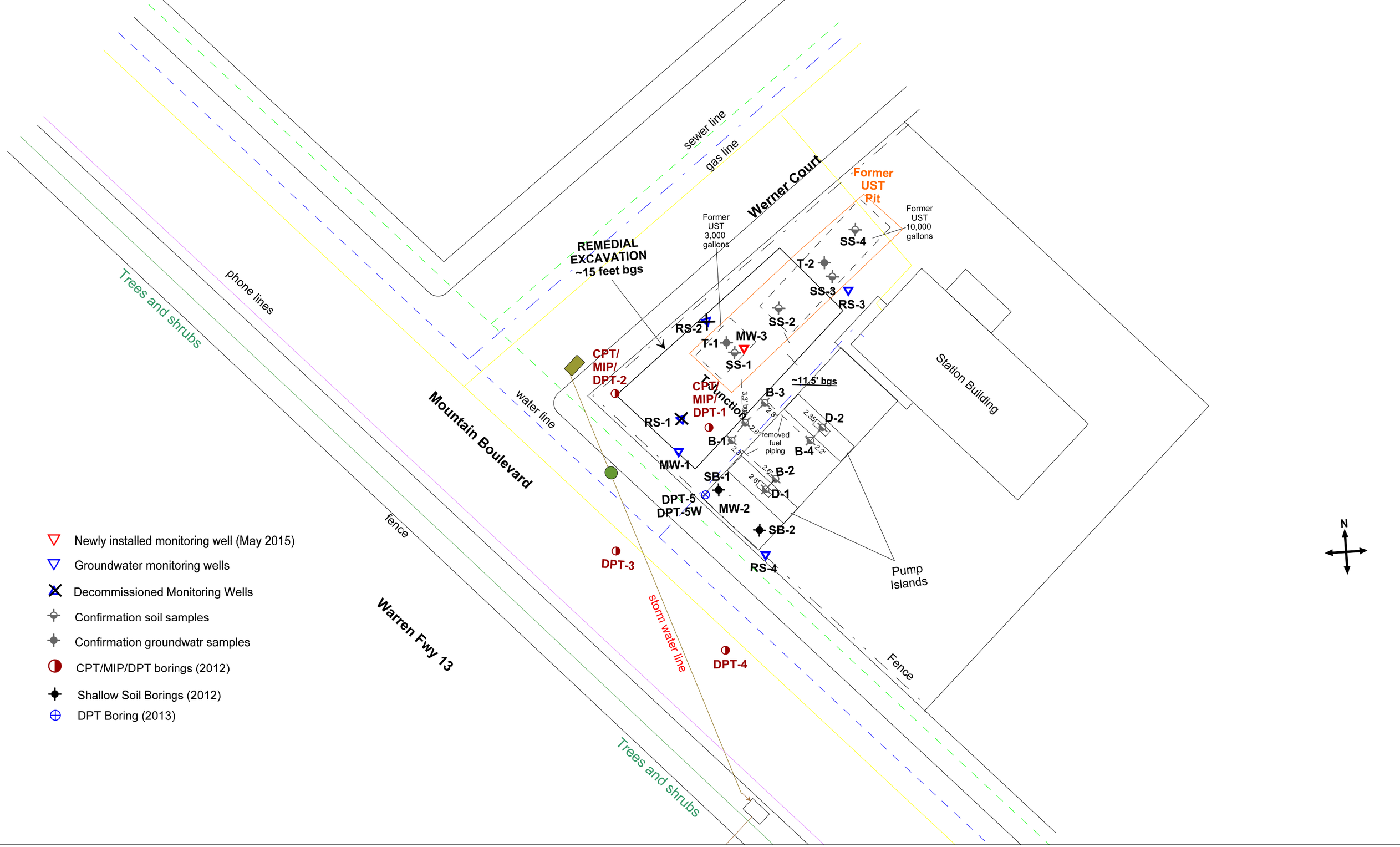

Figure 2: Site Map Showing Locations of Former USTs, Soil Borings, and Groundwater Monitoring Wells

ENVIRONMENTAL ENGINEERING, INC.

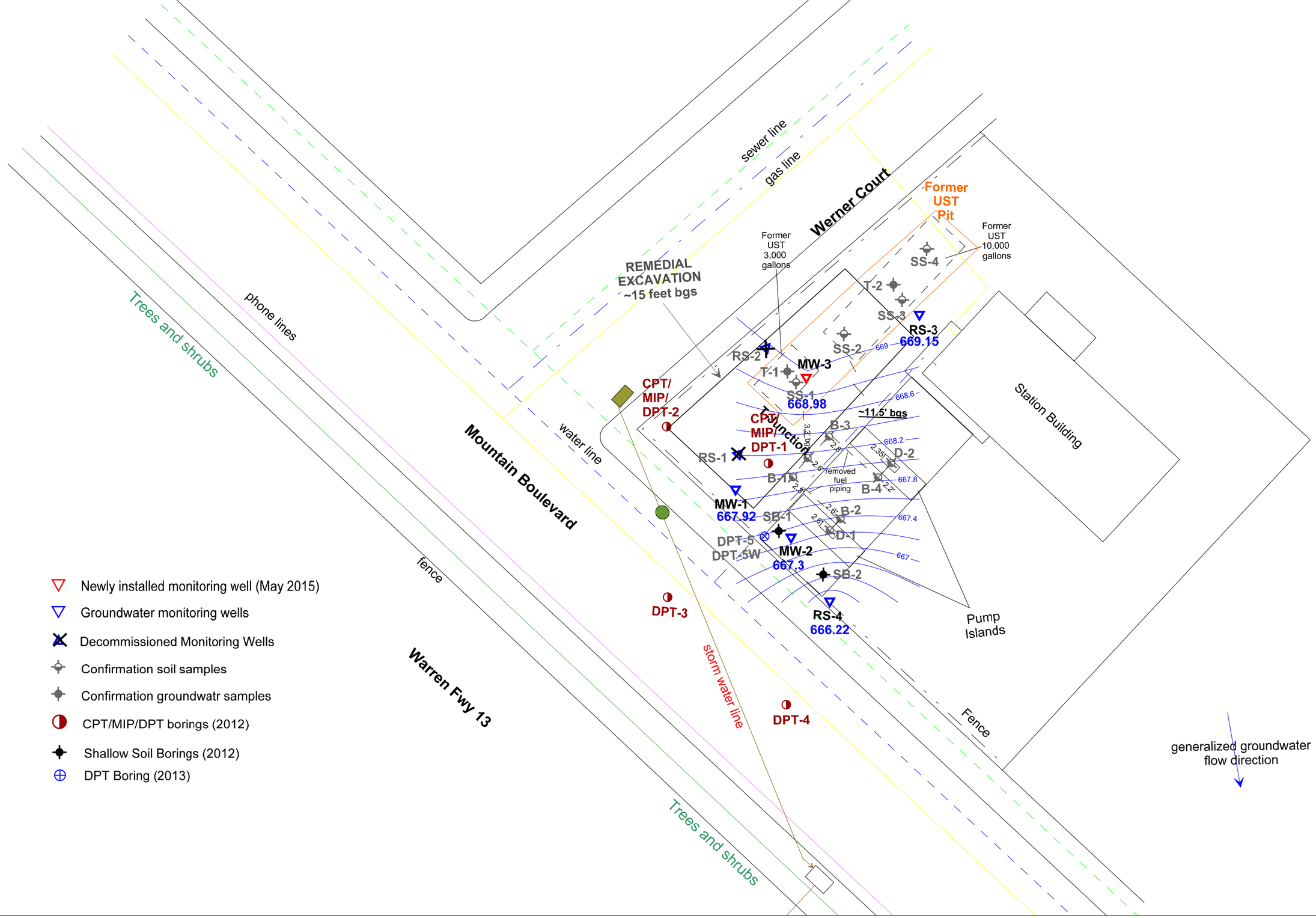

Figure 3: Groundwater Elevation Contour Map in feet, May 13, 2015

ENVIRONMENTAL ENGINEERING, INC.

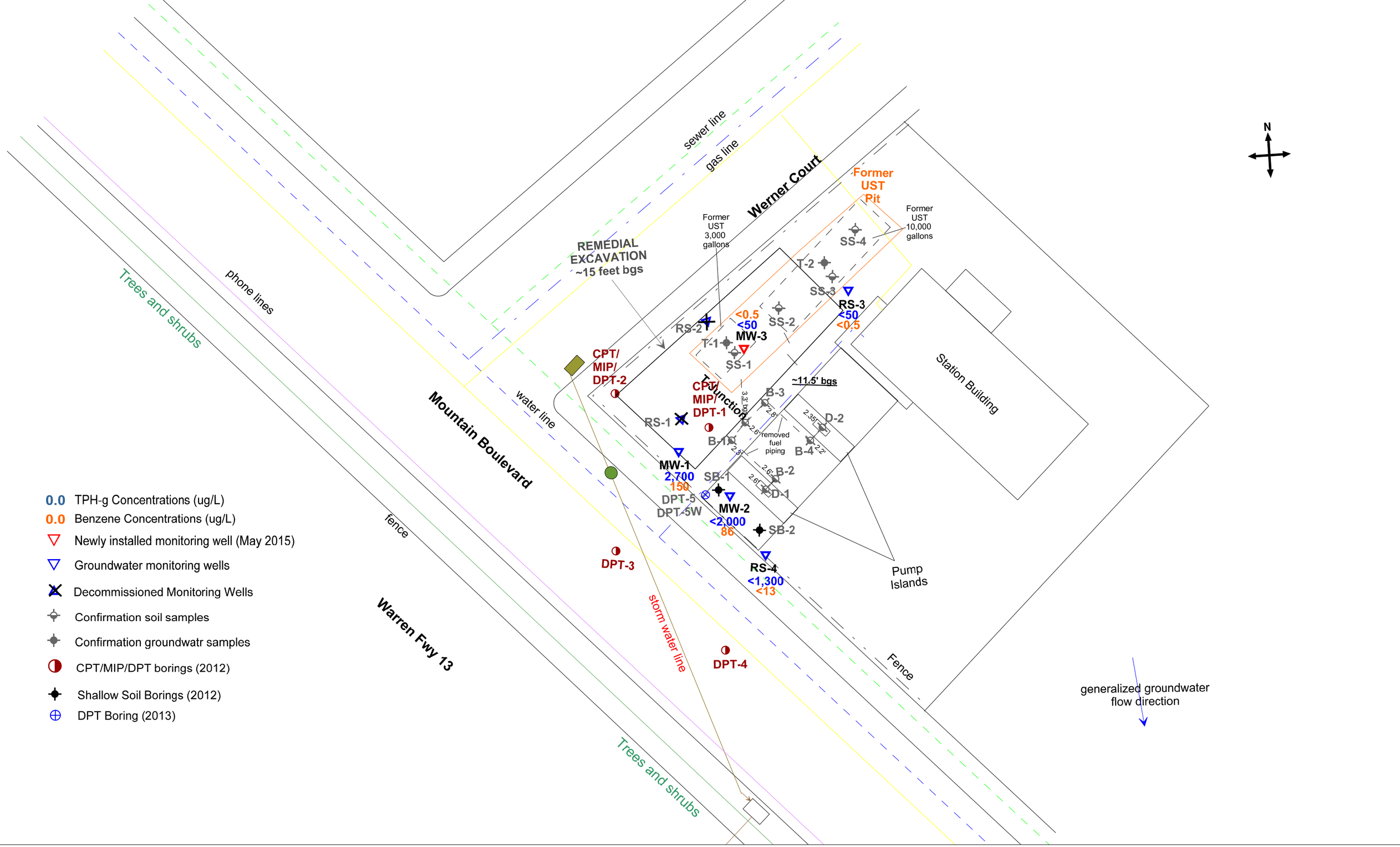

Figure 4: Map Showing TPH-g and Benzene Concentrations in Groundwater, May 13, 2015

ENVIRONMENTAL ENGINEERING, INC.

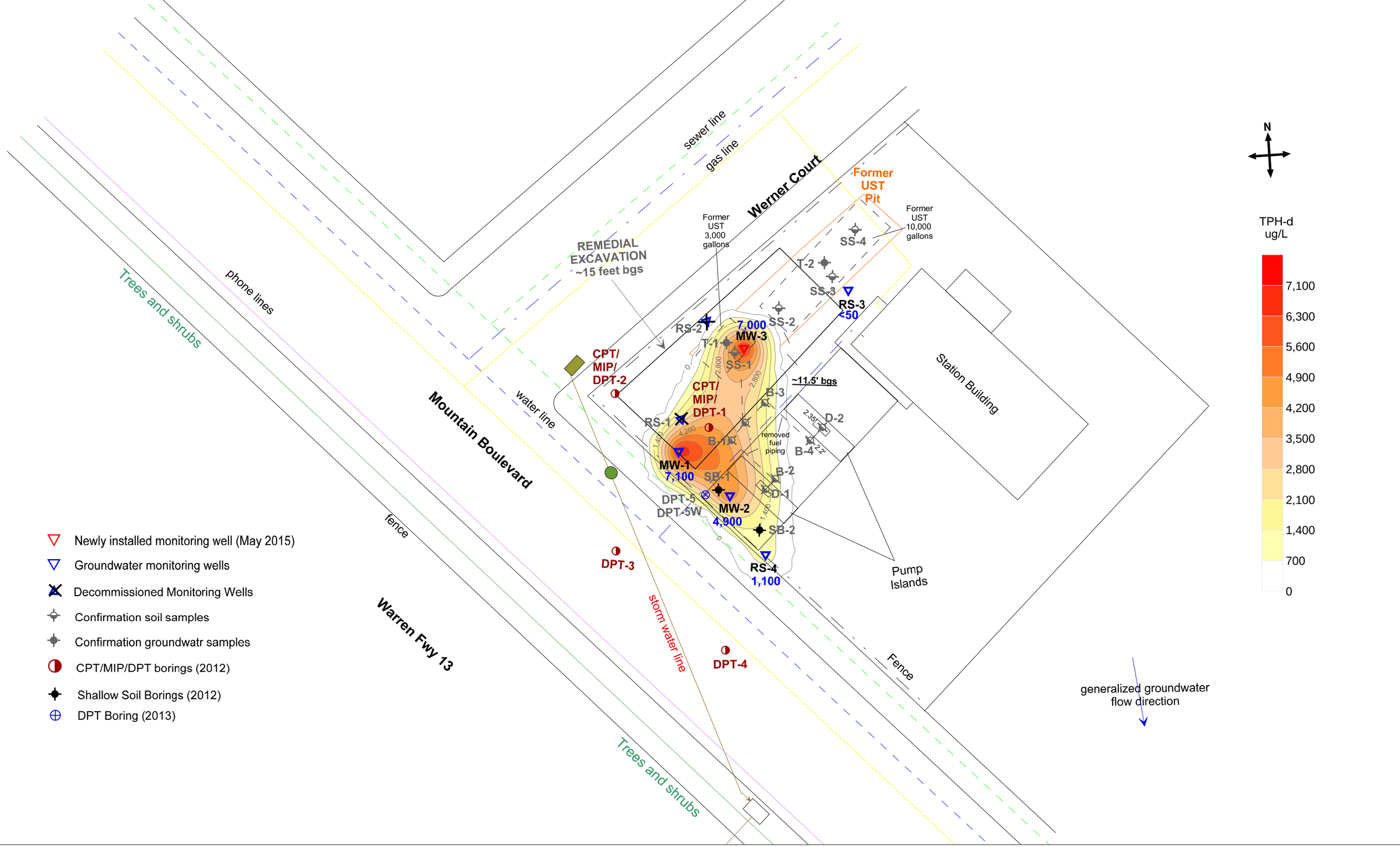

Figure 5: Contour Map Showing TPH-d Concentrations in Groundwater, May 13, 2015

ENVIRONMENTAL ENGINEERING, INC.

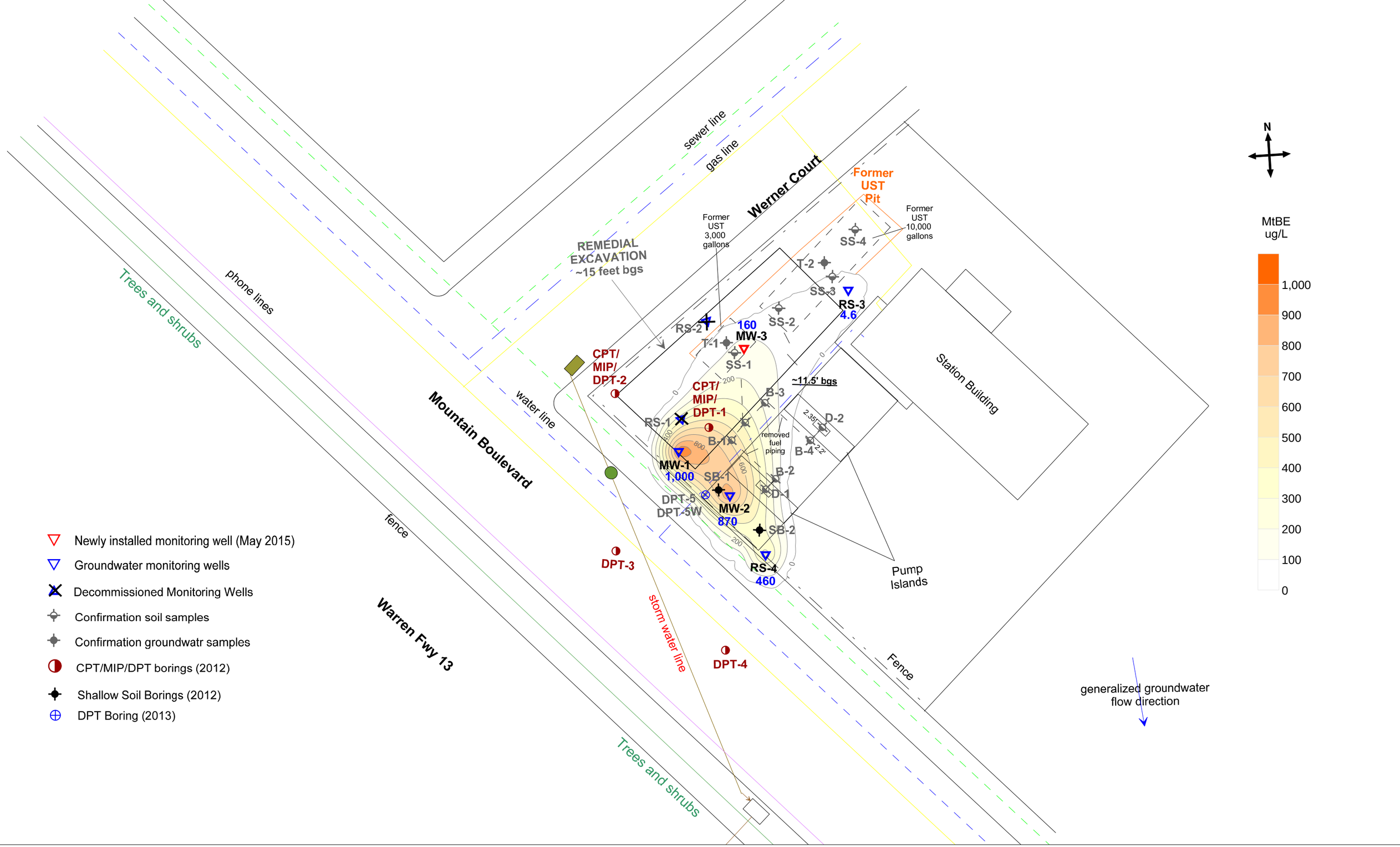

Figure 6: Contour Map Showing MtBE Concentrations in Groundwater, May 13, 2015

ENVIRONMENTAL ENGINEERING, INC.

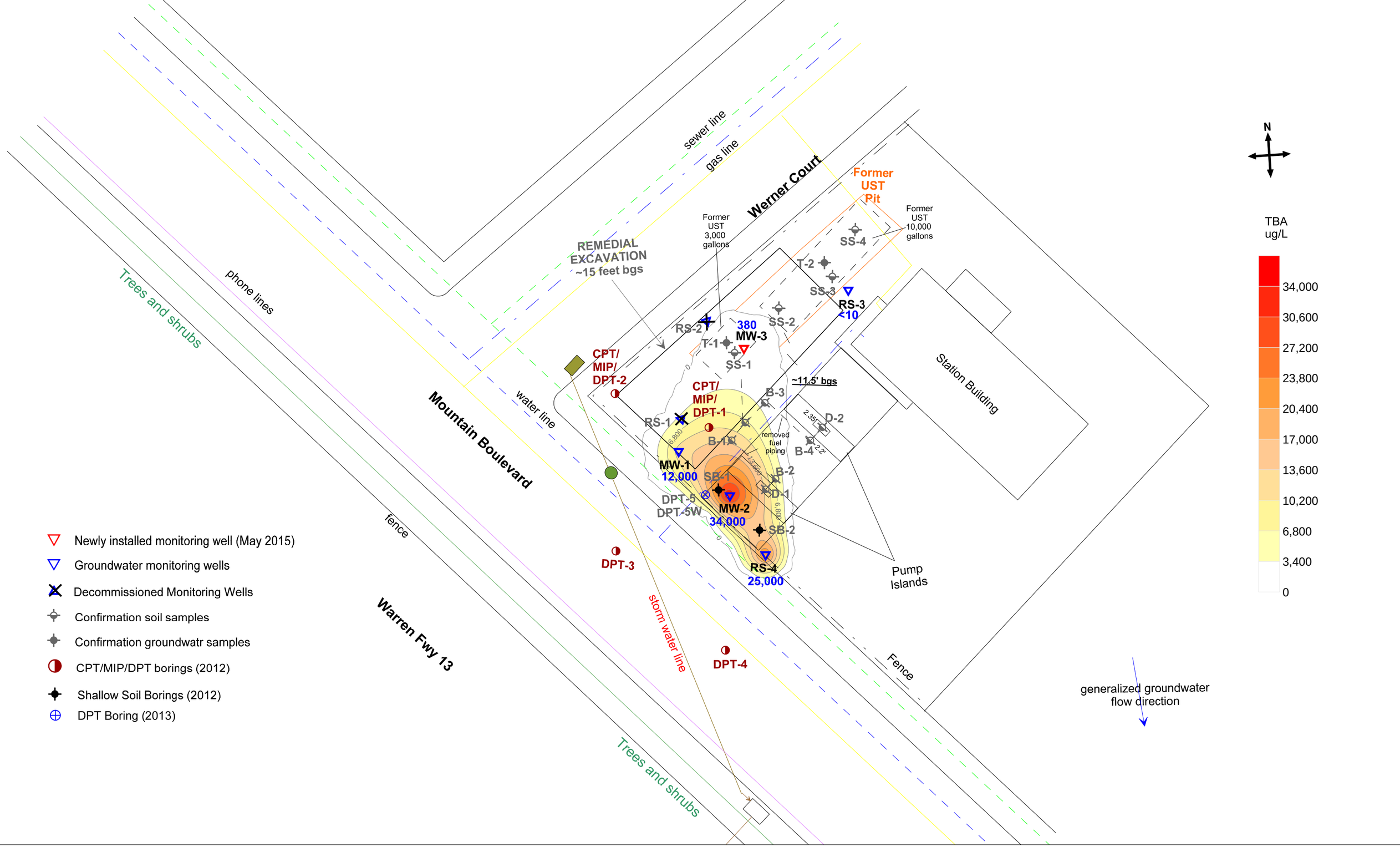

Figure 7: Contour Map Showing TBA Concentrations in Groundwater, May 13, 2015

ENVIRONMENTAL ENGINEERING, INC.

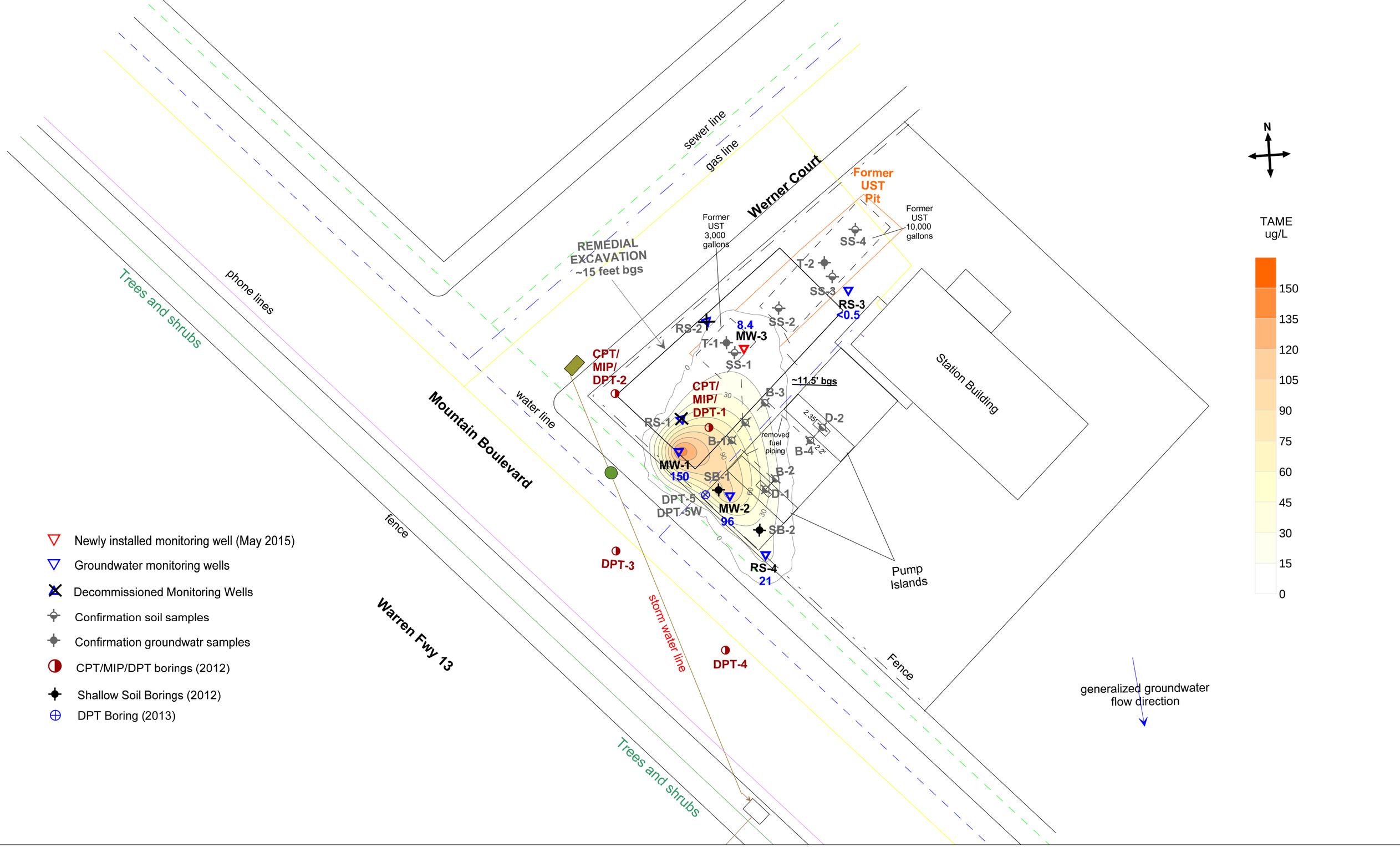

Figure 8: Contour Map Showing TAME Concentrations in Groundwater, May 13, 2015

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Tables

Table 1
Historical Groundwater Analytical Results
2844 Mountain Boulevard, Oakland, CA

Monitoring Well	Date	Casing Elevation (Ft.)	Depth to Top Fluid (Ft.)	Depth to Groundwater (Ft.)	Free-Product Thickness	Groundwater Elevation	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MtBE µg/L	TBA µg/L	TAME µg/L
RS-1	5/1/90	675.63	7.20	7.20	0.00	668.43	2,700	-	-	370	420	40	320	-	-	-
	5/1/91	675.63	8.35	8.35	0.00	667.28	1,300	-	-	580	130	62	240	-	-	-
	10/1/91	675.63	10.22	10.22	0.00	665.41	1,100	-	-	140	100	45	210	-	-	-
	1/1/92	675.63	8.06	8.06	0.00	667.57	1,700	-	-	9.9	31	9.7	170	-	-	-
	1/1/93	675.63	5.30	5.30	0.00	670.33	3,700	-	-	650	9.2	51	170	-	-	-
	8/1/93	675.63	8.56	8.56	0.00	667.07	900	-	-	14	0.6	2.1	8	-	-	-
	11/1/93	675.63	8.44	8.44	0.00	667.19	1,400	-	-	9.6	ND	0.9	5	-	-	-
	1/1/94	675.63	6.88	6.88	0.00	668.75	4,200	-	-	95	3.1	58	130	-	-	-
	5/1/94	675.63	7.87	7.87	0.00	667.76	7,500	-	-	270	11	37	96	-	-	-
	8/1/94	675.63	16.28	16.28	0.00	659.35	130	-	-	12	0.5	2.6	5	-	-	-
	11/1/94	675.63	8.02	8.02	0.00	667.61	270	-	-	4.7	0.7	0.6	15	-	-	-
	2/1/95	675.63	6.51	6.51	0.00	669.12	12,000	-	-	81	2.3	1	12	-	-	-
	6/1/95	675.63	7.34	7.34	0.00	668.29	37,000	-	-	460	ND	ND	ND	63,000	-	-
	11/1/95	675.63	8.71	8.71	0.00	666.92	ND	-	-	660	16	140	330	31,000	-	-
	2/1/96	675.63	6.95	6.95	0.00	668.68	66,000	-	-	110	ND	12	21	84,000	-	-
	9/18/96	675.63	8.44	8.52	0.08	667.17	1 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	12/11/96	675.63	6.42	6.62	0.20	669.17	79,000	-	-	4,000	37,000	8,000	45,000	220,000	-	-
	2/21/97	675.63	6.88	6.92	0.04	668.74	1/2 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	5/28/97	675.63	7.88	7.96	0.08	667.73	156,000	-	-	9,400	51,000	7,000	45,000	112,000	-	-
	9/2/97	675.63	8.34	8.38	0.04	667.28	1/2 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	11/24/97	675.63	6.98	7.00	0.02	668.65	1/4 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	2/25/98	675.63	3.51	3.52	0.01	672.12	1/8 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	5/27/98	675.63	7.31	7.31	0.00	668.32	40,000	-	-	2,200	4,000	2,300	19,000	350,000	-	-
	9/16/98	675.63	8.10	8.10	0.00	667.53	62,000	-	-	2,400	2,300	2,100	14,000	250,000	-	-
	11/23/98	675.63	7.10	7.10	0.00	668.53	99,000	-	-	2,600	5,800	2,500	18,000	130,000	-	-
	2/23/99	675.67	4.82	4.87	0.05	670.84	5/8 INCH FLOATING PRODUCT			-	-	-	-	-	-	-
	5/5/99	675.67	6.86	6.90	0.04	668.80	FLOATING PRODUCT		-	-	-	-	-	-	-	-
	8/24/99	675.67	7.87	7.90	0.03	667.80	FLOATING PRODUCT		-	-	-	-	-	-	-	-
	2/8/12	675.67	6.80	6.80	0.00	668.87	60,000 x	8,200 x	<936	790	<6.4	2,000	430	65,000	41,000	5,100
	5/4/12	675.67	6.57	6.57	0.00	669.10	18,000	10,000	NA	600	<36	2,000	870	22,000	11,000	1,800
	8/6/12	675.67	7.61	7.61	0.00	668.06	16,000	12,000	NA	940	<130	2,000	560	42,000	35,000	3,400
	Well Destroyed October 1, 2012															
RS-2	5/1/90	689.00	7.06	7.06	0.00	681.94	23,000	-	-	7,200	4,800	300	3,300	-	-	-
	5/1/91	689.00	7.14	7.14	0.00	681.86	26,000	-	-	14,000	1,800	750	2,900	-	-	-
	10/1/91	688.89	8.84	8.84	0.00	680.05	13,000	-	-	4,300	910	300	2,300	-	-	-
	1/1/92	688.89	7.34	7.34	0.00	681.55	8,300	-	-	1,800	920	140	1,700	-	-	-
	1/1/93	688.89	4.10	4.10	0.00	684.79	41,000	-	-	7,000	210	1,200	4,200	-	-	-
	8/1/93	688.89	7.32	7.32	0.00	681.57	19,000	-	-	5,300	62	810	1,600	-	-	-
	11/1/93	688.89	7.34	7.34	0.00	681.55	9,300	-	-	2,400	3.90	46	800	-	-	-
	1/1/94	688.89	5.52	5.52	0.00	683.37	30,000	-	-	4,900	ND	880	2,600	-	-	-
	5/1/94	675.25	6.40	6.40	0.00	668.85	120,000	-	-	3,300	330	ND	2,200	-	-	-
	8/1/94	675.25			0.00	675.25	510	-	-	7.30	3.80	3.50	32	-	-	-
	11/1/94	675.25	9.82	9.82	0.00	665.43	620	-	-	6.60	3.90	1.10	47	-	-	-

Table 1
Historical Groundwater Analytical Results
2844 Mountain Boulevard, Oakland, CA

Monitoring Well	Date	Casing Elevation (Ft.)	Depth to Top Fluid (Ft.)	Depth to Groundwater (Ft.)	Free-Product Thickness	Groundwater Elevation	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MtBE µg/L	TBA µg/L	TAME µg/L
RS-2 cont.	2/1/95	675.25	4.81	4.81	0.00	670.44	22,000	-	-	228	80	2	463	-	-	-
	6/1/95	675.25	5.80	5.80	0.00	669.45	49,000	-	-	1,300	160	200	1,600	71,000	-	-
	11/1/95	675.25	7.64	7.64	0.00	667.61	ND	-	-	670	25	150	360	65,000	-	-
	2/1/96	675.25	4.69	4.69	0.00	670.56	75,000	-	-	1,400	170	59	460	71,000	-	-
	9/18/96	675.25	7.34	7.34	0.00	667.91	6,300	-	-	2,000	48	350	570	160,000	-	-
	12/11/96	675.25	5.08	5.08	0.00	670.17	16,000	-	-	2,000	840	200	3,200	180,000	-	-
	2/21/97	675.25	5.42	5.42	0.00	669.83	22,000	-	-	2,100	1,300	600	5,100	56,000	-	-
	5/28/97	675.25	6.40	6.40	0.00	668.85	156,000	-	-	4,200	89	1,000	6,900	390,000	-	-
	9/2/97	675.25	6.93	6.93	0.00	668.32	<50	-	-	1,300	25	360	1,400	180,000	-	-
	11/24/97	675.25	5.93	5.93	0.00	669.32	<50	-	-	600	ND	ND	ND	610,000	-	-
	2/25/98	675.25	4.59	4.59	0.00	670.66	11,000	-	-	1,100	<50	320	2,400	330,000	-	-
	5/27/98	675.25	5.61	5.61	0.00	669.64	13,000	-	-	2,000	150	600	2,700	380,000	-	-
	9/16/98	675.25	6.84	6.84	0.00	668.41	11,000	-	-	1,600	20	1,600	1,600	280,000	-	-
	11/23/98	675.25	6.24	6.24	0.00	669.01	12,000	-	-	1,200	84	<5	960	140,000	-	-
	2/23/99	675.28	4.62	4.62	0.00	670.66	8,800	-	-	1,500	650	640	1,500	450,000	-	-
	5/5/99	675.28	7.55	7.55	0.00	667.73	29,000	-	-	2,000	1,300	500	3,700	270,000	-	-
	8/24/99	675.28	6.62	6.62	0.00	668.66	12,000	-	-	1,900	20	370	980	340,000	-	-
	2/8/12	675.28	5.52	5.52	0.00	669.76	18,000 x	6,800 x	<378	540	<6.4	120	710	2,800	64,000	420
	5/4/12	675.28	5.18	5.18	0.00	670.10	16,000	13,000	NA	690	23	460	1,140	6,800	21,000	960
	8/6/12	675.28	6.33	6.33	0.00	668.95	11,000	10,000	NA	810	<25	210	473	3,300	18,000	580
	Well Destroyed October 1, 2012															
RS-3	5/1/90	670.00	6.00	6.00	0.00	664.00	330	-	-	2	1	1	150	-	-	-
	5/1/91	670.00	6.76	6.76	0.00	663.24	ND	-	-	0.40	ND	0.80	8	-	-	-
	10/1/91	670.00	8.98	8.98	0.00	661.02	ND	-	-	ND	ND	ND	ND	-	-	-
	1/1/92	670.00	6.81	6.81	0.00	663.19	ND	-	-	2.20	7.20	0.60	4	-	-	-
	1/1/93	670.00	4.05	4.05	0.00	665.95	ND	-	-	ND	ND	ND	ND	-	-	-
	8/1/93	670.00	7.19	7.19	0.00	662.81	ND	-	-	30	6	2.40	5	-	-	-
	11/1/93	670.00	7.12	7.12	0.00	662.88	ND	-	-	4.80	0.40	0.60	2	-	-	-
	1/1/94	670.00	5.42	5.42	0.00	664.58	330	-	-	25	3.20	3.90	12	-	-	-
	5/1/94	676.20	5.78	5.78	0.00	670.42	670	-	-	34	4	28	70	-	-	-
	8/1/94	676.20	5.86	5.86	0.00	670.34	ND	-	-	ND	ND	ND	ND	-	-	-
	11/1/94	676.20	5.08	5.08	0.00	671.12	69	-	-	2.50	3.10	1	4	-	-	-
	2/1/95	676.20	4.51	4.51	0.00	671.69	ND	-	-	0.30	0.40	ND	1	-	-	-
	6/1/95	676.20	5.29	5.29	0.00	670.91	ND	-	-	ND	ND	ND	ND	66	-	-
	11/1/95	676.20	7.10	7.10	0.00	669.10	ND	-	-	ND	ND	ND	ND	44	-	-
	2/1/96	676.20	4.48	4.48	0.00	671.72	120	-	-	ND	ND	ND	ND	110	-	-
	9/18/96	676.20	6.92	6.92	0.00	669.28	1,000	-	-	13	8.60	10	17	33	-	-
	12/11/96	676.20	4.90	4.90	0.00	671.30	85	-	-	20	2	<0.5	14	4,700	-	-
	2/21/97	676.20	4.94	4.94	0.00	671.26	120	-	-	5	2	2	6	850	-	-
	5/28/97	676.20	7.92	7.92	0.00	668.28	<50	-	-	6	<0.5	<0.5	<2	2,400	-	-
	9/2/97	676.20	6.60	6.60	0.00	669.60	<50	-	-	0.90	<0.5	<0.5	<2	8,600	-	-
	11/24/97	676.20	5.89	5.89	0.00	670.31	140	-	-	13	2	1	12	3,600	-	-
	2/25/98	676.20	4.29	4.29	0.00	671.91	<50	-	-	<0.5	<0.5	<0.5	4	850	-	-
	5/27/98	676.20	5.01	5.01	0.00	671.19	<50	-	-	7	<0.5	<0.5	11	940	-	-

Table 1
Historical Groundwater Analytical Results
2844 Mountain Boulevard, Oakland, CA

Monitoring Well	Date	Casing Elevation (Ft.)	Depth to Top Fluid (Ft.)	Depth to Groundwater (Ft.)	Free-Product Thickness	Groundwater Elevation	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MtBE µg/L	TBA µg/L	TAME µg/L
RS-3 cont.	9/16/98	676.20	6.21	6.21	0.00	669.99	<50	-	-	2	2	2	10	670	-	-
	11/24/98	676.20	5.58	5.58	0.00	670.62	85	-	-	9	23	<0.5	19	180	-	-
	2/24/99	676.23	4.30	4.30	0.00	671.93	<50	-	-	<0.5	0.90	<0.5	<1.0	150	-	-
	5/5/99	676.23	4.92	4.92	0.00	671.31	<50	-	-	1	2	1	6	130	-	-
	8/24/99	676.23	6.64	6.64	0.00	669.59	80	-	-	0.80	<0.5	0.60	<1	300	-	-
	2/8/12	676.23	5.72	5.72	0.00	670.51	130 x	<42	<94	<0.13	0.59	2.90	18.1	7.9	<1.5	<0.17
	5/4/12	676.23	5.25	5.25	0.00	670.98	<50	330 Y	NA	<0.5	<0.5	<0.5	<0.5	10	18	2.4
	8/6/12	676.23	6.65	6.65	0.00	669.58	<50	390 Y	NA	<0.5	<0.5	<0.5	<0.5	13	<10	3.2
	3/29/13	676.23	6.01	6.01	0.00	670.22	<50	90 Y	NA	<0.5	<0.5	<0.5	<0.5	3.6	<10	<0.5
	6/6/13	676.08	6.45	6.45	0.00	669.63	<50	66 Y	NA	<0.5	<0.5	<0.5	<0.5	1.5	<10	<0.5
	9/4/13	676.08	6.91	6.91	0.00	669.17	<50	170 Y	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5
	12/30/13	676.08	7.21	7.21	0.00	668.87	<50	61 Y	NA	<0.5	<0.5	<0.5	<0.5	21	680	0.64
	3/10/14	676.08	5.68	5.68	0.00	670.40	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	14	320	0.61
	6/3/14	676.08	6.72	6.72	0.00	669.36	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	41	490	1.70
	8/27/14	676.08	7.10	7.10	0.00	668.98	<50	120 Y	NA	<0.5	<0.5	<0.5	<0.5	27	<10	1.20
	11/13/14	676.08	6.53	6.53	0.00	669.55	<50*	58 Y	NA	<0.5	<0.5	<0.5	<0.5	19	<10	0.60
	2/12/15	676.08	5.95	5.95	0.00	670.13	<50	56 Y	NA	<0.5	<0.5	<0.5	<0.5	19	<10	<0.5
	5/13/15	**676.08**	**6.93**	**6.93**	**0.00**	**669.15**	**<50**	**<50**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**4.6**	**<10**	**<0.5**
Post MPE	**6/22/15**	**676.08**	**8.87**	**8.87**	**0.00**	**667.21**			**NA**							
RS-4	5/1/90	675.38	8.34	8.34	0.00	667.04	440	-	-	9	11	9	49	-	-	-
	5/1/91	675.38	9.50	9.50	0.00	665.88	ND	-	-	8	4	3	5	-	-	-
	10/1/91	675.38	10.82	10.82	0.00	664.56	830	-	-	280	120	24	170	-	-	-
	1/1/92	675.38	9.31	9.31	0.00	666.07	620	-	-	34	8.30	2.10	21	-	-	-
	1/1/93	675.38	6.89	6.89	0.00	668.49	150	-	-	32	1.70	5.80	13	-	-	-
	8/1/93	675.38	9.68	9.68	0.00	665.70	ND	-	-	0.90	0.70	ND	0	-	-	-
	11/1/93	675.38	9.83	9.83	0.00	665.55	ND	-	-	ND	ND	ND	ND	-	-	-
	1/1/94	675.38	8.17	8.17	0.00	667.21	ND	-	-	1.70	ND	0.81	2	-	-	-
	5/1/94	675.38	8.69	8.69	0.00	666.69	ND	-	-	ND	ND	ND	1	-	-	-
	8/1/94	675.38	9.04	9.04	0.00	666.34	420	-	-	6.50	4.10	1.90	40	-	-	-
	11/1/94	675.38	8.00	8.00	0.00	667.38	130	-	-	4.10	0.70	1.70	8	-	-	-
	2/1/95	675.38	7.93	7.93	0.00	667.45	ND	-	-	6	1.20	3.50	13	-	-	-
	6/1/95	675.38	8.61	8.61	0.00	666.77	ND	-	-	ND	ND	ND	ND	69	-	-
	11/1/95	675.38	10.43	10.43	0.00	664.95	ND	-	-	ND	ND	ND	ND	47	-	-
	2/1/96	675.38	7.44	7.44	0.00	667.94	960	-	-	ND	ND	0.60	ND	80	-	-
	9/18/96	675.38	9.58	9.58	0.00	665.80	<50	-	-	<0.5	<0.5	<0.5	<2	200	-	-
	12/11/96	675.38	7.50	7.50	0.00	667.88	75	-	-	<0.5	0.60	<0.5	<0.5	104	-	-
	2/21/97	675.38	8.26	8.26	0.00	667.12	<50	-	-	1	1	<0.5	1	190	-	-
	5/28/97	675.38	8.92	8.92	0.00	666.46	<50	-	-	6	<0.5	<0.5	<2	110	-	-
	9/2/97	675.38	9.39	9.39	0.00	665.99	100	-	-	3	<0.5	<0.5	<2	39	-	-
	11/24/97	675.38	8.22	8.22	0.00	667.16	41	-	-	<0.5	2	<0.5	<2	210	-	-
	2/25/98	675.38	7.19	7.19	0.00	668.19	<50	-	-	3	<0.5	<0.5	<1	5,600	-	-
	5/27/98	675.38	8.40	8.40	0.00	666.98	<50	-	-	<0.5	<0.5	<0.5	<1	2,400	-	-

Table 1
Historical Groundwater Analytical Results
2844 Mountain Boulevard, Oakland, CA

Monitoring Well	Date	Casing Elevation (Ft.)	Depth to Top Fluid (Ft.)	Depth to Groundwater (Ft.)	Free-Product Thickness	Groundwater Elevation	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MtBE µg/L	TBA µg/L	TAME µg/L
RS-4 cont.	9/16/98	675.38	9.26	9.26	0.00	666.12	<50	-	-	<0.5	<0.5	<0.5	<1	230	-	-
	11/24/98	675.38	8.50	8.50	0.00	666.88	<50	-	-	2	<0.5	<0.5	<1	100	-	-
	2/24/99	675.42	7.20	7.20	0.00	668.22	<50	-	-	2	3	0.80	5	670	-	-
	5/5/99	675.42	8.37	8.37	0.00	667.05	100	-	-	<0.5	<0.5	<0.5	<1	440	-	-
	8/24/99	675.42	8.36	8.36	0.00	667.06	<50	-	-	<0.5	<0.5	<0.5	<1	<500	-	-
	2/8/12	675.42	8.11	8.11	0.00	667.31	140,000	130,000 x	<9,360	120	2,600	4,700	28,200	28,000	100,000	1,800
	5/4/12	675.42	8.31	8.31	0.00	667.11	67,000	12,000 Y	NA	61	900	2,100	9,700	32,000	69,000	1,700
	8/6/12	675.42	9.01	9.01	0.00	666.41	49,000	8,900	NA	<130	350	1,700	8,100	19,000	90,000	1,300
	3/29/13	675.42	8.49	8.49	0.00	666.93	14,000	14,000	NA	<100	<100	440	1,340	14,000	110,000	590
	6/6/13	675.27	8.48	8.48	0.00	666.79	12,000	7,200	NA	11	<3.6	420	886	16,000	66,000	970
	9/4/13	675.27	9.39	9.39	0.00	665.88	20,000	5,100	NA	<100	<100	660	2,830	18,000	75,000	1,200
	12/30/13	675.27	9.57	9.57	0.00	665.70	<13,000	9,900	NA	<130	<130	<130	150	16,000	37,000	1,100
	3/10/14	675.27	7.65	7.65	0.00	667.62	<10,000	3,700	NA	<100	<100	<100	<100	11,000	38,000	640
	6/3/14	675.27	9.27	9.27	0.00	666.00	<3,600	4,400	NA	<36	<36	40	<36	3,700	27,000	260
	8/27/14	675.27	9.43	9.43	0.00	665.84	2,500	4,700	NA	<20	<20	40	<20	2,100	28,000	150
	11/13/14	675.27	9.56	9.56	0.00	665.71	2,200*	3,500	NA	<20	<20	<20	36	11,000	15,000	910
	2/12/15	675.27	8.03	8.03	0.00	667.24	<1,300	1,900	NA	<13	<13	<13	<13	500	14,000	25
	5/13/15	**675.27**	**9.05**	**9.05**	**0.00**	**666.22**	**<1,300**	**1,100**	**NA**	**<13**	**<13**	**<13**	**<13**	**460**	**25,000**	**21**
Post MPE	**6/22/15**	**675.27**	**10.62**	**10.62**	**0.00**	**664.65**			**NA**							
MW-1	6/6/13	674.92	6.03	6.03	0.00	668.89	<17,000	13,000	NA	930	370	470	1,760	55,000	32,000	7,200
	9/4/13	674.92	7.10	7.10	0.00	667.82	<50,000	13,000	NA	2,000	<500	1,400	4,200	70,000	48,000	7,700
	12/30/13	674.92	7.27	7.27	0.00	667.65	34,000	13,000	NA	920	1,000	1,300	4,900	43,000	43,000	4,500
	3/10/14	674.92	5.51	5.51	0.00	669.41	<20,000	11,000	NA	720	<200	890	1,970	25,000	30,000	2,600
	6/3/14	674.92	6.74	6.74	0.00	668.18	8,900	7,400	NA	350	<83	550	1,420	11,000	28,000	1,300
	8/27/14	674.92	7.23	7.23	0.00	667.69	8,100	12,000	NA	640	<63	610	720	8,400	23,000	1,500
	11/13/14	674.92	7.36	7.36	0.00	667.56	7,400*	7,900	NA	270	<63	360	880	6,100	12,000	910
	2/12/15	674.92	5.80	5.80	0.00	669.12	4,300	11,000	NA	200	<25	200	350	3,400	18,000	500
	5/13/15	674.92	7.00	7.00	0.00	667.92	2,700	7,100	NA	150	<8.3	170	76	1,000	12,000	150
Post MPE	**6/22/15**	**674.92**	**12.11**	**12.11**	**0.00**	**662.81**			**NA**							
MW-2	6/6/13	675.02	6.70	6.70	0.00	668.32	16,000	5,400	NA	910	<130	610	2,290	59,000	64,000	7,700
	9/4/13	675.02	7.79	7.79	0.00	667.23	<25,000	3,900	NA	860	<250	710	1,580	32,000	31,000	4,600
	12/30/13	675.02	8.05	8.05	0.00	666.97	<13,000	6,300	NA	180	<130	<130	330	18,000	53,000	1,800
	3/10/14	675.02	6.08	6.08	0.00	668.94	14,000	11,000	NA	210	<130	360	700	15,000	40,000	1,800
	6/3/14	675.02	7.54	7.54	0.00	667.48	<7,100	6,200	NA	170	<71	310	150	8,000	29,000	920
	8/27/14	675.02	7.90	7.90	0.00	667.12	3,400	5,000	NA	100	<8.3	120	88	2,300	25,000	310
	11/13/14	675.02	8.12	8.12	0.00	666.90	1,000*	4,700	NA	120	<8.3	11	<8.3	4,000	22,000	460
	2/12/15	675.02	6.33	6.33	0.00	668.69	<4,200	5,400	NA	98	<42	58	<42	6,300	42,000	610
	5/13/15	**675.02**	**7.72**	**7.72**	**0.00**	**667.30**	**<2,000**	**4,900**	**NA**	**86**	**<20**	**45**	**<20**	**870**	**34,000**	**96**
Post MPE	**6/22/15**	**675.02**	**11.30**	**11.30**	**0.00**	**663.72**			**NA**							
MW-3	**5/13/15**	**675.58**	**6.60**	**6.60**	**0.00**	**668.98**	**<50**	**7,000**	**NA**	**<0.5**	**<0.5**	**<0.5**	**0.75**	**160**	**380**	**8.4**
Post MPE	**6/22/15**	**675.58**	**14.31**	**14.31**	**0.00**	**661.27**			**NA**							
ESLs (µg/L)	**Ground-water**						100	100	100	1.00	40	30	20	5.00	12	NL
	Vapor Intrusion						NV	NV	NV	27	95,000	310	37,000	9,900	NV	NL

Table 1
Historical Groundwater Analytical Results
2844 Mountain Boulevard, Oakland, CA

Monitoring Well	Date	Casing Elevation (Ft.)	Depth to Top Fluid (Ft.)	Depth to Groundwater (Ft.)	Free-Product Thickness	Groundwater Elevation	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MtBE µg/L	TBA µg/L	TAME µg/L

Note:

< : Below Laboratory Reporting Limit (Method Detection Limit)

x : Does not match pattern of reference Gasoline standard/ Not typical of diesel standard pattern (possibly fuel lighter than diesel)

* : Laboratory instruments for EPA8260 were down. Therefore, TPH-g was analyzed by EPA8015B instead of EPA8260 for samples collected on 11/13/2014

ESL: Environmental Screening Level by California Regional Water Quality Control Board San Francisco Bay Region

December 2013 (Table-F1a, groundwater is a current or potential drinking water source)

NL: Not Listed

NV: No Value

Appendix A

Standard Operating Procedures for Conducting Groundwater Monitoring Activities

Standard Operating Procedures for Conducting Groundwater Monitoring Activities

Water Level Measurements

Prior to measurement of groundwater depth at each monitoring well, equalization with the surrounding aquifer must be achieved. Initially, the well cap is removed and the pressure is allowed to dissipate, creating a more stable water table level within the well. After about 10-15 minutes, once the water level in the well stabilizes, the depth to groundwater in each monitoring well is measured from the top of the casing to the nearest 0.01 foot using an electric sounder.

Purging and Field Measurements

Prior to sample collection, each monitoring well is purged using a battery-operated, 2-inch-diameter pump (Model ES-60 DC). To ensure that final samples are in equilibrium with, and representative of, the surrounding groundwater, during purging several samples are taken for field measurements of pH, temperature and electrical conductivity (EC). These parameters are measured with a Hanna pH, conductivity, and temperature meter. Equipment is calibrated on-site using standard solutions and procedures provided by the manufacturer.

The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

Purging continues until these parameters stabilize or three casing volumes are purged.

Sampling

For sampling purposes, after purging a disposable polyethylene bailer is used to collect sufficient samples from each monitoring well for laboratory analyses. Groundwater samples are transferred to 40-mL VOA vials and preserved with hydrochloric acid. The vials are sealed to prevent air bubbles from forming within the headspace. For TPH-d and TPH-mo analysis, groundwater samples are collected using 1-L, amber, nonpreserved glass containers. Samples are placed in an ice-filled cooler and maintained at 4°C. A chain of custody form for all samples is prepared to accompany the samples, which are promptly delivered to a California state-certified analytical laboratory.

Appendix B

Tables of Elevations and Coordinates on Wells,
Field Measurements of Physical and Chemical
Parameters of the Groundwater Samples
and Groundwater Gradient Calculations

DATE: 5/28/2013
JOB# 13004

TABLE OF ELEVATIONS & COORDINATES ON MONITORING WELLS

SOMA ENVIRONMENTAL ENGINEERING
2844 MOUNTAIN BLVD
OAKLAND, CA 94602

WELL ID #	NORTHING (FT.) / LATITUDE (D.DEG.)	EASTING (FT.) / LONGITUDE (D.DEG.)	ELEVATION (FT.)	DESCRIPTION
MW-1	2122404.169	6071174.709	674.92	SET NOTCH N. SIDE 4" PVC
	N37.81151896	W122.1980061	675.50	SET PUNCH N. SIDE
			675.49	NORTH SIDE AC
MW-2	2122393.627	6071186.912	675.02	SET NOTCH N. SIDE 4" PVC
	N37.81149062	W122.1979632	675.53	SET PUNCH N. SIDE
			675.51	
RS-3	2122442.569	6071215.114	676.08	SET NOTCH N. SIDE 4" PVC
	N37.81162641	W122.1978687	676.47	SET PUNCH N. SIDE
			676.38	NORTH SIDE AC
RS-4	2122379.611	6071195.421	675.27	TOP 4" PVC
	N37.81145256	W122.1979329	675.70	SET PUNCH N. SIDE
			675.59	NORTH SIDE AC

HORIZONTAL CONTROL: CALIFORNIA COORDINATE SYSTEM ZONE 3, NAD83.
ELLIPSOID: WGS 1984
EPOCH: NAD_83 (2011) 2010.0000
GEOID MODEL: GEOID12A

VERTICAL CONTROL: BENCH MARK: CITY OF OAKLAND BM 2806
CINCH NAIL IN SOUTHWESTERLY CURB OF MOUNTAIN BLVD, 150' SOUTHEASTERLY FROM THE CENTERLINE OF KEARNEY AVE EXTENDED. NORTHING 2,122,547.687', EASTING 6,070,956.301'
ELEVATION= 674.892' NAVD 88 DATUM

EQUIPMENT USED: TRIMBLE GPS-R8 & TS S6, TOPCON AT-G2 LEVEL

6/03/13

EDGIS LAND SURVEYING
LAND SURVEYING AND MAPPING
1374 Garland Avenue, Clovis, CA 93612
Phone (559) 803-2679
email: edgis@aol.com

DATE: 5/16/2015
JOB# 15006

TABLE OF ELEVATIONS & COORDINATES ON MONITORING WELLS

SOMA ENVIRONMENTAL ENGINEERING
2844 MOUNTAIN BLVD
OAKLAND, CA 94602

WELL ID #	NORTHING (FT.) / LATITUDE (D.DEG.)	EASTING (FT.) / LONGITUDE (D.DEG.)	ELEVATION (FT.)	DESCRIPTION
MW-3	2122428.726	6071190.266	675.58	SET NOTCH N. SIDE 4" PVC
	N37.811587175	W122.197953799	675.85	SET PUNCH N. SIDE
			675.83	NORTH SIDE AC

HORIZONTAL CONTROL:
SURVEY BASED ON PREVIOUS SURVEY BY EDGIS LAND SURVEYING DATED: 5/28/2013
COORDINATE VALUES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, NAD83.

VERTICAL CONTROL: BENCH MARK: CITY OF OAKLAND BM 2806
CINCH NAIL IN SOUTHWESTERLY CURB OF MOUNTAIN BLVD, 150' SOUTHEASTERLY FROM THE CENTERLINE OF KEARNEY AVE EXTENDED. NORTHING 2,122,547.687', EASTING 6,070,956.301'
ELEVATION= 674.892' NAVD 88 DATUM

PROFESSIONAL LAND SURVEYOR
EDUARDO A. ESPINOZA
No. L 6772
STATE OF CALIFORNIA

EQUIPMENT USED: TRIMBLE TS S6, TOPCON AT-G2 LEVEL

5/16/15

EDGIS LAND SURVEYING
LAND SURVEYING AND MAPPING
2519 Shaw Ave., Ste. 111
Fresno, CA 93711
Phone (559) 803-2679
Email: edgis@aol.com

ENVIRONMENTAL ENGINEERING, INC

Well No.:	RS-3	**Project No.:**	5081
Casing Diameter:	4 inches	**Address:**	2844 Mountain Blvd.
Depth of Well:	24.99 feet		Oakland, CA
Top of Casing Elevation:	676.08 feet	**Date:**	May 13 , 2015
Depth to Groundwater:	6.93 feet	**Sampler:**	Lizzie Hightower
Groundwater Elevation:	669.15 feet		
Water Column Height:	18.06 feet		
Purged Volume:	12 gallons		

Purging Method: **Bailer** ☐ **Pump** ☑

Sampling Method: **Bailer** ☑ **Pump** ☐

Color: **Yes** ☐ **No** ☑ **Describe:** _____

Sheen: **Yes** ☐ **No** ☑ **Describe:** _____

Odor: **Yes** ☐ **No** ☑ **Describe:** _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:40	Started purging well			
10:41	3	6.94	18.4	728
10:42	6	6.90	18.5	714
10:43	9	6.88	18.5	712
10:44	12	6.90	18.5	710
10:49	Sampled			

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well No.:	RS-4	**Project No.:**	5081
Casing Diameter:	4 inches	**Address:**	2844 Mountain Blvd.
Depth of Well:	25.54 feet		Oakland, CA
Top of Casing Elevation:	675.27 feet	**Date:**	May 13, 2015
Depth to Groundwater:	9.05 feet	**Sampler:**	Lizzie Hightower
Groundwater Elevation:	666.22 feet		
Water Column Height:	16.49 feet		
Purged Volume:	— gallons		
	Not purged		

Purging Method:	**Bailer**	☐	**Pump**	☑
Sampling Method:	**Bailer**	☑	**Pump**	☐

Color:	**Yes**	☐	**No**	☑	**Describe:**
Sheen:	**Yes**	☐	**No**	☑	**Describe:**
Odor:	**Yes**	☑	**No**	☐	**Describe:** Petro Odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
12:16	Grab Sample			

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-1	**Project No.:**	5081
Casing Diameter:	4 inches	**Address:**	2844 Mountain Blvd.
Depth of Well:	19.75 feet		Oakland, CA
Top of Casing Elevation:	674.92 feet	**Date:**	May 13, 2015
Depth to Groundwater:	7.00 feet	**Sampler:**	Lizzie Hightower
Groundwater Elevation:	667.92 feet		
Water Column Height:	12.75 feet		
Purged Volume:	12 gallons		

Purging Method:	**Bailer**	☐	**Pump**	☑
Sampling Method:	**Bailer**	☑	**Pump**	☐

Color:	**Yes**	☐	**No**	☑	**Describe:**
Sheen:	**Yes**	☐	**No**	☑	**Describe:**
Odor:	**Yes**	☑	**No**	☐	**Describe:** Petro Odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
11:33	Started purging well			
11:34	3	7.03	18.5	657
11:35	6	6.88	19.1	635
11:36	9	6.85	19.2	622
11:37	12	6.87	19.5	635
11:42	Sampled			

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-2	**Project No.:**	5081
Casing Diameter:	4 inches	**Address:**	2844 Mountain Blvd.
Depth of Well:	19.74 feet		Oakland, CA
Top of Casing Elevation:	675.02 feet	**Date:**	May 13 , 2015
Depth to Groundwater:	7.72 feet	**Sampler:**	Lizzie Hightower
Groundwater Elevation:	667.30 feet		
Water Column Height:	12.02 feet		
Purged Volume:	12 gallons		

Purging Method:	**Bailer** ☐		**Pump** ☑	
Sampling Method:	**Bailer** ☑		**Pump** ☐	
Color:	**Yes** ☐	**No** ☑	**Describe:**	
Sheen:	**Yes** ☐	**No** ☑	**Describe:**	
Odor:	**Yes** ☑	**No** ☐	**Describe:**	Petro Odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
11:54	Started purging well			
11:55	3	7.06	19.8	806
11:56	6	6.98	19.6	805
11:57	9	6.98	19.5	803
11:58	12	7.01	19.4	812
12:03	Sampled			

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-3	**Project No.:**	5081
Casing Diameter:	4 inches	**Address:**	2844 Mountain Blvd.
Depth of Well:	24.73 feet		Oakland, CA
Top of Casing Elevation:	675.58 feet	**Date:**	May 13 , 2015
Depth to Groundwater:	6.60 feet	**Sampler:**	Lizzie Hightower
Groundwater Elevation:	668.98 feet		
Water Column Height:	18.13 feet		
Purged Volume:	12 gallons		

Purging Method:	**Bailer** ☐		**Pump** ☑	
Sampling Method:	**Bailer** ☑		**Pump** ☐	
Color:	**Yes** ☑	**No** ☐	**Describe:**	
Sheen:	**Yes** ☐	**No** ☑	**Describe:**	
Odor:	**Yes** ☑	**No** ☑	**Describe:**	Musty

Field Measurements:

Time	Vol (gallons)	pH	Temp (° C)	E.C. (µs/cm)
11:03	Started purging well			
11:04	3	8.69	18.4	681
11:05	6	8.64	18.9	671
11:06	9	8.60	19.0	634
11:07	12	8.56	19.1	630
11:12	Sampled			

Notes:

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

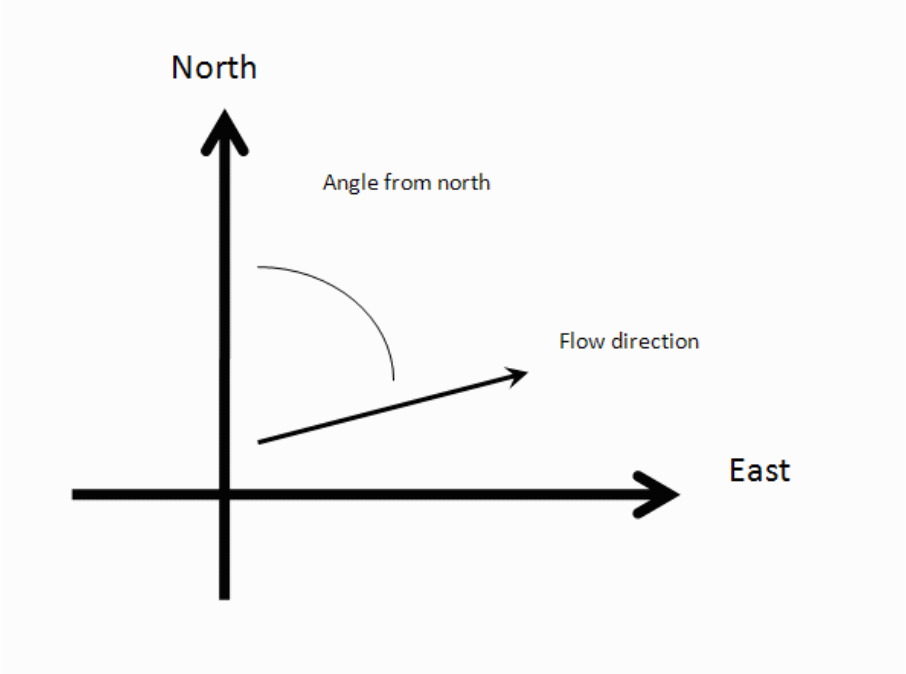
Gradient Calculation from fitting a plane to as many as thirty points

$a\,x_1 + b\,y_1 + c = h_1$
$a\,x_2 + b\,y_2 + c = h_2$
$a\,x_3 + b\,y_3 + c = h_3$
...
$a\,x_{30} + b\,y_{30} + c = h_{30}$

where (x_i,y_i) are the coordinates of the well and
h_i is the head

i = 1,2,3, ... , 30
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back
Site Name: 2844 Mountain Blvd., Oakl
Date: May 13, 2015 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.	x-coordinate	y-coordinate	head ft
1) RS-3	6071215.111	2122442.671	669.15
2) RS-4	6071195.458	2122379.324	666.22
3) MW-1	6071174.931	2122404.178	667.92
4) MW-2	6071186.39	2122393.492	667.30
5) MW-3	6071190.453	2122428.874	668.98
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			
16)			

17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	5
Max. Difference Between Head Values	0.8931
Gradient Magnitude (i)	0.05614
Flow direction as degrees from North (positive y axis)	158.4
Coefficient of Determination (R^2)	0.997

WCMS

Last updated on 1/10/2013

Appendix C

Laboratory Report and Chain of Custody Form

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 266795
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.
6620 Owens Dr.
Pleasanton, CA 94588

Project : 5081
Location : 2844 Mountain Blvd., Oakland
Level : II

Sample ID	Lab ID
RS-3	266795-001
RS-4	266795-002
MW-1	266795-003
MW-2	266795-004
MW-3	266795-005

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: _____ Date: 05/21/2015

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

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**266795**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**5081**
Location:	**2844 Mountain Blvd., Oakland**
Request Date:	**05/14/15**
Samples Received:	**05/14/15**

This data package contains sample and QC results for five water samples, requested for the above referenced project on 05/14/15. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High surrogate recoveries were observed for bromofluorobenzene in RS-3 (lab # 266795-001) and the method blank for batch 223258. No other analytical problems were encountered.

CHAIN OF CUSTODY

Curtis & Tompkins, Ltd
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

LOGIN # 266795

Project No: 5081

Project Name: 2844 Mountain Blvd., Oakland

Turnaround Time: Standard

Sampler: Lizzie Hightower

Report To: Joyce Bobek

Company : SOMA Environmental

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPH-g, BTEX, MtBE 8260B	Analyses: Gasoline Oxygenates 8260B	Analyses: TPH-d 8015
	RS-3	5/13/15 10:49		*		3 VOAs, 2-500 mL Ambers	*			*	*	*	*
	RS-4	12:16		*		3 VOAs, 2-500 mL Ambers	*			*	*	*	*
	MW-1	11:42		*		3 VOAs, 2-500 mL Ambers	*			*	*	*	*
	MW-2	12:03		*		3 VOAs, 2-500 mL Ambers	*			*	*	*	*
	MW-3	11:12		*		3 VOAs, 2-500 mL Ambers	*			*	*	*	*

Notes: **EDF OUTPUT REQUIRED**
GasOx: DIPE, ETBE, TAME, TBA

RELINQUISHED BY:	RECEIVED BY:
5/14/15 11:40 AM DATE/TIME	5/14/15 1140 DATE/TIME
5/14/15 1720 DATE/TIME	5/14/15 1720 DATE/TIME
DATE/TIME	DATE/TIME

stat cod Rc

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 246795 Date Received 5/14/15 Number of coolers 1
Client SDMA Project SDB1

Date Opened 5/14 By (print) [illegible] (sign) [illegible]
Date Logged in [illegible] By (print) [illegible] (sign) [illegible]

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) 0.9

☐ 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

_____
_____
_____
_____
_____
_____

Rev 10, 9/12

Curtis & Tompkins, Ltd.

Detections Summary for 266795

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

Client : SOMA Environmental Engineering Inc.
Project : 5081
Location : 2844 Mountain Blvd., Oakland

Client Sample ID : RS-3 Laboratory Sample ID : 266795-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
MTBE	4.6		0.50		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : RS-4 Laboratory Sample ID : 266795-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1,100		50		ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
tert-Butyl Alcohol (TBA)	25,000		250	34	ug/L	As Recd	25.00	EPA 8260B	EPA 5030B
Methyl tert-Amyl Ether (TAME)	21		13		ug/L	As Recd	25.00	EPA 8260B	EPA 5030B
MTBE	460		13		ug/L	As Recd	25.00	EPA 8260B	EPA 5030B

Client Sample ID : MW-1 Laboratory Sample ID : 266795-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7,100		50		ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Gasoline C7-C12	2,700		830		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
tert-Butyl Alcohol (TBA)	12,000		170	22	ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
Methyl tert-Amyl Ether (TAME)	150		8.3		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
MTBE	1,000		8.3		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
Benzene	150		8.3		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
Ethylbenzene	170		8.3		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B
m,p-Xylenes	76		8.3		ug/L	As Recd	16.67	EPA 8260B	EPA 5030B

Client Sample ID : MW-2 Laboratory Sample ID : 266795-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4,900		50		ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
tert-Butyl Alcohol (TBA)	34,000		400	54	ug/L	As Recd	40.00	EPA 8260B	EPA 5030B
Methyl tert-Amyl Ether (TAME)	96		20		ug/L	As Recd	40.00	EPA 8260B	EPA 5030B
MTBE	870		20		ug/L	As Recd	40.00	EPA 8260B	EPA 5030B
Benzene	86		20		ug/L	As Recd	40.00	EPA 8260B	EPA 5030B
Ethylbenzene	45		20		ug/L	As Recd	40.00	EPA 8260B	EPA 5030B

Curtis & Tompkins, Ltd.

Client Sample ID : MW-3 Laboratory Sample ID : 266795-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7,000		50		ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
tert-Butyl Alcohol (TBA)	380		10	1.3	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Methyl tert-Amyl Ether (TAME)	8.4		0.50		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
MTBE	160		1.7		ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
m,p-Xylenes	0.75		0.50		ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	5081	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/13/15
Units:	ug/L	Received:	05/14/15
Diln Fac:	1.000	Prepared:	05/18/15
Batch#:	223265	Analyzed:	05/19/15

Field ID: RS-3 Lab ID: 266795-001
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	112	67-136

Field ID: RS-4 Lab ID: 266795-002
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	1,100	50

Surrogate	%REC	Limits
o-Terphenyl	89	67-136

Field ID: MW-1 Lab ID: 266795-003
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	7,100	50

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	5081	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	05/13/15
Units:	ug/L	Received:	05/14/15
Diln Fac:	1.000	Prepared:	05/18/15
Batch#:	223265	Analyzed:	05/19/15

Field ID: MW-2 Lab ID: 266795-004
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	4,900	50

Surrogate	%REC	Limits
o-Terphenyl	113	67-136

Field ID: MW-3 Lab ID: 266795-005
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	7,000	50

Surrogate	%REC	Limits
o-Terphenyl	108	67-136

Type: BLANK Lab ID: QC788359

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	87	67-136

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	5081	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Batch#:	223265

Type: BS Prepared: 05/19/15
Lab ID: QC788360 Analyzed: 05/20/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,556	102	60-121

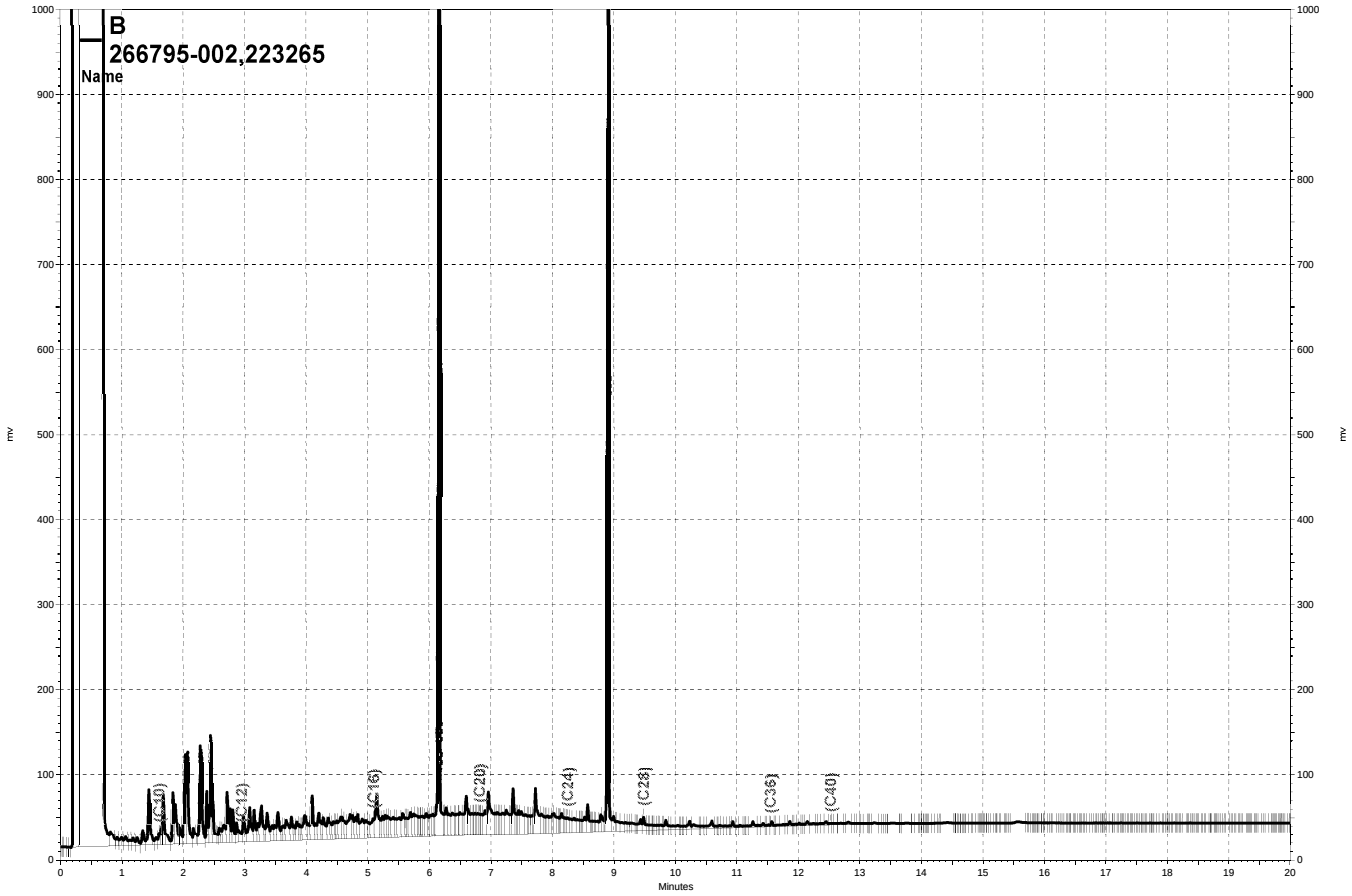
Surrogate	%REC	Limits
o-Terphenyl	94	67-136

Type: BSD Prepared: 05/18/15
Lab ID: QC788361 Analyzed: 05/19/15

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,040	82	60-121	22	32

Surrogate	%REC	Limits
o-Terphenyl	106	67-136

RPD= Relative Percent Difference



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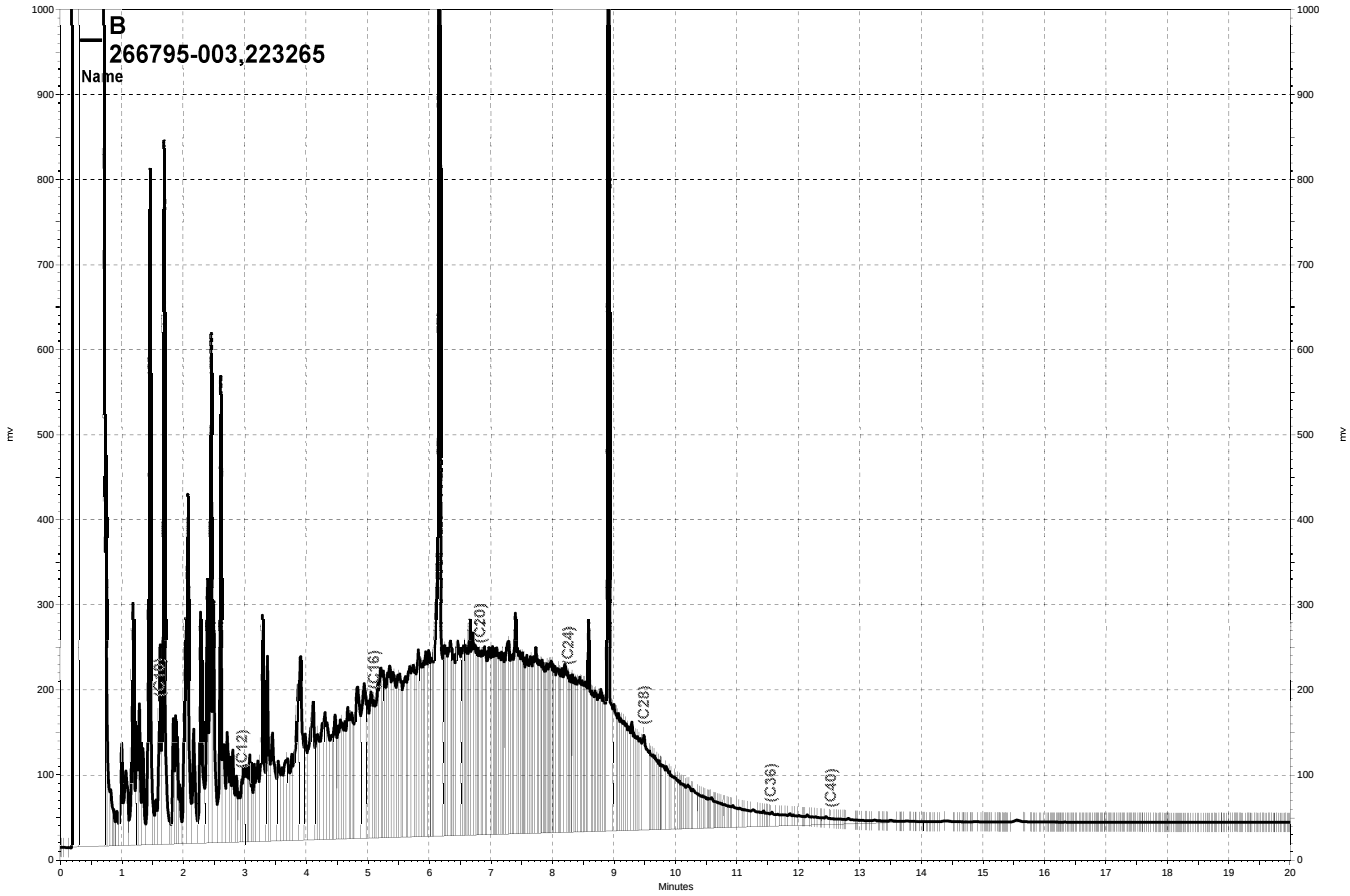

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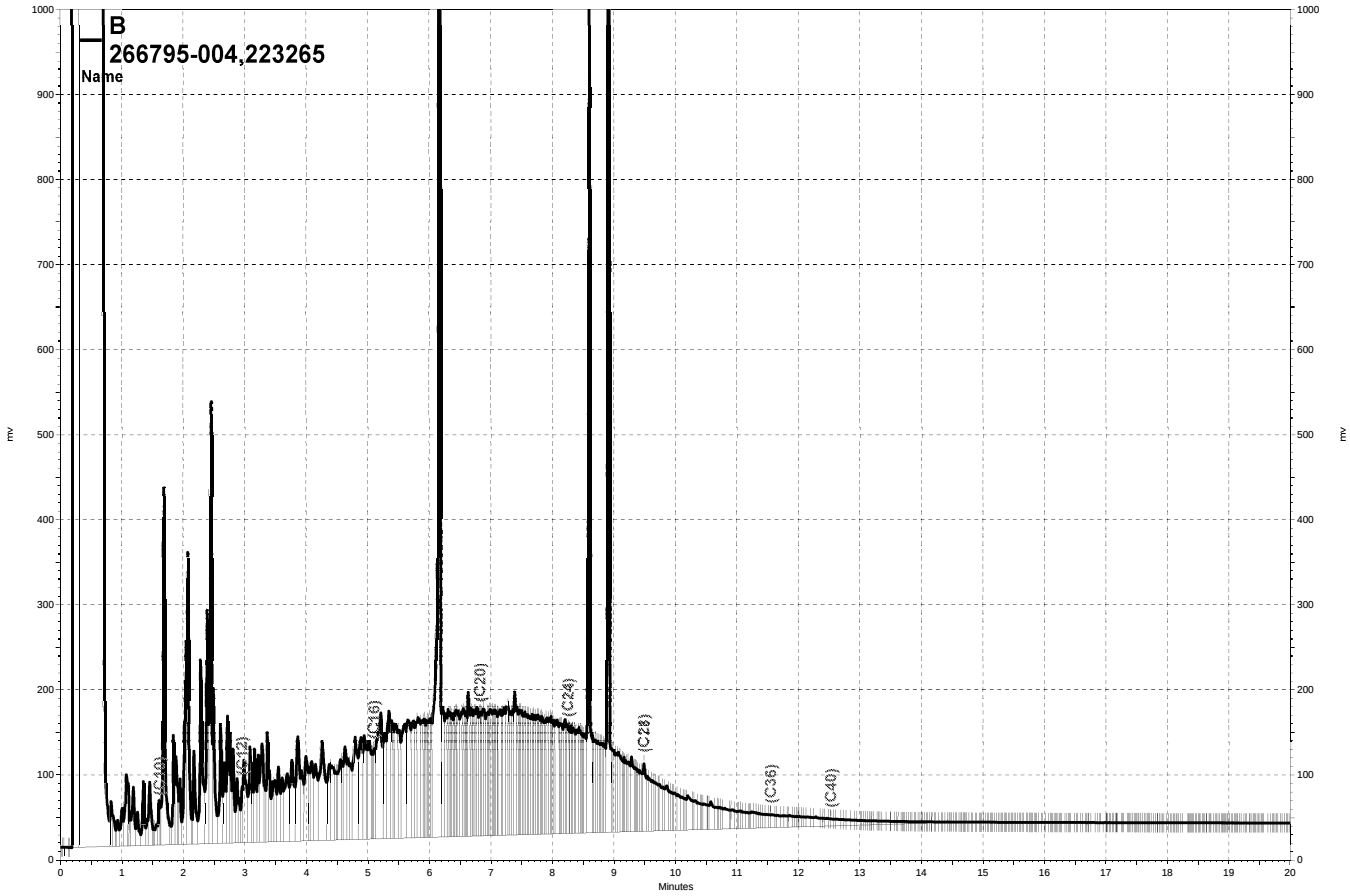

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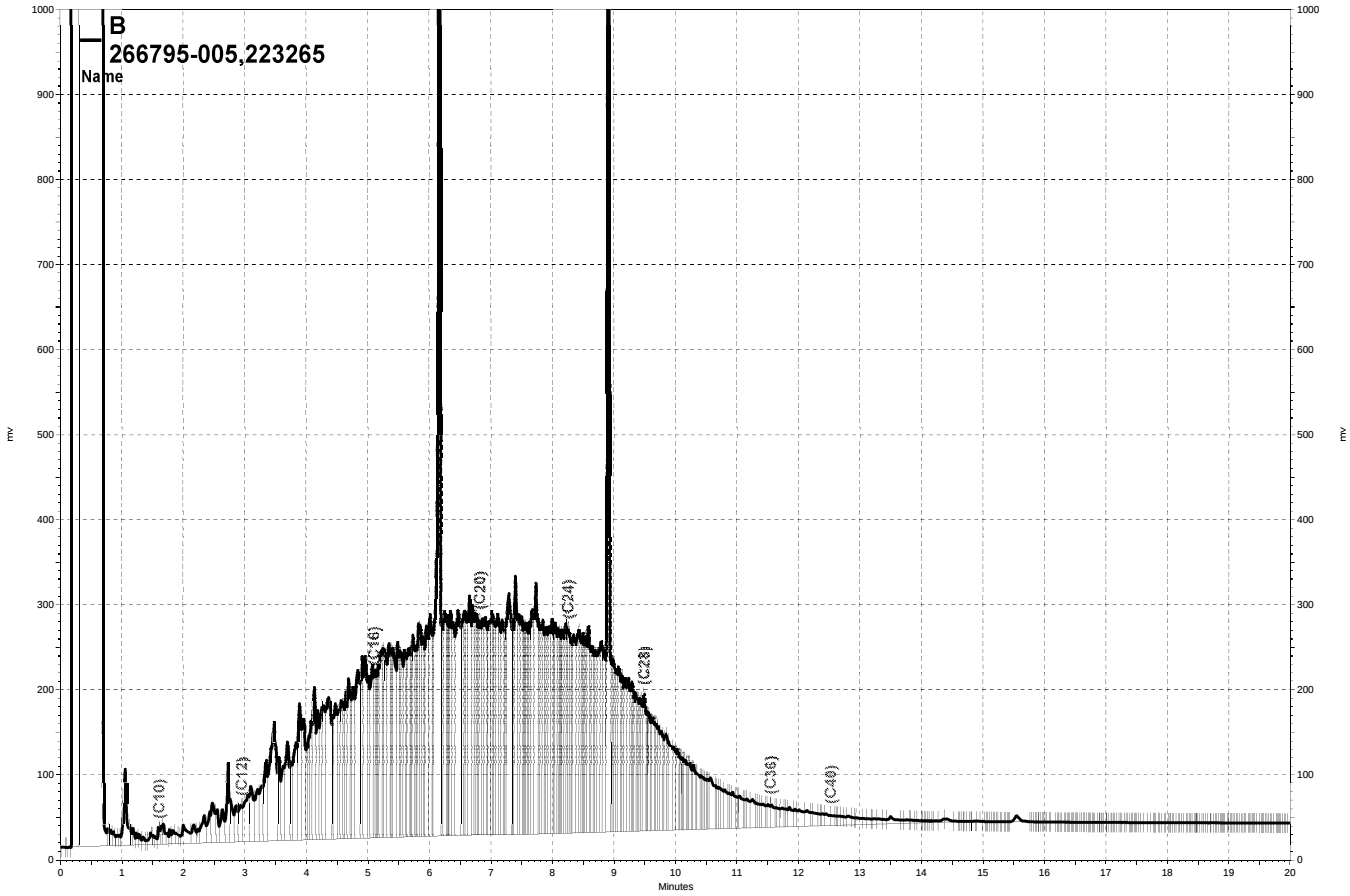

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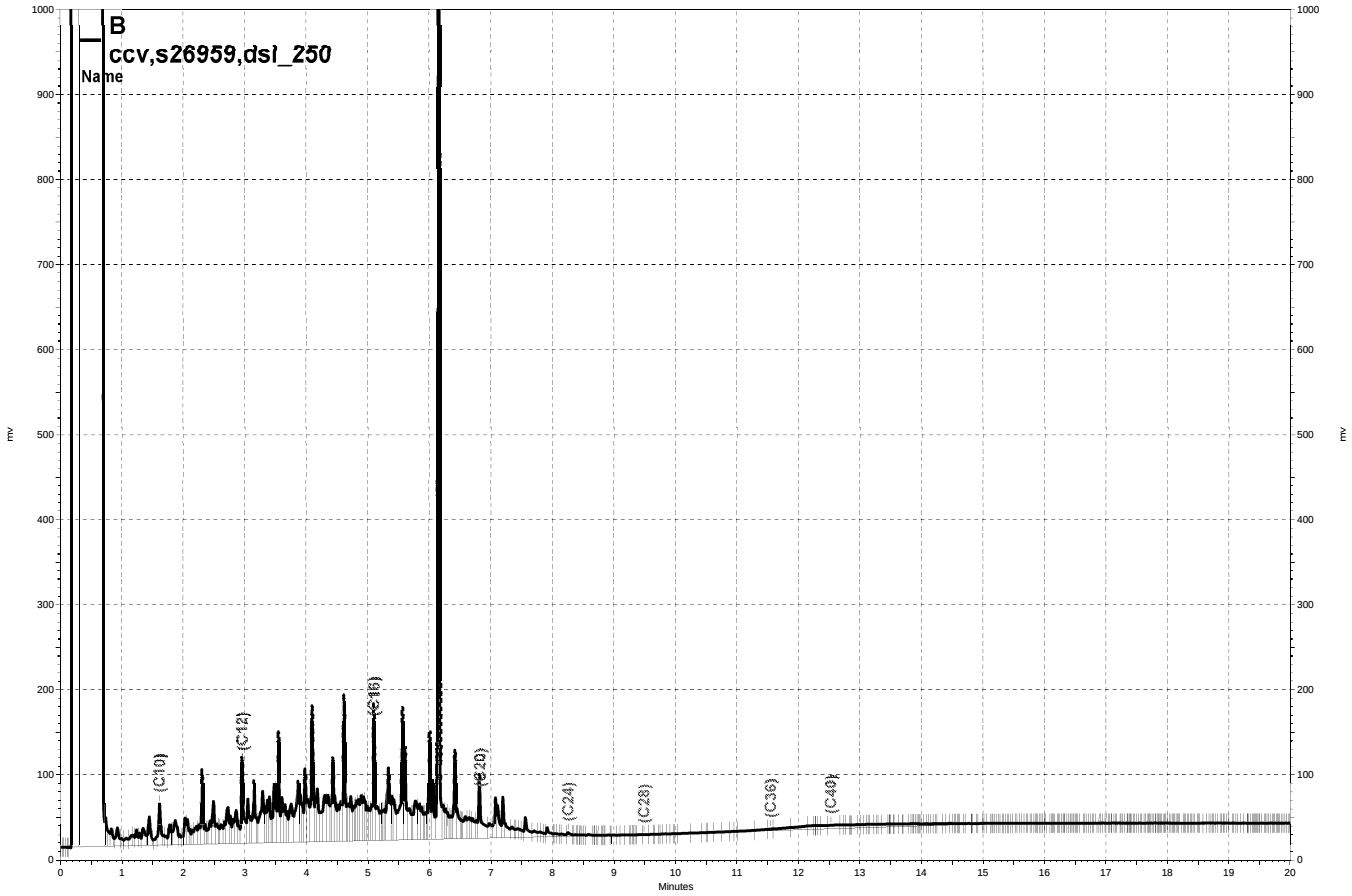

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Field ID:	RS-3	Batch#:	223258
Lab ID:	266795-001	Sampled:	05/13/15
Matrix:	Water	Received:	05/14/15
Units:	ug/L	Analyzed:	05/18/15
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	1.3
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
Ethanol	ND	1,000	
MTBE	4.6	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	116	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	122 *	80-120

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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Field ID:	RS-4	Batch#:	223302
Lab ID:	266795-002	Sampled:	05/13/15
Matrix:	Water	Received:	05/14/15
Units:	ug/L	Analyzed:	05/19/15
Diln Fac:	25.00		

Analyte	Result	RL	MDL
Gasoline C7-C12	ND	1,300	
tert-Butyl Alcohol (TBA)	25,000	250	34
Isopropyl Ether (DIPE)	ND	13	
Ethyl tert-Butyl Ether (ETBE)	ND	13	
Methyl tert-Amyl Ether (TAME)	21	13	
Ethanol	ND	25,000	
MTBE	460	13	
1,2-Dichloroethane	ND	13	
Benzene	ND	13	
Toluene	ND	13	
1,2-Dibromoethane	ND	13	
Ethylbenzene	ND	13	
m,p-Xylenes	ND	13	
o-Xylene	ND	13	

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	223302
Lab ID:	266795-003	Sampled:	05/13/15
Matrix:	Water	Received:	05/14/15
Units:	ug/L	Analyzed:	05/19/15
Diln Fac:	16.67		

Analyte	Result	RL	MDL
Gasoline C7-C12	2,700	830	
tert-Butyl Alcohol (TBA)	12,000	170	22
Isopropyl Ether (DIPE)	ND	8.3	
Ethyl tert-Butyl Ether (ETBE)	ND	8.3	
Methyl tert-Amyl Ether (TAME)	150	8.3	
Ethanol	ND	17,000	
MTBE	1,000	8.3	
1,2-Dichloroethane	ND	8.3	
Benzene	150	8.3	
Toluene	ND	8.3	
1,2-Dibromoethane	ND	8.3	
Ethylbenzene	170	8.3	
m,p-Xylenes	76	8.3	
o-Xylene	ND	8.3	

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	223302
Lab ID:	266795-004	Sampled:	05/13/15
Matrix:	Water	Received:	05/14/15
Units:	ug/L	Analyzed:	05/19/15
Diln Fac:	40.00		

Analyte	Result	RL	MDL
Gasoline C7-C12	ND	2,000	
tert-Butyl Alcohol (TBA)	34,000	400	54
Isopropyl Ether (DIPE)	ND	20	
Ethyl tert-Butyl Ether (ETBE)	ND	20	
Methyl tert-Amyl Ether (TAME)	96	20	
Ethanol	ND	40,000	
MTBE	870	20	
1,2-Dichloroethane	ND	20	
Benzene	86	20	
Toluene	ND	20	
1,2-Dibromoethane	ND	20	
Ethylbenzene	45	20	
m,p-Xylenes	ND	20	
o-Xylene	ND	20	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Field ID:	MW-3	Units:	ug/L
Lab ID:	266795-005	Sampled:	05/13/15
Matrix:	Water	Received:	05/14/15

Analyte	Result	RL	MDL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	ND	50		1.000	223258	05/18/15
tert-Butyl Alcohol (TBA)	380	10	1.3	1.000	223258	05/18/15
Isopropyl Ether (DIPE)	ND	0.50		1.000	223258	05/18/15
Ethyl tert-Butyl Ether (ETBE)	ND	0.50		1.000	223258	05/18/15
Methyl tert-Amyl Ether (TAME)	8.4	0.50		1.000	223258	05/18/15
Ethanol	ND	1,000		1.000	223258	05/18/15
MTBE	160	1.7		3.333	223302	05/19/15
1,2-Dichloroethane	ND	0.50		1.000	223258	05/18/15
Benzene	ND	0.50		1.000	223258	05/18/15
Toluene	ND	0.50		1.000	223258	05/18/15
1,2-Dibromoethane	ND	0.50		1.000	223258	05/18/15
Ethylbenzene	ND	0.50		1.000	223258	05/18/15
m,p-Xylenes	0.75	0.50		1.000	223258	05/18/15
o-Xylene	ND	0.50		1.000	223258	05/18/15

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	106	80-128	1.000	223258	05/18/15
1,2-Dichloroethane-d4	114	75-139	1.000	223258	05/18/15
Toluene-d8	103	80-120	1.000	223258	05/18/15
Bromofluorobenzene	120	80-120	1.000	223258	05/18/15

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223258
Units:	ug/L	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788334

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	78.72	126	32-155
Isopropyl Ether (DIPE)	12.50	13.71	110	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	14.10	113	62-120
Methyl tert-Amyl Ether (TAME)	12.50	12.99	104	69-120
MTBE	12.50	14.29	114	65-120
1,2-Dichloroethane	12.50	14.43	115	74-133
Benzene	12.50	13.23	106	80-123
Toluene	12.50	13.64	109	80-121
1,2-Dibromoethane	12.50	13.97	112	80-120
Ethylbenzene	12.50	13.94	111	80-123
m,p-Xylenes	25.00	27.31	109	80-126
o-Xylene	12.50	13.81	110	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	110	80-120

Type: BSD Lab ID: QC788335

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	74.53	119	32-155	5	33
Isopropyl Ether (DIPE)	12.50	13.41	107	57-128	2	20
Ethyl tert-Butyl Ether (ETBE)	12.50	13.95	112	62-120	1	20
Methyl tert-Amyl Ether (TAME)	12.50	13.18	105	69-120	2	20
MTBE	12.50	14.08	113	65-120	1	22
1,2-Dichloroethane	12.50	14.17	113	74-133	2	20
Benzene	12.50	13.29	106	80-123	0	20
Toluene	12.50	13.74	110	80-121	1	20
1,2-Dibromoethane	12.50	13.57	109	80-120	3	20
Ethylbenzene	12.50	14.31	115	80-123	3	21
m,p-Xylenes	25.00	28.04	112	80-126	3	21
o-Xylene	12.50	13.87	111	80-126	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	108	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC788336	Batch#:	223258
Matrix:	Water	Analyzed:	05/18/15
Units:	ug/L		

Analyte	Result	RL	MDL
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	1.3
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
Ethanol	ND	1,000	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	116	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	122 *	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223258
Units:	ug/L	Analyzed:	05/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788337

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	500.0	468.3	94	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	115	80-120

Type: BSD Lab ID: QC788338

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	500.0	422.5	85	76-120	10	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	114	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223302
Units:	ug/L	Analyzed:	05/19/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788492

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	74.64	119	32-155
Isopropyl Ether (DIPE)	12.50	11.94	96	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	12.66	101	62-120
Methyl tert-Amyl Ether (TAME)	12.50	11.94	95	69-120
MTBE	12.50	13.01	104	65-120
1,2-Dichloroethane	12.50	12.96	104	74-133
Benzene	12.50	12.54	100	80-123
Toluene	12.50	13.19	106	80-121
1,2-Dibromoethane	12.50	12.80	102	80-120
Ethylbenzene	12.50	13.57	109	80-123
m,p-Xylenes	25.00	27.90	112	80-126
o-Xylene	12.50	13.45	108	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC788493

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	66.02	106	32-155	12	33
Isopropyl Ether (DIPE)	12.50	10.68	85	57-128	11	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.28	90	62-120	12	20
Methyl tert-Amyl Ether (TAME)	12.50	11.38	91	69-120	5	20
MTBE	12.50	12.06	96	65-120	8	22
1,2-Dichloroethane	12.50	11.97	96	74-133	8	20
Benzene	12.50	12.01	96	80-123	4	20
Toluene	12.50	12.33	99	80-121	7	20
1,2-Dibromoethane	12.50	12.70	102	80-120	1	20
Ethylbenzene	12.50	12.51	100	80-123	8	21
m,p-Xylenes	25.00	25.78	103	80-126	8	21
o-Xylene	12.50	12.73	102	80-126	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	223302
Units:	ug/L	Analyzed:	05/19/15
Diln Fac:	1.000		

Type: BS Lab ID: QC788494

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	925.0	92	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC788495

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	863.7	86	76-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	266795	Location:	2844 Mountain Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	5081	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC788496	Batch#:	223302
Matrix:	Water	Analyzed:	05/19/15
Units:	ug/L		

Analyte	Result	RL	MDL
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	1.3
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
Ethanol	ND	1,000	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	92	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

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Date : 19-MAY-2015 19:32

Client ID: DYNA P&T

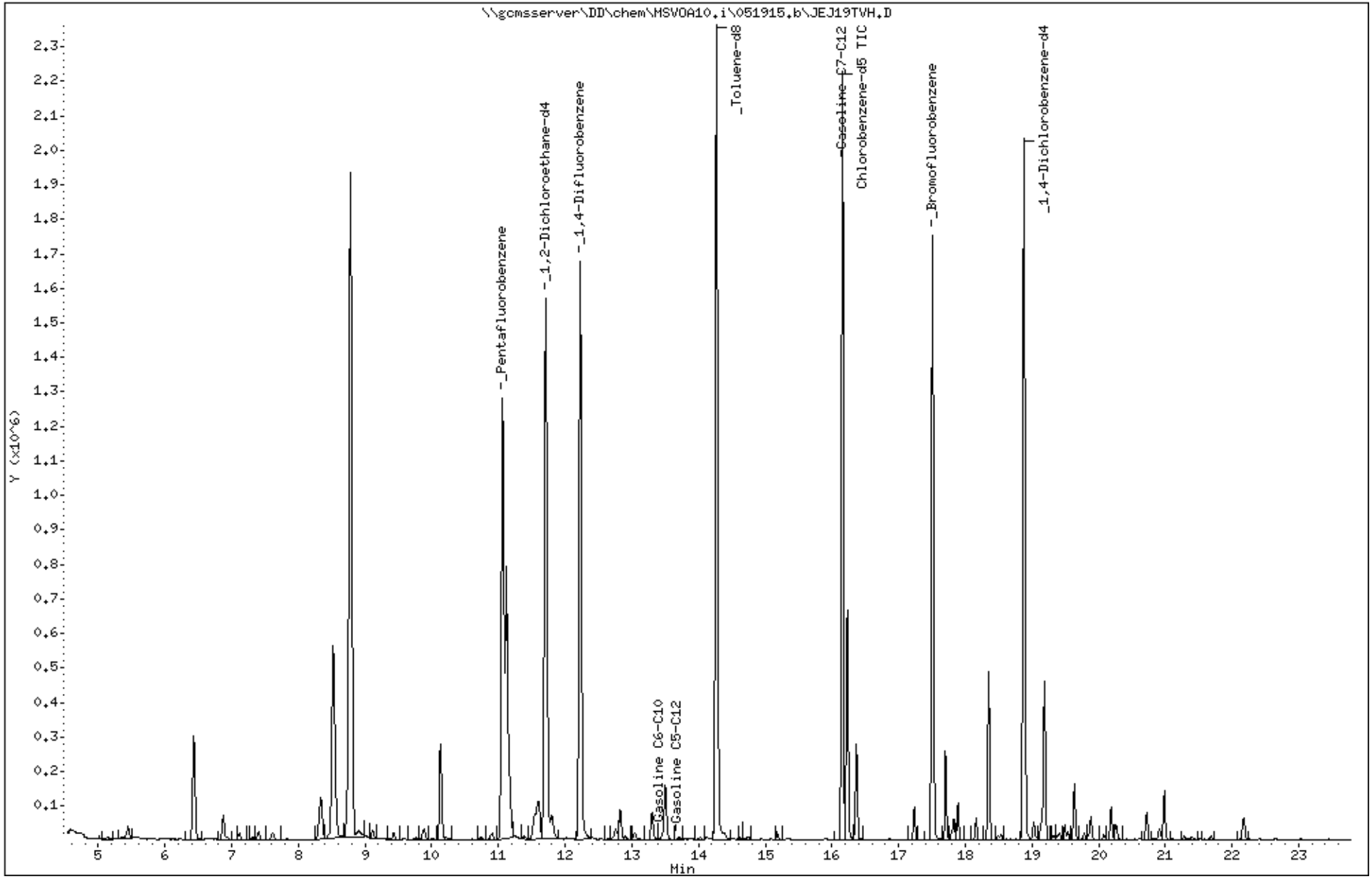
Instrument: MSVOA10.i

Sample Info: s,266795-003

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 18-MAY-2015 16:13

Client ID: DYNA P&T

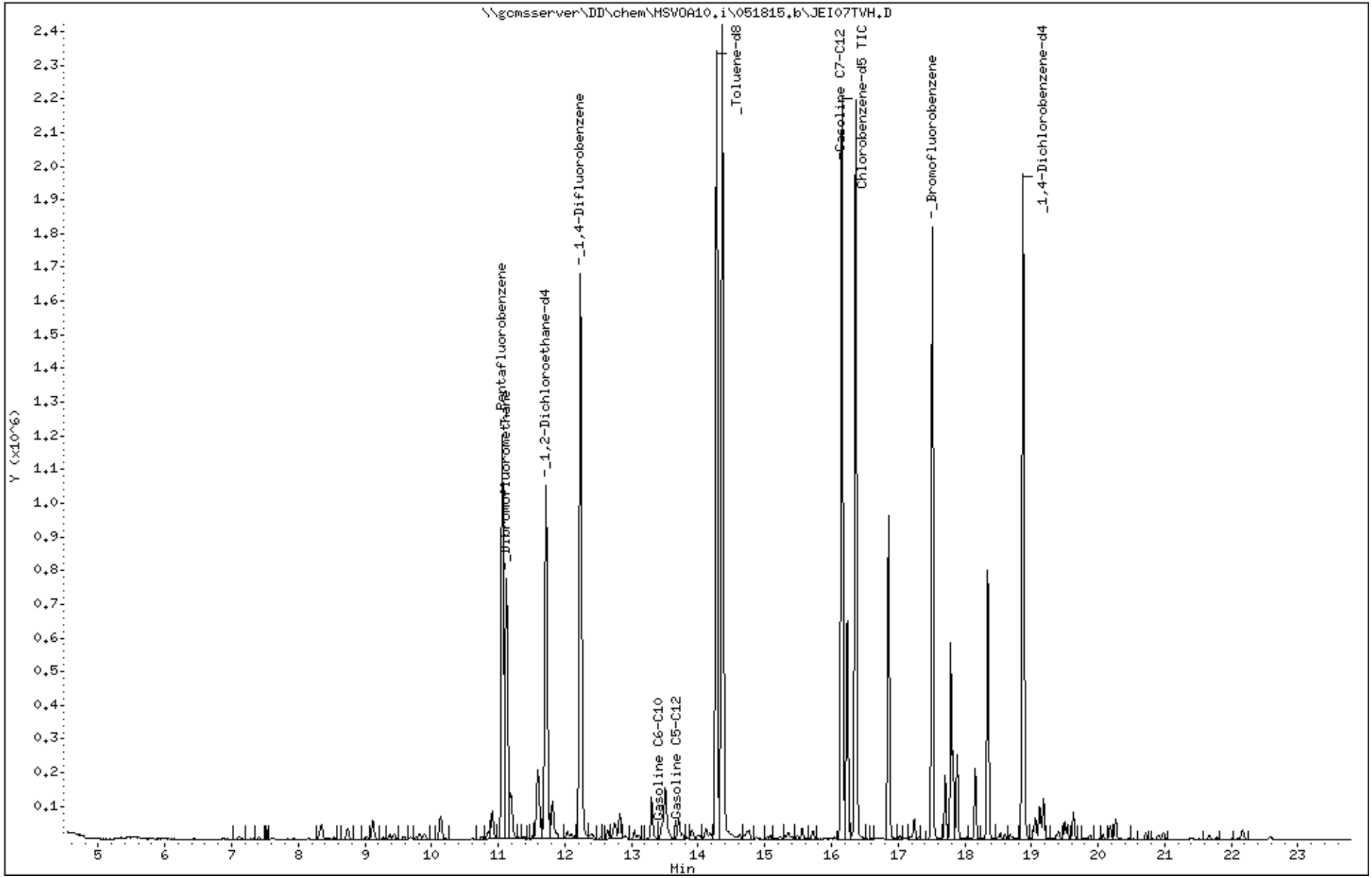
Instrument: MSVOA10.i

Sample Info: ccv/bs,qc788337,223258,s26208,.005/100,

Operator: VOA

Column phase:

Column diameter: 2.00



Appendix D

Non-Hazardous Waste Removal

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address: DESERT PETROLEUM
2844 MOUNTAIN BLVD.
OAKLAND, CA

4. Generator Phone ( )

SOMA ENV

5. Transporter 1 Company Name: INSTRAT INC

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
[redacted]

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone [redacted]

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZ DRILL CUTTINGS	3	DRM	1500 #	LBS
b. NON-HAZ MONITORING WELL WATER	4	DRM	175	GAL
c.				
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above: BROWN, SOIL/MUD, NO ODOR

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date (Month / Day / Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jason Noble | Signature | Date (Month / Day / Year): 5 / 28 / 15

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month / Day / Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: MICHAEL WHITEHEAD | Signature | Date (Month / Day / Year): 5 / 28 / 15

NON-HAZARDOUS WASTE