SOMA
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May 11, 2016

Mr. Mark Detterman, PG, CEG
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Fuel Leak Case No. RO0000473 ARCO
Site Address: 15101 Freedom Avenue, San Leandro, California

Dear Mr. Detterman:

SOMA's "Further Off-Site Investigation Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

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

Sincerely,

Mansour Sepehr, Ph.D.,PE
Principal Hydrogeologist

cc: Mr. Mohammad Pazdel w/report enclosure

Further Off-Site Investigation Report

Freedom Gas and Food
15101 Freedom Avenue
San Leandro, California

May 11, 2016

Project 2552

Prepared for

Mohammad Pazdel
1770 Pistacia Court
Fairfield, California

SOMA ENVIRONMENTAL ENGINEERING, INC.
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PERJURY STATEMENT

Site Location: 15101 Freedom Avenue, San Leandro, 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".

M. R. Pazdel

Mohammad Pazdel
1770 Pistacia Court
Fairfield, California 94533
Responsible Party

CERTIFICATION

SOMA Environmental Engineering, Inc. submits this report on behalf of Mr. Mohammad Pazdel, owner of the property located at 15101 Freedom Avenue, San Leandro, California. This report has been prepared pursuant to correspondence of Alameda County Health Care Services – Environmental Health Services dated March 8, 2016, approving the workplan.

Mansour Sepehr, PhD, PE
Principal Hydrogeologist

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1. INTRODUCTION

1.1 Overview

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report documenting results of a soil and groundwater investigation at 15101 Freedom Avenue, San Leandro, California. SOMA prepared a workplan for further investigation dated January 12, 2016. ACEH approved the workplan in their correspondence dated March 8, 2016. This report provides details and results of the investigation.

1.2 Site Location and Description

The Site is located at the foot of the San Leandro Hills, along the west side of San Leandro Valley (Figure 1). It is bounded on the north by Freedom Avenue, on the east by Fairmont Avenue, on the south by residential properties and on the west by 151st Avenue. It currently operates as a gasoline service station with mini-mart, and retails gasoline and diesel fuel. No automotive repair facility is on the Site. Three canopied product dispenser islands are on-site as well as three underground storage tanks (USTs): one 6,000-gallon diesel UST, one 8,000-gallon gasoline UST, and one 10,000-gallon gasoline UST. Figure 2 illustrates site features.

The Site has operated as a gasoline service station since the 1960s. Mr. Pazdel, the responsible party, sold the property to Farrokh Hosseinyoun in 2010. Mr. Hosseinyoun subsequently sold the property to Mohammad Mashhoon in 2010. The station currently operates under the business name Freedom Gas and Food (formerly Freedom ARCO Mini-Mart). Previous site activities are summarized in Appendix A.

1.3 Regional Geology and Hydrology

The Site is located in the San Leandro Valley at an elevation of approximately 54 feet above mean sea level with a moderate topographic gradient toward the south. The San Leandro Valley is within the San Francisco Bay – Santa Clara Valley depression, a northwest-to-southeast trending basin bounded on the east and west by mountains. The basin is characterized by Quaternary alluvium, chiefly fan and terrace deposits that are generally several hundred feet thick and flat lying.

There is no water body within a half-mile radius of the Site. The nearest water body, Estudillo Canal, is located about 0.6 miles southwest of the Site. The next closest water body is San Leandro Creek, located approximately 1.5 miles south of the Site. The Site is approximately four miles north of the San Francisco Bay. East of the Site are the northwest-trending Hayward Fault Zone, the San Leandro

Hills, and an assemblage of ultramafic metamorphic and volcanic rocks (California Division of Mines and Geology, 1990).

The United States Geological Survey (USGS) mapped the Site on Late Pleistocene age (10,000 to 70,000 years old) alluvium consisting of irregularly interbedded clay, silt, sand and gravel. Due to the age of this alluvium, these stream-deposited sediments are typically more consolidated than alluvial deposits of Holocene age. In developed urban areas such as the Bay Area, earthwork construction often involves the emplacement of artificial fill derived from nearby cuts or quarries. Artificial fill is emplaced over native earth materials to provide level building pads and base rock for roadways.

The Site is located in the East Bay Groundwater Basin of the San Francisco Bay hydrologic study area. Water-bearing formations include the Santa Clara Formation of Plio-Pleistocene age and late Pleistocene, and recent sediments that have been grouped as Late Quaternary alluvium. Non–water-bearing units underlie the water-bearing formations and are exposed along the surface in the Diablo Range east of the Site and Coyote Hills, near Newark, which is south of the Site.

2. SCOPE OF WORK

Based on SOMA's approved workplan, the scope of work includes the following:

1. Permit acquisitions, preparation of health and safety plan, and field preparation
2. Drill three soil borings using direct push technology (DPT) and collect soil and groundwater samples;
3. Analyze soil and groundwater samples;
4. Well Reconstruction;
5. Prepare report

2.1 Fieldwork Preparation

Before initiating field assessment activities, SOMA obtained required encroachment and drilling permits from the Alameda County Public Works Agency (ACPWA) (encroachment permit R16LD16119, drilling permit W2016-0213 & W2016-0214, Appendix B). Traffic control plans, one for each drilling location, were prepared and submitted to the County for approval. The approved traffic plans were utilized during drilling activities (Appendix B).

SOMA retained Bay Area Traffic Solutions (B.A.T.S.) to execute the approved traffic plans on April 19 and 20, 2016. SOMA submitted all required drilling notifications to the ACPWA and ACHCS in advance of drilling activities.

SOMA prepared a site-specific Health and Safety Plan (HASP). The HASP is a requirement of the Occupational Safety and Health Administration (OSHA), "Hazardous Waste Operation and Emergency Response" guidelines (29 CFR 1910.120) and the California Occupational Safety and Health Administration (Cal/OSHA) "Hazardous Waste Operation and Emergency Response" guidelines (CCR Title 8, section 5192). The HASP is designed to address safety provisions during field activities and protect the field crew from physical and chemical hazards resulting from drilling and sampling. It establishes personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans. The HASP was reviewed and signed by field staff and contractors prior to beginning field operations at the Site.

On April 14, 2016 SOMA retained a private utility locator (OJH Subsurface Utility Locator) to survey proposed drilling areas and locate any additional subsurface conduits. On April 15, 2016, SOMA notified Underground Service Alert (USA) to ensure drilling areas were clear of underground utilities (USA numbers 188398, 188410, 188420).

2.2 Borings Advancement

On April 19 and 20, 2016, under SOMA's oversight Cascade Drilling, L.P. (Cascade), a licensed C-57 driller, advanced three soil borings downgradient of the site in the vicinity of MW-10 (DP-7 through DP-9) within the First WBZ at off-site locations illustrated in Figure 3. DP-7 was advanced at the intersection of Fairmont and Liberty St, approximately 30 feet to the northwest of MW-10. DP-8 was advanced in the center divider along Fairmont Dr, approximately 60 feet to the south of MW-10. DP-9 was advanced on the west side of Fairmont Dr in the parking lane, approximately 110 feet to the southwest of MW-10.

DP-7 and DP-8 were advanced to 30 feet bgs similar to the previous borings installed in the vicinity and DP-9 was advanced to 24 feet bgs. Soil samples for chemical analysis were collected from areas of discoloration or PID detections.

Direct Push Technology (DPT) was utilized to advance these borings. To clear all underground utilities, boring location was hand augered to 5 feet bgs. DPT is an efficient method of collecting continuous soil cores while preventing cross-contamination; it involves hydraulically hammering a set of steel rods into the subsurface with the lead section consisting of a polyethylene-lined sampler. After drilling rods were pushed to the desired depth, the soil-filled liner was retrieved. The boring was continuously cored, and descriptions of cored soil were entered in logs (Appendix C) in accordance with the Unified Soil Classification System

(USCS). In addition, cored soil sections were checked for hydrocarbon odors and visual staining, and screened using a photo-ionization detector (PID). PID readings were noted on boring logs.

During boring advancement, multiple interbedded layers of lean clays, sandy lean clays and clayey sands were encountered. Groundwater was first encountered between 17 to 19 feet bgs and was later stabilized between 15 to 17 feet bgs. Boring logs attached in Appendix C illustrate lithologies encountered.

After collection of soil and groundwater samples, each boring was destroyed with a neat cement grout mixture, tremmied into place, and completed at the surface with materials to match existing grade.

2.3 Soil and Groundwater Sample Collection

SOMA used a handsaw to cut the retrieved plastic liner into small sections for laboratory submittal. The collected sleeves were covered at both ends with Teflon sheeting, sealed at both ends with polyethylene end caps, labeled, logged on a chain-of-custody form, placed in an ice-filled cooler, and kept at 4^0C for transport to a state-certified laboratory for analysis.

SOMA collected grab groundwater sample using a temporarily installed perforated PVC casing. A disposable bailer was used to evacuate a desirable amount of groundwater and decant it, slowly to avoid volatilization, into appropriately preserved laboratory-supplied containers.

Each sample was labeled with a unique sample identifier and preserved on ice pending delivery to a certified analytical laboratory. All samples were delivered to the laboratory for chemical analysis under appropriate chain-of-custody protocol.

2.4 Waste Disposal

Soil cuttings generated during soil boring advancement were temporarily stored on-site in a secure area in a DOT-rated 55-gallon steel drum pending characterization, profiling, and transport to an approved disposal-recycling facility. This drum was labeled with site address, contents, date of accumulation, and contact phone number.

On May 2, 2016, four 55-gallon drums of non-hazardous waste generated during drilling operations was transported from the Site to a licensed disposal facility. A waste manifest is attached in Appendix D.

2.5 Laboratory Analyses of Soil and Groundwater Samples

As described in the previous section, soil and groundwater samples, were submitted to a California state-certified environmental laboratory for chemical analysis of the following:

- Total PHCs as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, total xylenes (collectively termed BTEX)
- Fuel oxygenates, additives and lead scavengers including methyl tertiary-butyl ether (MtBE), tertiary-butyl alcohol (TBA), ethyl tertiary-butyl ether (ETBE), diisopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), 1,2-dibromomethane (EDB), and ethanol.

All analyses were conducted using USEPA Method 8260B except for TPH-g in soil which was conducted using USEPA Method 8015B.

2.5.1 Soil Analytical Results

Table 1 summarizes soil analytical results. All contaminants of concern (COC) were either below the laboratory reporting limit or below ESLs (Environmental Screening Level) in soil samples collected from the three DP locations. Laboratory analytical reports are attached in Appendix F.

2.5.2 Groundwater Analytical results

Table 2 summarizes groundwater analytical results. In DP-8, all contaminants of concern were either below laboratory reporting-limits or were below ESLs. In DP-9, MtBE was detected at 44 µg/L (above the ESL) and all other COCs were either at low levels or below laboratory reporting-limits. In DP-7, TPH-g, benzene, ethylbenzene, total xylenes, MtBE, TBA, and naphthalene were detected above their respective ESLs, other COCs were below laboratory reporting-limits. Laboratory analytical reports are attached in Appendix F.

2.6 Well Reconstruction

On April 19, 2016, under SOMA's oversight, Cascade Drilling, L.P. (Cascade), a licensed C-57 driller, installed one off-site remediation well MW-10R within the First WBZ to replace the existing off-site well MW-10.

MW-10 was over-drilled utilizing a hollow stem auger (HSA) rig with an auger bigger in diameter than that was used to initially install this well. All well casing and annular material were removed. The well was reinstalled (MW-10R) as a 4-inch groundwater extraction well.

In the 29-foot deep well boring, 4-inch-diameter threaded, factory-slotted and blank PVC pipe (schedule 40 polyvinyl chloride) was installed, with a 0.02-inch perforated screen (0.02-inch-wide by 1.5-inch-long slot size with 42 slots per foot) spanning 14 to 29 feet bgs. The drilling crew attached a threaded PVC cap on the bottom of each casing, without use of adhesives, and the top of each casing was fitted with a locking well cap. After the screen and well riser were positioned, a filter pack (consisting of No. 3 Monterey Sand) was emplaced into the annular space from the base of the well to approximately 14 feet bgs.

After the filter pack set, the well was sealed to ground surface. To keep grout out of the filter pack, bentonite chips were placed approximately 1 foot above the top of the filter. After hydrating the bentonite chips with sufficient distilled water for 30 minutes to 1 hour, the well was sealed from the top of the bentonite to approximately 1-foot bgs with Portland Type I/II neat cement grout. A flush-mounted, traffic-rated well vault (protective casing) and locking well cap were installed to ensure that the wells would be protected from vandalism and/or accidental damage. No sampling or lithologic logging was conducted at this time. The lithology was inferred from the initial boring location of MW-10. Geologic logs, showing well construction details, are included in Appendix C.

2.7 Well Survey

On May 7, 2016, Edgis Land Surveying, certified licensed land surveyor (License 6772), surveyed the reconstructed well MW-10R. Latitude and longitude coordinates were surveyed to Zone III NAD 83 datum, and the elevation coordinate to NAVD 88 datum from GPS observations. Survey data was uploaded to the State Water Resources Control Board Geotracker database (Appendix D).

3. CONCLUSIONS AND RECOMMENDATIONS

During this investigation, SOMA advanced three off-site direct-push borings downgradient of the site in the vicinity of more impacted well MW-10 and reconstructed MW-10 to convert it into a 4-inch remediation well MW-10R.

- Results of soil sampling indicate that all soil samples were either below the laboratory reporting limits or below ESLs.

- Results of grab groundwater sampling indicate that following COCs were above ESLs: TPH-g, benzene, ethylbenzene, total xylenes, MtBE, TBA, and naphthalene in DP-7 and MtBE in DP-9.

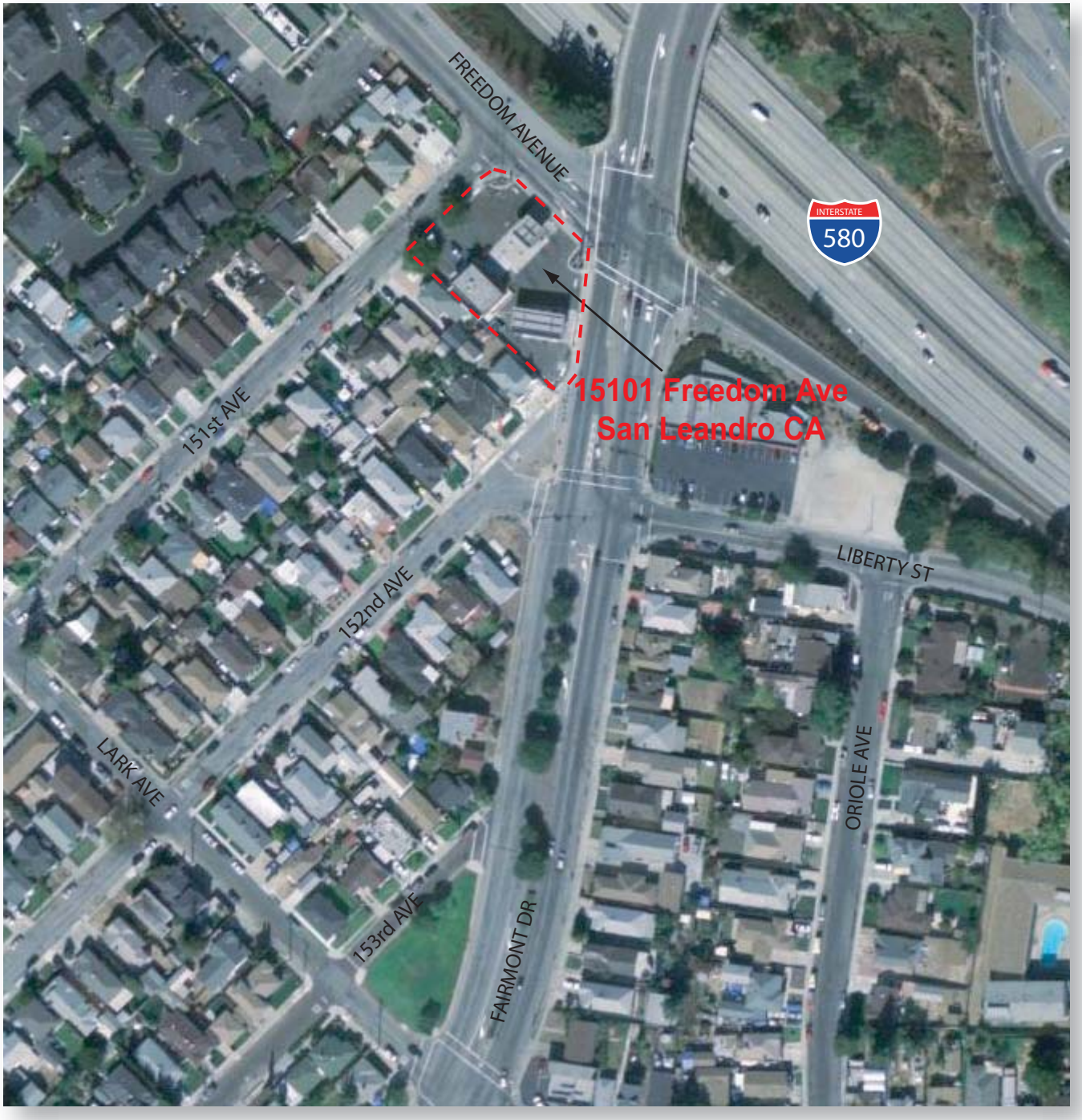
- Results of this investigation indicate that contamination is mainly in groundwater, rather than in soil. The most off-site contamination was

observed in DP-7, southeast of the site beneath the intersection of Fairmont Drive and Liberty Street. However, compared to the most recent groundwater monitoring (March 2016) results it appears that MW-10 is a better location for groundwater extraction due to contamination being higher at that location. Therefore, DP-7 was not converted into an extraction well.

- DP-8 and DP-9 also showed presence of minimal contamination, not enough to justify installation of a remediation well at the location.

Based on results of this investigation SOMA recommends conducting an MPE event utilizing the newly reconstructed well MW-10R. This was previously approved by ACHS in their directive dated March 8, 2016. SOMA will contact the County public works agency for encroachment permit. Details and results of the MPE event will be documented in the next groundwater monitoring and remediation progress report.

FIGURES



N

approximate scale in feet

0 150 300

Figure 1: Site vicinity map.

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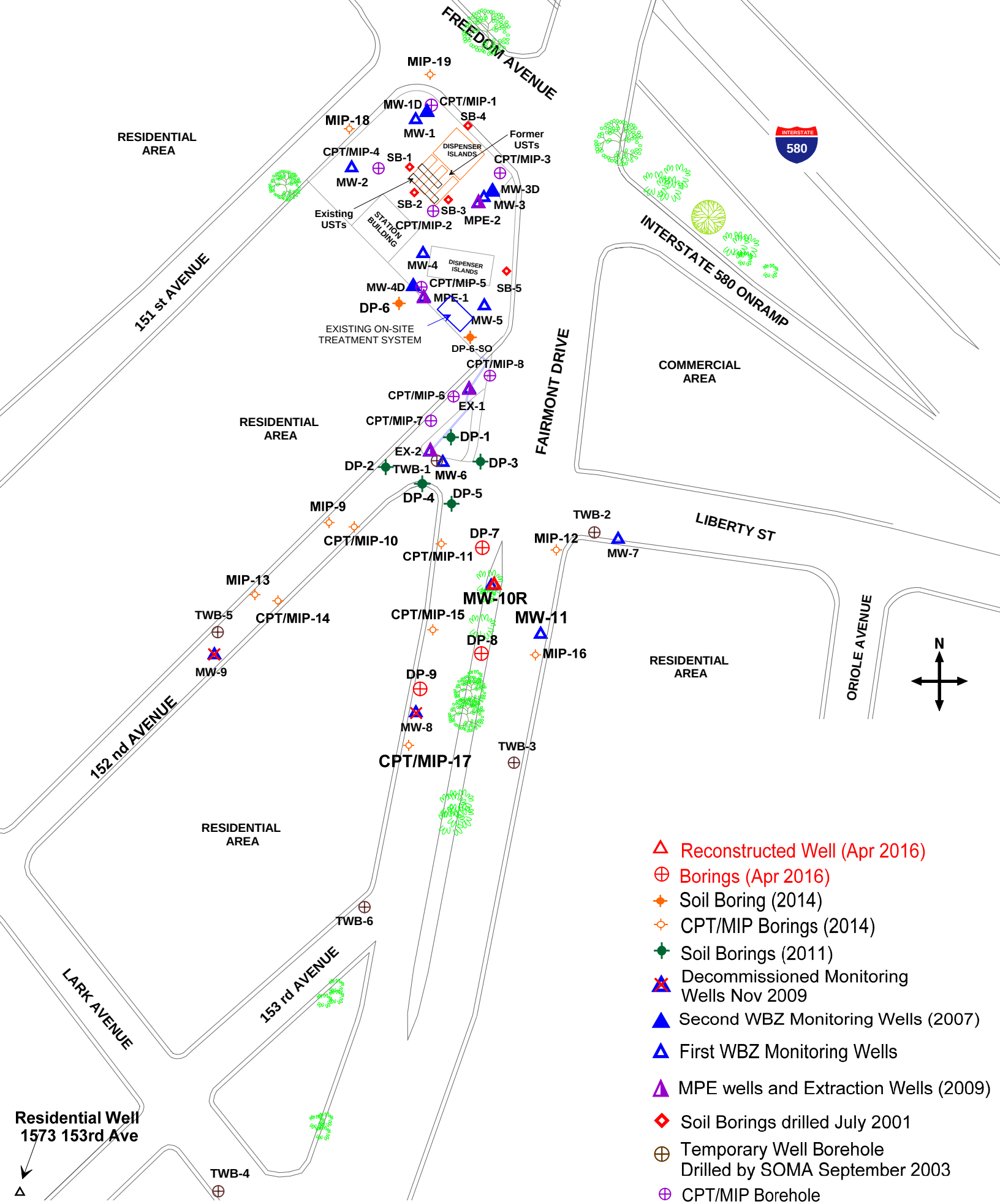

approximate scale in feet

0 50 100

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

SOMA ENVIRONMENTAL ENGINEERING, INC.

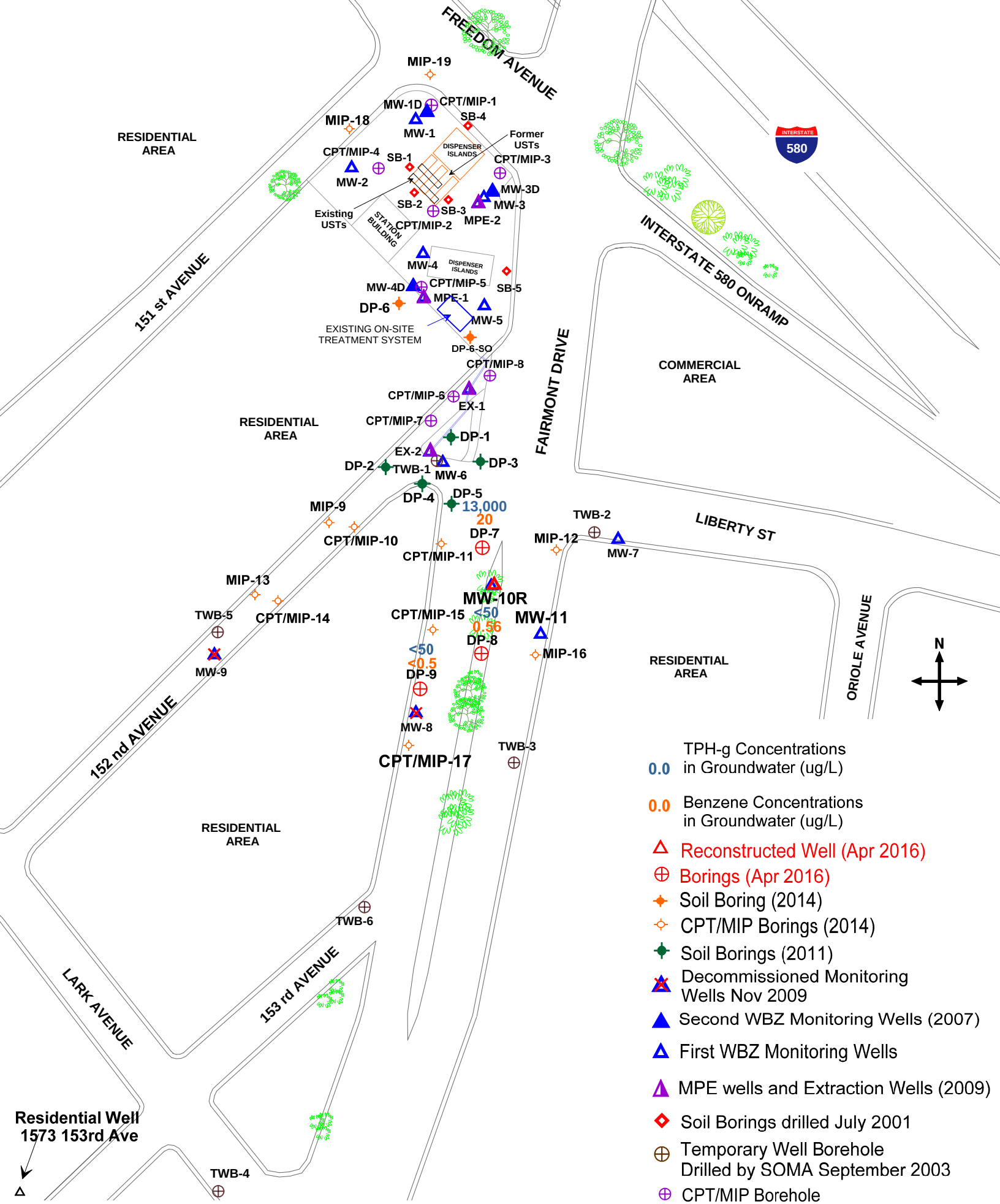

Figure 3: Map Showing TPH-g and Benzene Concentrations in Groundwater (April 2016)

SOMA ENVIRONMENTAL ENGINEERING, INC.

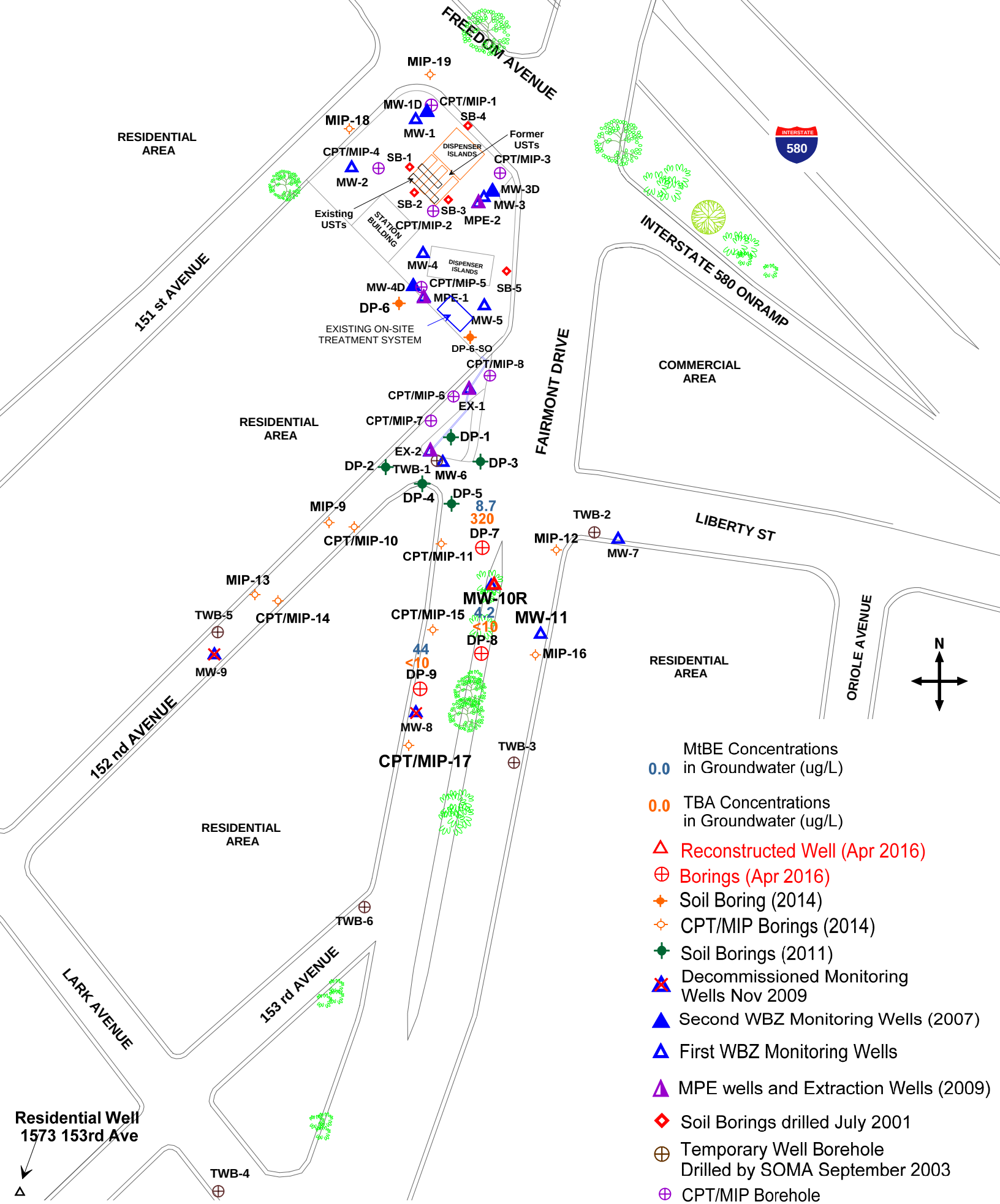

Figure 4: Map Showing MtBE and TBA Concentrations in Groundwater (April 2016)

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TABLES

Table 1
Historical Soil Sample Analytical Results
15101 Freedom Avenue
San Leandro, California

Sample ID	Depth (Feet)	Date	TPH-g (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	MtBE (mg/Kg)	TBA (mg/Kg)	TAME (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	1,2-DCA (mg/Kg)	EDB (mg/Kg)	Naphthalene (mg/Kg)
Limited Off-Site Investigation 2011															
DP-1	**6.5**	**7/20/2011**	<1.1	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	16	**7/20/2011**	<0.91	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	20	**7/20/2011**	22	<0.046	<0.046	0.65	**2.94**	<0.046	<0.93	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046
	22	**7/20/2011**	5.7	<0.0048	0.0086	0.14	1.15	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	23	**7/20/2011**	<1.0	<0.0048	<0.0048	0.01	0.0253	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	30	**7/20/2011**	1.3	<0.0044	<0.0044	0.024	0.122	<0.0044	<0.088	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044
DP-2	**8**	**7/20/2011**	<0.92	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	10	**7/20/2011**	<1.1	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	20	**7/20/2011**	<0.94	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
	24	**7/20/2011**	4.4 Y	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	28	**7/20/2011**	<1.0	<0.0047	<0.0047	0.034	0.042	<0.0047	<0.095	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	30	**7/20/2011**	<0.92	<0.0047	<0.0047	0.0071	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
DP-3	**6**	**7/21/2011**	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.099	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	12	**7/21/2011**	<1.1	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	20	**7/21/2011**	26 Y	<0.0048	<0.0048	0.1	0.28	<0.0048	<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	21	**7/21/2011**	<0.98	<0.0046	<0.0046	<0.0046	<0.0046	0.0051	<0.093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
	30	**7/21/2011**	<1.1	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.099	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
DP-4	**8**	**7/21/2011**	<1.1	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
	11	**7/21/2011**	<0.99	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	16	**7/21/2011**	<1.0	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	20	**7/21/2011**	5.2 Y	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.092	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
	24	**7/21/2011**	140	<0.25	<0.25	2.2	**6.79**	<0.25	<5.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
	26	**7/21/2011**	40	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	30	**7/21/2011**	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
DP-5	**7.5**	**7/20/2011**	<1.1	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	10.5	**7/20/2011**	<1.0	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.095	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	12.5	**7/20/2011**	<0.93	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	23	**7/20/2011**	67	<0.0047	<0.0047	1.6	1.8	<0.0047	<0.093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	28	**7/20/2011**	<0.96	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
	30	**7/20/2011**	<0.96	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
Off-Site Investigation 2014															
DP-6	**21**	**1/28/2014**	24 Y	<0.0048	<0.0048	0.15	0.21	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.065
	28	**1/28/2014**	<0.97	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
DP-6-SO	**3**	**2/6/2014**	<0.98	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	6	**2/6/2014**	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
MIP-9	**21**	**1/17/2014**	180	<0.25	<0.25	**5.2**	**17.9**	<0.25	<5.0	<0.25	<0.25	<0.25	<0.25	<0.25	**1.9**
	24	**1/17/2014**	<0.98	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	31	**1/17/2014**	<1.1	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.099	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	52	**1/17/2014**	<1.1	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048

Table 1
Historical Soil Sample Analytical Results
15101 Freedom Avenue
San Leandro, California

Sample ID	Depth (Feet)	Date	TPH-g (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	MtBE (mg/Kg)	TBA (mg/Kg)	TAME (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	1,2-DCA (mg/Kg)	EDB (mg/Kg)	Naphthalene (mg/Kg)
CPT/MIP-10	21	1/15/2014	200	<0.25	<0.25	2.0	2.5	<0.25	<5.0	<0.25	<0.25	<0.25	<0.25	<0.25	0.72
	24	1/15/2014	<0.96	<0.0049	<0.0049	0.02	0.032	<0.0049	<0.099	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	0.0079
	33	1/15/2014	<1.1	<0.0048	<0.0048	<0.0048	0.034	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0052
	50	1/16/2014	<0.92	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CPT/MIP-11	23	1/13/2014	29 [Y]	<0.25	<0.25	0.46	0.46	<0.25	<5.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
	24	1/13/2014	<1.1	<0.005	<0.005	0.0086	0.0068	<0.005	<0.099	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MIP-12	20	1/20/2014	<1.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.099	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	32	1/20/2014	<1.1	<0.0049	<0.0049	<0.0049	<0.0049	0.01	<0.099	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	52	1/20/2014	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
MIP-13	21	1/16/2014	25 [Y]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	31	1/16/2014	<0.99	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	50	1/16/2014	<1.1	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
CPT/MIP-14	21	1/14/2014	54 [Y]	<0.25	<0.25	<0.25	<0.25	<0.25	<5.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
	30	1/14/2014	<0.95	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.095	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
	52	1/14/2014	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
CPT/MIP-15	32	1/13/2014	<0.96	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	42	1/13/2014	<1.1	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
MIP-16	21	1/17/2014	<1.0	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
	48	1/20/2014	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CPT/MIP-17	30	1/14/2014	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
MIP-18	26	1/21/2014	<1.0	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
MIP-19	27	1/21/2014	26 [Y]	<0.048	<0.048	0.12	0.078	<0.048	<0.96	<0.048	<0.048	<0.048	<0.048	<0.048	0.19
	38	1/21/2014	<1.0	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
Off-Site Investigation 2016															
DP-7	28	4/20/2016	<1.0	0.0057	<0.0044	<0.0044	<0.0044	<0.0044	<0.088	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	0.014
DP-8	24	4/20/2016	<0.98	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
DP-9	15	4/20/2016	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ESLs (mg/Kg)		**Residential**	**100**	**0.044**	**2.9**	**1.4**	**2.3**	**0.023**	**0.075**	**NA**	**NA**	**NA**	**0.0045**	**0.00033**	**0.033**
		Commercial	**500**	**0.044**	**2.9**	**1.4**	**2.3**	**0.023**	**0.075**	**NA**	**NA**	**NA**	**0.0045**	**0.00033**	**0.033**

Notes:

ESLs Environmental Screening levels as per SF Bay Region RWQCB-February 2016 (Groundwater is a Current or Potential Source of Drinking Water)

NA Not listed on the ESL Tables

<: Below laboratory detection limits

Table 2
Historical Groundwater Analytical Results
15101 Freedom Avenue
San Leandro, California

Sample ID	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	TBA (µg/L)	TAME (µg/L)	DIPE (µg/L)	ETBE (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Naphthalene (µg/L)
Limited Off-Site Investigation 2011														
DP-1	7/20/2011	**84,000**	<17	**250**	**3,600**	**15,300**	<17	<330	<17	<17	<17	<17	<17	NA
DP-2	7/20/2011	**46,000**	<5.0	<5.0	**540**	**1,130**	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	NA
DP-3	7/21/2011	**1,500**	<1.0	<1.0	**42**	**120**	**150**	**40**	8.9	<1.0	<1.0	<1.0	<1.0	NA
DP-4	7/21/2011	**20,000**	**1.1**	0.98	**1,100**	**1,670**	<0.5	<10	<0.5	<0.5	<0.5	**0.65**	<0.5	NA
DP-5	7/20/2011	**80,000**	**290**	**140**	**4,300**	**16,800**	<25	<500	<25	<25	<25	<25	<25	NA
Off-Site Investigation 2014														
DP-6	1/28/2014	**3,900**	**3.1**	<1.7	**130**	**235**	**220**	**760**	<1.7	<1.7	20	<1.7	<1.7	**35**
MIP-9-1	1/17/2014	84	0.58	<0.5	0.88	4.80	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
CPT/MIP-10-1	1/15/2014	76	<0.5	<0.5	3.9	6.4	**5.4**	<10	0.51	<0.5	<0.5	<0.5	<0.5	<2.0
CPT/MIP-11-1	1/13/2014	<50	<0.5	<0.5	<0.5	<0.5	**58**	<10	5.2	<0.5	<0.5	<0.5	<0.5	<2.0
MIP-12-1	1/20/2014	<50	<0.5	<0.5	<0.5	<0.5	**14**	<10	<0.5	<0.5	<0.5	**72**	<0.5	<2.0
MIP-13-1	1/16/2014	<50	0.75	<0.5	<0.5	<0.5	3.9	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
CPT/MIP-14-1	1/14/2014	<50	<0.5	<0.5	<0.5	<0.5	**9.2**	<10	0.53	<0.5	<0.5	**0.69**	<0.5	<2.0
CPT/MIP-15-1	1/13/2014	<50	<0.5	<0.5	<0.5	<0.5	**5.8**	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MIP-16-1	1/17/2014	**980**	**1.8**	0.65	0.55	<0.5	0.64	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
CPT/MIP-17-1	1/14/2014	<50	<0.5	<0.5	<0.5	<0.5	10	<10	0.77	<0.5	<0.5	<0.5	<0.5	<2.0
MIP-18-1	1/28/2014	<50	**1.1**	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MIP-19-1	1/21/2014	**690**	<0.5	<0.5	7.7	6.0	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	**14**
Off-Site Investigation 2016														
DP-7	4/20/2016	**13,000**	**20**	<5.0	**190**	**210**	**8.7**	**320**	<5.0	<5.0	<5.0	<5.0	<5.0	**39**
DP-8	4/20/2016	<50	0.56	<0.5	<0.5	<0.5	4.2	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
DP-9	4/20/2016	<50	<0.5	<0.5	<0.5	<0.5	**44**	<10	4.4	<0.5	<0.5	<0.5	<0.5	<2.0
Second WBZ														
MIP-9-2	1/17/2014	**160**	0.88	<0.5	2.1	5.24	1.3	<10	<0.5	<0.5	<0.5	8.9	<0.5	<2.0
CPT/MIP-10-2	1/16/2014	110	0.61	<0.5	4.5	8.8	3.8	<10	<0.5	<0.5	<0.5	**9.1**	<0.5	<2.0
CPT/MIP-11-2	1/13/2014	63	<0.5	<0.5	1.6	2.55	<0.5	<10	<0.5	<0.5	<0.5	**1.1**	<0.5	<2.0
MIP-12-2	1/20/2014	<50	**1.1**	0.51	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	**3.4**	<0.5	<2.0
MIP-13-2	1/16/2014	96	1.7	0.69	1.7	1.0	1.1	<10	<0.5	<0.5	<0.5	**1.4**	<0.5	<2.0
CPT/MIP-14-2	1/15/2014	<50	0.71	<0.5	<0.5	<0.5	0.95	<10	<0.5	<0.5	<0.5	**3.2**	<0.5	<2.0
CPT/MIP-15-2	1/13/2014	<50	0.57	<0.5	<0.5	<0.5	1.4	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MIP-16-2	1/20/2014	<50	**1.0**	0.53	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
CPT/MIP-17-2	1/14/2014	<50	**1.2**	0.57	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
ESLs		**100**	**1**	**40**	**13**	**20**	**5**	**12**	**NA**	**NA**	**NA**	**0.5**	**0.05**	**0.17**

Notes:

ESLs	Environmental Screening levels as per SF Bay Region RWQCB-February 2016 (Groundwater is a Current or Potential Source of Drinking Water)
NA	Not listed on the ESL Tables
<:	Below laboratory detection limits

APPENDIX A
Previous Activities

In May 1999, three 10,000-gallon USTs, approximately 250 feet of product piping, and six product dispensers were removed from the Site (Geo-Logic, 1999). A total of 21 soil samples were collected for laboratory analyses from the removal areas, including seven from the east and west sides of the UST removal excavation, at depths ranging from 12 to 14 feet below ground surface (bgs), and 14 from beneath the fuel dispensers and product delivery piping ranging in depth from 2.5 to 3.5 feet bgs. Samples were analyzed for the following: total petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene, xylenes (BTEX); and methyl tertiary-butyl ether (MtBE). Analysis results indicated the need for removal of additional soil from product piping areas and the UST removal excavation. Concentrations of TPH-g, BTEX and MtBE in soil samples from the UST removal excavation were elevated relative to those from the product piping and dispenser areas, where concentrations were relatively low. Following overexcavation, three soil samples were collected for laboratory analysis from the enlarged UST removal excavation ranging in depth from 16.5 to 24.5 feet bgs, and one from the product delivery piping at 5 feet bgs. Laboratory analysis detected elevated concentrations in soil samples at 24.5 feet bgs from the UST removal excavation relative to those at 16.5 and 19.5 feet bgs. Low concentrations of petroleum hydrocarbons were detected in the soil sample from the product delivery piping.

In July 1999, one 14,000-gallon UST divided into a 6,000-gallon unit for diesel and an 8,000-gallon unit for gasoline, and one 20,000-gallon UST for gasoline were installed at the site (Geo-Logic, 1999).

On January 3, 2000, ACHCS notified the property owner, Mr. Pazdel, of an unauthorized release that had occurred during removal of old USTs in May 1999. ACHCS requested a preliminary site assessment.

On July 5, 2001, a soil and groundwater investigation was conducted at the Site to delineate the extent of soil and groundwater impact discovered during removal of the USTs, product delivery piping and product dispensers in May 1999 (CSS Environmental Services, 2001). Five soil borings, SB-1 through SB-5, were advanced using direct-push methods, to a maximum depth of 31 feet bgs. Groundwater was encountered in borings at depths ranging from 29 to 30 feet bgs, and stabilized at depths ranging from 17 to 20 feet bgs. Ten soil samples were collected from borings for laboratory analysis of TPH-g, BTEX and MtBE. Analytical results revealed elevated concentrations between 19 and 25.5 feet bgs. Maximum concentrations of TPH-g and BTEX in samples were 470,000 µg/kg, 2,600 µg/kg, 16,000 µg/kg, 12,000 µg/kg, and 73,000 µg/kg, respectively. MtBE was not detected in any soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX and MtBE. Maximum concentrations of TPH-g and benzene in boring samples were 83,000 µg/L and 19,000 µg/L, respectively. MtBE was detected in four of five grab groundwater samples, at a maximum concentration of 87,000 µg/L.

In April 2002, groundwater monitoring wells MW-1 through MW-5 were installed on the Site to a total depth of 30 feet bgs, and competed with well screens installed between 15 and 30 feet bgs. The wells were installed to evaluate the groundwater flow gradient and the extent of dissolved-phase fuel hydrocarbons in groundwater (SOMA, 2002). Groundwater was first encountered at depths ranging from approximately 25 to 29 feet bgs, and stabilized at depths ranging from 21 to 23 feet bgs. Five soil samples were collected from borings for laboratory analyses of TPH-g, BTEX and MtBE. Results revealed elevated concentrations of TPH-g and BTEX between 21 and 26 feet bgs, coincident with the depth at which groundwater was first encountered in the boreholes. No MtBE was detected in soil samples. Groundwater samples were initially collected from each monitoring well during Second Quarter 2002 (May 2002) for laboratory analyses of TPH-g, BTEX and MtBE (SOMA, 2002a). Maximum concentrations of TPH-g, benzene and MtBE in groundwater samples were 44,000 µg/L, 6,000 µg/L and 12,000 µg/L, respectively. Groundwater was determined to flow south across the Site. Elevated levels of dissolved-phase hydrocarbons in the farthest downgradient monitoring well indicated off-site migration.

Between August and October 2003, a soil and groundwater investigation was conducted to evaluate off-site extent of dissolved-phase hydrocarbon migration with groundwater (SOMA, 2003). The investigation included a sensitive receptor survey to locate water supply wells and/or water bodies within a 2,000-foot radius of the Site, and a conduit study to identify underground utilities adjacent to the Site beneath Freedom Avenue, Fairmont Drive and 153rd Avenue. Soil borings TWB-1 through TWB-6 were advanced to depths ranging from 30 to 44 feet bgs, at locations ranging from 125 to 750 feet hydraulically downgradient from the Site. Fourteen soil samples were collected at depths ranging from 16 to 39 feet bgs for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethene (1,2-DCE). Results revealed soil impact off-site to a maximum distance of 265 feet hydraulically downgradient of the Site, at depths ranging from 18 to 31.5 feet bgs. Elevated concentrations were detected at depths ranging from 21.5 to 24.5 feet bgs, approximately 125 feet hydraulically downgradient from the Site. Concentrations of benzene, MtBE and 1,2 DCE were not detected in soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethane (1,2-DCA). Maximum concentrations of TPH-g and benzene were 410,000 µg/L and 2,200 µg/L, respectively, detected in a boring 125 feet hydraulically downgradient of the Site. Maximum concentration of MtBE was 34 µg/L, detected in a boring 265 feet hydraulically downgradient of the Site. The investigation resulted in preliminary identification of two water-bearing zones beneath the Site and proximity. The sensitive receptor survey identified 10 wells within 2,000 feet of the Site. Three are located hydraulically downgradient of the Site: one irrigation well and two wells of unknown use. The remaining wells are either hydraulically upgradient or cross-gradient of the Site. No water body was identified within a 0.5-mile distance from the Site. The conduit study revealed two sewer lines beneath Fairmont

Drive and 153rd Avenue; it was determined that neither was submerged by groundwater.

In September 2004, an additional soil and groundwater investigation was conducted to further evaluate the extent of dissolved-phase hydrocarbon migration with groundwater off-site (SOMA 2004). Groundwater monitoring wells MW-6 thru MW-9 were installed downgradient from the Site to total depths ranging from 21 to 33 feet bgs, and completed with well screens ranging from 4 to 15 feet long installed at the base of each well. Groundwater was first encountered at depths ranging from approximately 15 to 20 feet bgs, and stabilized at depths ranging from 12 to 17 feet bgs. Four soil samples were collected from one monitoring well borehole. Soil samples were not collected from other boreholes because of extensive and unexpected lateral lithologic changes encountered between the well boreholes during drilling, necessitating continuous coring that precluded soil sample collection. Collected samples were analyzed for TPH-g and BTEX; neither was detected.

During this investigation, an attempt was made to collect a groundwater sample from an irrigation well hydraulically downgradient from the Site, identified by the sensitive receptor survey conducted between August and October 2003. The irrigation well had been unused for some time and, subsequently, no groundwater sample could be collected.

An attempt was made to locate another well of unknown use hydraulically downgradient from the Site, also identified by the sensitive receptor survey. This well could not be located despite canvassing of the surrounding residential neighborhood with written requests for information. Based on results of this investigation and the previous investigation conducted between August and October 2003, one water-bearing zone was identified to consist of discontinuous water-bearing layers and stringers separated by discontinuous clay lenses of varying thickness. Additionally, a preferential flow pathway study was proposed consisting of a possible buried stream channel trending north to south beneath the eastern portion of the Site, and extending off-site to the south, beneath the intersection of 153rd Avenue, Fairmont Drive and Liberty Avenue, which is hydraulically downgradient from the Site.

On November 21, 2005, ACHCS requested that the property owner submit a workplan for a soil and water investigation by January 21, 2006. It was submitted on December 28, 2005 (SOMA, 2005) and proposed installation of eight cone penetrometer test (CPT), membrane interface probe (MIP) borings to refine hydrogeologic conditions using CPT technology on- and off-site. The purpose of this investigation was to define the horizontal and vertical extent of the soil and groundwater impact on- and off-site using MIP technology, and to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Based on a telephone conversation between SOMA and ACHCS, an addendum to SOMA's December 2005 workplan was prepared and submitted on March 3, 2006. The workplan provided further clarification for advancing the CPT/MIP as requested by ACHCS.

On April 10, 2006, SOMA oversaw drilling of CPT/MIP boreholes. Fisch Environmental, SOMA's subcontractor, used a Geoprobe 6600. Because of unforeseen subsurface drilling conditions, and the fact that Fisch's drilling rig was not strong enough to drill through the hard subsurface materials, drilling could not advance beyond 35 feet bgs in any of the CPT/MIP locations despite three days effort. An ACHCS representative was present during this operation. On April 26, using a hollow stem auger, a CPT calibration borehole was drilled to 47 feet bgs. Because CPT/MIP boreholes could not be advanced to targeted depths, Gregg Drilling was selected to drill CPT/MIP boreholes at a later date, and Fisch's compensation was to be appropriately reduced.

In a letter dated May 29, 2006, ACHCS reduced the quantity of on-site CPT/MIP borings from six to five, altered some boring locations, adjusted depths at which to collect groundwater samples, and requested development of a site conceptual model (SCM) and corrective action plan (CAP) along with an interim remediation and migration control evaluation. ACHCS established a November 30, 2006 deadline for report submittal.

On September 7, 2006, SOMA resumed the field investigation. To characterize site lithology and hydrogeology, and evaluate lateral and vertical distribution of soil and groundwater impact on- and off-site, SOMA supervised advancement of eight CPT/MIP borings by Gregg, using a 25-ton CPT rig. The MIP portion of the study was performed by Fisch utilizing an MIP probe attached to Gregg's CPT probe. After completion of the CPT/MIP program, eight borings were advanced using direct-push drilling methods, in the immediate proximity of the CPT/MIP borings. These borings were advanced to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Investigation results were presented by SOMA in "Additional Soil and Groundwater Investigation Report and Initial Conceptual Site Model, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California," dated November 27, 2006. The report also included an interim remediation and migration control evaluation.

In summary, the report described two main water-bearing zones designated as the First and Second water-bearing zones (WBZs). Both WBZs appear to be laterally continuous across the Site and hydraulically downgradient of the Site, and are separated by a laterally continuous aquitard. Moderately weathered fuel hydrocarbons are adsorbed to soil or dissolved in groundwater within the First and Second WBZs. The source area in the First WBZ appears to be in proximity to the location of the former USTs and the existing fuel dispensers in both the

north and southeast portions of the Site. A source area for the Second WBZ is indeterminate because limited data for the Second WBZ was generated by the investigation. The Site is located in an area of primarily residential properties with a commercial property to the east. Population/receptors exposed to fuel hydrocarbons in soil and groundwater of the First WBZ on- and off-site include current and future on-site workers and current off-site commercial workers and residents. Sources are fuel hydrocarbons adsorbed to soil, and dissolved-phase hydrocarbons in groundwater, of the First WBZ. Exposure pathways for on-site receptors are inhalation of volatile emissions from impacted soil and groundwater of the First WBZ. The only exposure pathway for off-site residents appears to be incidental ingestion of groundwater from the First and Second WBZs. The soil interim remediation alternatives evaluated included soil excavation, soil vapor extraction (SVE), and multi-phase extraction (MPE). Groundwater interim remediation alternatives included groundwater extraction, ozone sparging and hydrogen peroxide injection.

ACHCS correspondence dated March 14, 2007 directed that a workplan be prepared to address ACHCS comments contained therein and SOMA's recommendations in the November 27, 2006 report.

A workplan detailing proposed monitoring well installation, soil gas survey and remediation feasibility study was submitted to ACHCS on April 11, 2007 and approved in ACHCS correspondence dated October 18, 2007.

SOMA submitted "Additional Soil and Groundwater Investigation for Remedial Investigation and Feasibility Study" on March 14, 2008. ACHCS comments included in correspondence dated April 25, 2008 were addressed by SOMA's correspondence dated June 9, 2008.

In December 2007 SOMA installed three groundwater monitoring wells within the Second WBZ (MW-1D, MW-2D, and MW-3D) to approximately 60 feet bgs. A soil vapor study was conducted utilizing four soil gas sampling probes (SGS-1 through SGS-4, advanced to 5 feet bgs). Based on results of the soil gas sampling, concentrations of COCs in soil gas at the Site are not considered a significant risk to human health.

In March 2009, ACHCS approved SOMA's CAP and initiated a public comment period for affected stakeholders to comment on SOMA's remedial action plan. On April 27, 2009, SOMA installed extraction wells MPE-1 and MPE-2 onsite. In their May 2009 correspondence, ACHCS approved SOMA's recommendation to decommission MW-8 and MW-9, off-site wells that have consistently demonstrated COCs below ESLs and laboratory detection limits. November 2009, SOMA installed EX-1 and EX-2 off-site, within the downgradient plume and installed a groundwater extraction and treatment system at the Site.

Quarterly and/or Semi-Annual groundwater monitoring/sampling has been regularly conducted at the Site since Second Quarter 2002. Currently there are 14 groundwater monitoring wells, ten on-site and four off-site.

SOMA conducted MPE pilot testing between November 13 and 16, 2007. An estimated VOC mass of 106 lbs was removed during testing, at a mass removal rate of 35 lbs/day over 72 hours. Several week-long and extended MPE events have been conducted at the Site with a total of 2,737 lbs of VOCs being removed as of November 2013.

The groundwater extraction system was initiated on December 9, 2009 and has removed and treated 2,960,274 gallons of groundwater as of February 25, 2014 and approximately 43.51 lbs of hydrocarbons.

In July 20 and 21, 2011, SOMA advanced five soil borings in the vicinity of MW-6 and EX-2 within the First WBZ. TPH-g was detected above environmental screening levels (ESL) published by SB Bay Region RWQCB in DP-4 (located in the sidewalk area) at 24 feet bgs (140 mg/kg). TPH-g in all other soil samples was either below the laboratory-reporting limit or below ESL (100 mg/kg). Toluene was the only other contaminant of concern (COC), and was detected above ESL (2.9 mg/kg) in DP-1 at 20 feet bgs (2.94 mg/kg), and in DP-4 at 24 feet bgs (6.79 mg/kg). TPH-g in grab groundwater samples from advanced soil borings ranged from 1,500 µg/L (DP-3) to 84,000 µg/L (DP-1). Maximum benzene concentration was detected in DP-5 at 290 µg/L; Maximum MtBE and TBA were detected in DP-3 at 150 µg/L and 40 µg/L, respectively, and were below laboratory-detection limits in the other borings.

Based on ACEH directive dated April 22, 2013, SOMA submitted a data gaps workplan along with an updated site conceptual model on July 22, 2013 and an addendum was submitted on October 17, 2013. ACEH approved the workplan on October 30, 2013.

In October 2013, SOMA obtained a sample of free-product from MW-6 and had the laboratory run fingerprinting analysis on it. The laboratory reported that chromatographic pattern for the sample included a wide range of peaks in C6 through C12 range. However, this pattern did not resemble that of TPH-g or any other light-end distillates for which the laboratory has standards.

During January and February 2014, SOMA advanced eleven cone penetrometer test (CPT) and/or membrane interface technology (MIP) borings (MIP-9 through MIP-19) to the south of DP-4 and DP-5 and upgradient of the source on 151st Avenue. DP-6 was installed in the backyard of adjacent residential property and DP-6-SO was installed on-site. An air sample was obtained from the crawl space of the same adjacent property. Based on the results of this investigation, ACEH requested installation of three off-site groundwater monitoring wells, and an additional crawl space air sample.

In September 2014, two 2-inch groundwater monitoring wells (MW-10 and MW-11) off-site in the First WBZ. MW-10 was installed at the northern end of the center median in Fairmont Drive. MW-11 was installed along the eastern side of Fairmont Drive to the south of MIP-12.

APPENDIX B

Permits and
Traffic Plans

Public Works Agency
Alameda County

Roadway Encroachment Permit

Work Order # **80001**

Permit # **R16LD16119**

Permit Issuance Date **4/15/2016**

Permit Expiration Date **4/15/2017**

Name & Address of Property Owner:
Mohammad Pazdel
1770 Pistacia Court
Fairfield, CA 94533

Phone Number:

Job Site Address:
15101 Freedom Ave
San Leandro, CA 94578

Name & Address of Applicant/Contractor:
Cascade Drilling,
120 S. 23rd Street
Richmond, CA 94804

Phone Number:

Applicant Reference: Monitor Well

The permittee intends to perform the following work scope:

Cascade Drilling will be performing the following work.
Three Soil boring (DP-7, DP-8) Center Divider and (DP-9) Parking Ln.
Convert existing borings to monitoring wells (MPE-3 to MPE-5)
Convert existing 2" Monitoring Well to 4" well.

All work and/or access shall be performed in accordance with the attached General Provisions and the following Special Provisions:

TCP no roadway closure before 9:00 AM
T-Cut 1' all around. Hot Roll Asphalt required.
CDF or Compaction test (95% min) required.
PLEASE CALL FOR INSPECTIONS AT: 510 670 6632.

Bond Type:	Bond Value:	Deposit:	Permit Fee:
	$0.00	$0.00	$549.00

By: _____ Alameda County

Work Completed (Date): _____

Inspector:

I agree to comply with all of the terms and conditions of this Permit, including any Special Provisions specified above.

_____ Permittee (Signature)

4/18/16 Date

Call 510-670-6632, at least 24hr. in advance of starting work, to schedule an inspection.
If the work is within 500' of a traffic signal or in proximity to a streetlight pole, call (510) 670 - 5537 at least 48 hr. in advance to verify the location of County conduits and detector loops.

THIS PERMIT IS INCOMPLETE WITHOUT THE ATTACHED GENERAL PROVISIONS

Work Order Number:*	Permit Number:
*This WO is ____ / is not _____ open for charges.	Permit Issuance Date:_____ Permit Expiration Date:

COUNTY OF ALAMEDA PUBLIC WORKS AGENCY
ROADWAY ENCROACHMENT PERMIT

This Permit is issued in accordance with Chapter 12.08 of the Alameda County General Ordinance Code

Name & Address of Property Owner:
Mohammad Pazdel
1770 Pistacia Ct.
Fairfield, CA 94533
Phone Number:

Name & Address of Contractor:
Cascade Drilling
120 S 23rd St
Richmond, CA-94804
Phone Number:

Job Site Address:
15101 Freedom Ave, San Leandro, CA

(This statement to be completed by the Agency)
This permit is issued to the owner ☐ / contractor ☐; if "owner" is checked, he/she is ☐ / is not ☐ exempt from the requirement that work in the roadway be performed by a licensed contractor.

The Applicant intends to perform the following work scope:

Advancement of two soil borings (DP-7, DP-8) in the center divide on Fairmont Dr and one soil boring (DP-9) in the parking lane of southbound Fairmont Dr (between 152nd & 153rd ave). May need to convert borings to monitoring wells (MPE-3 to MPE-5). Also converting existing 2" monitoring well (MW-10) in center divide into a 4" well.

Licensed Contractor Declaration:

I hereby affirm, under penalty of perjury, that I hold the following contractor's license, which is in full force and effect, under the applicable provisions of the State Business and Professions Code.

License Class and No. C57 - 938110

Contractor's Signature:

Worker's Compensation Insurance Declaration:

I hereby affirm, under penalty of perjury, that I will, during the performance of any and all work authorized by this permit, satisfy the requirements of the State Labor Code with regard to Worker's Compensation Insurance, as declared below:

___ I will maintain a certificate of consent to self-insure.

_X_ I will maintain the following insurance policy:

Carrier's Name and Policy No.:
Zurich American Ins. Co. # WC013734402

___ I will not employ any person in any manner so as to become subject to the worker's compensation laws of the State.

Owner's/Contractor's Signature:

All work and/or access shall be performed in accordance with the requirements of Chapter 12.08 and, unless otherwise specified below, shall be fully compliant with each of the terms and conditions of the attached General Provisions:

CALL THIS NUMBER FOR INSPECTIONS:

Bond Information:	Insp. Fee ___ or Deposit ___:
BY:_____, Alameda County	Work Completed (Date):_____ Inspector:

I certify that the information that I have entered into this permit application is correct, and I agree to comply with all of the terms and conditions and other requirements of the issued Permit.

Signature of Applicant MANSOUR SEPEHR — Date 4-6-16

THIS PERMIT IS INCOMPLETE WITHOUT THE ATTACHED GENERAL PROVISIONS

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 03/29/2016 By jamesy

Permit Numbers: W2016-0213 to W2016-0214
Permits Valid from 04/13/2016 to 04/22/2016

Application Id: 1458750380071 **City of Project Site:** San Leandro
Site Location: Fairmont Dr (Center divider) and the parking lane of southbound Fairmont Dr (between 152nd & 153rd ave).LOC No.RO0000473
Project Start Date: 04/13/2016 **Completion Date:** 04/22/2016
Assigned Inspector: Contact Lindsay Furuyama at (925) 956-2311 or Lfuruyama@groundzonees.com

Applicant: SOMA Environmental Engineering, Inc. - Ruchi Mathur
6620 Owens Dr., Suite A, Pleasanton, CA 94588 **Phone:** 925-734-6400
Property Owner: Mohammad Pazdel
1770 Pistacia Ct., Fairfield, CA 94533 **Phone:** --
Client: ** same as Property Owner **
Contact: Mansour Sepehr **Phone:** --
Cell: 925-381-3247

Total Due: $662.00
Receipt Number: WR2016-0149 **Total Amount Paid:** $662.00
Payer Name : Mansour Sepehr Paid By: MC **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 3 Boreholes
Driller: Fisch Drilling - Lic #: 683865 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2016-0213	03/29/2016	07/12/2016	3	3.00 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Monitoring Well Replacement-(Redrill)-Monitoring - 1 Wells
Driller: Fisch Drilling - Lic #: 683865 - Method: hstem **Work Total: $397.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2016-0214	03/29/2016	07/12/2016	MW-10R	12.00 in.	4.00 in.	15.00 ft	30.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Remove the Christy box or similar structure. Drill out & Replace with New Well.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.

6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

7. Minimum surface seal thickness is two inches of cement grout placed by tremie.

8. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

10. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

11. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

- Proposed Borings
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Proposed Groundwater Monitoring Wells

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

W20-5

MW-1D

MW-1

DISPENSER ISLANDS

C23

Former USTs

MW-2

MW-3D

MW-3

MPE-2

Existing USTs

STATION BUILDING

MW-4

DISPENSER ISLANDS

MW-4D

MPE-1

MW-5

151 st AVENUE

W20-5

G20-2 (C14)

RESIDENTIAL AREA

rail

EX-1

Dead End

C23

35 MPH zone

~85'

EX-2

MW-6

street light

street light

C23

R4-7

~5.5'

~45'

LIBERTY ST

152 nd AVENUE

street light

street light

DP-7/MPE-3

MW-7

parking lane

MW-10

MW-10R

~93'

DP-8/MPE-4

G20-2 (C14)

DP-9/MPE-5

MW-8

C23

RESIDENTIAL AREA

N

NOTES:

-Traffic sign spacing will be in accordance with the Chapter 6 of the Caltrans MUTCD with respect to the established speed limit of 35 MPH (or appropriate) in the vicinity of proposed work

R4-7 Keep Right Arrow
C23 Road Work Ahead
G20-2 (C14) End Road Work
W20-5 Left Lane Closed Ahead

TRAFFIC SIGN FACING RIGHT
CONES (BARICADE)
A FLAGGER, a trained individuall assisting with pedestrian crossing and traffic control
General Areas of Traffic Management

approximate scale in feet
0 50 100

Traffic Plan for Boring/Well Location DP-7

SOMA ENVIRONMENTAL ENGINEERING, INC.

Proposed Borings
Monitoring Wells Installed 12/07
Monitoring Wells
MPE wells installed in April 2009 and extraction wells installed in Nov 2009
Proposed Groundwater Monitoring Wells

FREEDOM AVENUE
FAIRMONT DRIVE
INTERSTATE 580
151 st AVENUE
152 nd AVENUE
LIBERTY ST
rail
parking lane

MW-1D
MW-1
DISPENSER ISLANDS
Former USTs
MW-2
MW-3D
MW-3
MPE-2
Existing USTs
STATION BUILDING
MW-4
DISPENSER ISLANDS
MW-4D
MPE-1
MW-5

RESIDENTIAL AREA
EX-1
Dead End
C23
~85'
35 MPH zone
EX-2
MW-6
street light
C23
~5.5'
~45'
DP-7/MPE-3
C23
MW-7
MW-10
MW-10R
~93'
DP-8/MPE-4
DP-9/MPE-5
MW-8
G20-2 (C14)

RESIDENTIAL AREA

NOTES:

-Traffic sign spacing will be in accordance with the Chapter 6 of the Caltrans MUTCD with respect to the established speed limit of 35 MPH (or appropriate) in the vicinity of proposed work

C23 Road Work Ahead
G20-2 (C14) End Road Work
W21-5 (C24) Shoulder Work Ahead
TRAFFIC SIGN FACING RIGHT
CONES (BARICADE)
A FLAGGER, a trained individuall assisting with pedestrian crossing and traffic control
General Areas of Traffic Management

N

approximate scale in feet
0 50 100

Traffic Plan for Boring/Well Location DP-8

SOMA ENVIRONMENTAL ENGINEERING, INC.

Proposed Borings

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Proposed Groundwater Monitoring Wells

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1

DISPENSER ISLANDS

Former USTs

MW-2

MW-3D

MW-3

MPE-2

Existing USTs

STATION BUILDING

MW-4

DISPENSER ISLANDS

MW-4D

MPE-1

MW-5

151 st AVENUE

C23

rail

EX-1

Dead End

RESIDENTIAL AREA

W21-5 (C24)

35 MPH zone

G20-2 (C14)

~85'

EX-2

MW-6

No Right Turn

street light

W21-5 (C24)

C23

~5.5'

~45'

LIBERTY ST

DP-7/MPE-3

C23

MW-7

152 nd AVENUE

parking lane

MW-10

MW-10R

~93'

DP-8/MPE-4

DP-9/MPE-5

MW-8

RESIDENTIAL AREA

G20-2 (C14)

NOTES:

-Traffic sign spacing will be in accordance with the Chapter 6 of the Caltrans MUTCD with respect to the established speed limit of 35 MPH (or appropriate) in the vicinity of proposed work

C23 Road Work Ahead

G20-2 (C14) End Road Work

W21-5 (C24) Shoulder Work Ahead

TRAFFIC SIGN FACING RIGHT

CONES (BARICADE)

A FLAGGER, a trained individuall assisting with pedestrian crossing and traffic control

General Areas of Traffic Management

N

approximate scale in feet

0 50 100

Traffic Plan for Boring/Well Location DP-9

SOMA ENVIRONMENTAL ENGINEERING, INC.

Proposed Borings

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Proposed Groundwater Monitoring Wells

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

MW-1D

MW-1

DISPENSER ISLANDS

Former USTs

MW-2

MW-3D

MW-3

MPE-2

Existing USTs

STATION BUILDING

MW-4

DISPENSER ISLANDS

MW-4D

MPE-1

MW-5

151 st AVENUE

RESIDENTIAL AREA

rail

EX-1

Dead End

C23

~85'

G20-2 (C14)

35 MPH zone

EX-2

MW-6

street light

C23

~5.5'

~45'

LIBERTY ST

DP-7/MPE-3

C23

street light

MW-7

152 nd AVENUE

parking lane

MW-10

MW-10R

~93'

DP-8/MPE-4

G20-2 (C14)

DP-9/MPE-5

MW-8

C23

RESIDENTIAL AREA

NOTES:

-Traffic sign spacing will be in accordance with the Chapter 6 of the Caltrans MUTCD with respect to the established speed limit of 35 MPH (or appropriate) in the vicinity of proposed work

C23	Road Work Ahead
G20-2 (C14)	End Road Work
W21-5 (C24)	Shoulder Work Ahead

TRAFFIC SIGN FACING RIGHT

CONES (BARICADE)

A FLAGGER, a trained individuall assisting with pedestrian crossing and traffic control

General Areas of Traffic Management

N

approximate scale in feet

0 50 100

Traffic Plan for Reconstruction of MW-10

SOMA ENVIRONMENTAL ENGINEERING, INC.

APPENDIX C
Boring Logs

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-7

PROJECT: 2552

DATE DRILLED: April 20, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Cascade Drilling

First Encountered GW: 17.75 ft
Stablized GW: 15 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 1-inch

SCREEN LENGTH: NA

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.6			A/C	6 inches asphalt				
			CL	Hand Auger to 5 ft SANDY LEAN CLAY: Black, moist, ~30% fine- to medium-grained sand, ~70% clay with high dry strength, no dilatancy, medium toughness, medium to high plasticity, soft, no HCl reaction, no PHC odor				
2.0	5			As above: Dark, changing color to yellow, dry, no PHC odor				
1.0	10		SC	CLAYEY SAND: Yellowish, dry, ~70% fine- to coarse-grained sand, ~30% clay with medium dry stregth, no dilatancy, medium toughness, firm, no HCl reaction, no PHC odor				
3.5	15		CL	SANDY LEAN CLAY: Blue, moist, ~40% fine- to medium-grained sand, ~60% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard, no HCl reaction, no PHC odor Water encountered @ 17.75'		▼ ▽		
55	20			As above: saturated, minor PHC odor				
	25							

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.	GEOLOGIC LOG OF BOREHOLE: DP-7	PAGE 2 OF 2

PROJECT: 2552

DATE DRILLED: April 20, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Cascade Drilling

First Encountered GW: 17.75 ft
Stablized GW: 15 ft

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 1-inch

SCREEN LENGTH: NA

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
78	30		CL	LEAN CLAY: BLUE, minor sand, saturated, slight PHC odor sampled @ 28' As above: saturated to wet	X				
	35								
	40								
	45								
	50								

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-8

PROJECT: 2552

DATE DRILLED: April 20, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Cascade Drilling

First Encountered GW: 19 feet
Stablized GW: 17 feet

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 1-inch

SCREEN LENGTH: NA

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.0	0		ML	Hand Auger to 5 feet bgs SANDY SILT: Gray brown, 15-20% very fine sand with minor clay, no PHC odor				
0.0	5		CL	LEAN CLAY: Dark brown, dry, high dry strength, medium toughness, no dilatancy, no HCl reaction; medium to high plasticity; no PHC odor.				
0.0	10		CL	SANDY LEAN CLAY: Blue, dry, ~30% fine-grained sand, ~70% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, no HCl reaction, no PHC odor. As above, yellowish clay with more sand				
0.0	15		SC	CLAYEY SAND: Yellowish, dry, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard, no HCl reaction, slight PHC odor, some gravel.				
0.0	20		SC	As above, coarser sand, very moist to wet, no PHC odor. Water encountered at 19'				
0.0	25		**SC**	As above, some discoloration, no PHC odor. Sample collected at 24'				

COMMENTS: TD @ 30 ft

ENVIRONMENTAL ENGINEERING, INC.	GEOLOGIC LOG OF BOREHOLE: DP-8	PAGE 2 OF 2

PROJECT: 2552

DATE DRILLED: April 20, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Cascade Drilling

First Encountered GW: 19 feet
Stablized GW: 17 feet

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 1-inch

SCREEN LENGTH: NA

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON	SAMPLED: CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.0	0		SC	As above, moist, no PHC odor					
0.0			SC	As above, color change from yelllowish to blue, minor sand, very minor clay		X			
	30								
	35								
	40								
	45								
	50								

COMMENTS: TD @ 30 ft

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: DP-9

PROJECT: 2552

DATE DRILLED: April 20, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: NA

DRILLER: Cascade Drilling

First Encountered GW: 17 feet
Stablized GW: 15 feet

DRILLING METHOD: Direct Push

T.O.C. TO SCREEN: NA

BORING DIAMETER: 1-inch

SCREEN LENGTH: NA

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			A/C	6 inches asphalt
0.0			SC	Hand Auger to 5 feet bgs Coarse sand, little moist, becoming clayey sand, no PHC odor
	5		CL	LEAN CLAY: black, with very minor sand, high plasticity, no PHC odor.
0.0			CL	As above change color @11', becoming yellowish with more sand, no PHC odor.
	10			
0.0			CL	SANDY LEAN CLAY: Yellowish, ~30% fine- to medium-grained sand, ~70% clay, no dilatancy, stiff, medium to high plasticity, no HCl reaction, no PHC odor Sampled @ 15' Water ncountered @ 17'
	15			
0.0			SC	CLAYEY SAND: ~70% medium- to coarse-grained sand, ~30% clay with some gravel, medium dry stregth, no dilatancy, firm, hard to drill, high plasticity, moist, no HCl reaction, no PHC odor
	20			
0.0				
	25			

SAMPLED: SPLIT SPOON, CORE

GW LEVEL

BLOWCOUNTS

WELL DIAGRAM

COMMENTS: TD @ 24 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: MW-10R

PROJECT: 2552

DATE DRILLED: April 19, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: 45.13 Ft.

DRILLER: Cascade Drilling

First Encountered GW: 19 feet
Stablized GW: 17.84 feet

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 14 feet

BORING DIAMETER: 10 inches

SCREEN LENGTH: 15 feet

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED (SPLIT SPOON / CORE)	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.4				--Lithology as below inferred from the boring log of MW-10--				
			CL	SANDY LEAN CLAY: Brown, moist, ~30% fine-grained sand, ~70% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, no HCl reaction, no PHC odor.				
0.2	5		CL	LEAN CLAY: Dark brown, moist, soft, high dry strength, medium toughness, no dilatancy, no HCl reaction; medium to high plasticity; no PHC odor.				
0.7	10		CL	SANDY LEAN CLAY: Brown, moist, ~30% fine-grained sand, ~70% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard, no HCl reaction, no PHC odor.				
0.1	15							
0.5			SC	CLAYEY SAND: Greenish-gray, very moist, ~70% fine- to medium-grained sand, ~30% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, very hard, no HCl reaction, slight PHC odor, some gravel.		▼		
11.4				As above, very moist to wet, PHC odor.		▽		
258	20							
	25							

WELL DIAGRAM: Cement/Bentonite Grout; 4" Schedule 40 PVC Pipe; Bentonite Seal; #3 Monterey Sand Pack; 0.020 Slotted Screen

COMMENTS: TD @ 29 ft

ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: MW-10R

PROJECT: 2552

DATE DRILLED: April 19, 2016

SITE LOCATION: 15101 Freedom Ave., San Leandro

CASING ELEVATION: 45.13 Ft.

DRILLER: Cascade Drilling

First Encountered GW: 19 feet
Stablized GW: 17.84 feet

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 14 feet

BORING DIAMETER: 10 inches

SCREEN LENGTH: 15 feet

LOGGED BY: M. Sepehr

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
92.6			SW	WELL-GRADED SAND: Greenish-gray, very moist to wet, fine- to medium grained sand, PHC odor.				#3 Monterey Sand Pack; 0.020 Slotted Screen
5.2			SC	CLAYEY SAND: Brown, very moist to wet, ~30% fine-grained sand, ~70% clay with medium dry strength, slow dilatancy, medium toughness, medium plasticity, firm, no HCl reaction, slight PHC odor, some gravel.				
	30							
	35							
	40							
	45							
	50							

COMMENTS: TD @ 29 ft

APPENDIX D

Waste Manifest and
Well Survey Data

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE

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
FREEDOM GAS & FOOD
15101 FREEDOM AVE
SAN LEANDRO, CA

4. Generator's 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
INSTRAT, INC.
1105 C AIRPORT RD.
RIO VISTA, CA 94571

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone
(707) 374-3834

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZ DRILL CUTTINGS	3	DRM	1800	LBS
b. DECON WATER	1	DRM	40	GAL
c.				
d.				

G. Additional Descriptions for Materials Listed Above
BROWN, SOIL & DEBRIS, 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.

GENERATOR

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 5 Day 2 Year 16

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 5 Day 2 Year 16

DATE: 5/07/2016
JOB#

TABLE OF ELEVATIONS & COORDINATES ON MONITORING WELLS

SOMA ENVIRONMENTAL ENGINEERING
15101 FREEDOM AVENUE
SAN LEANDRO, CA 94579

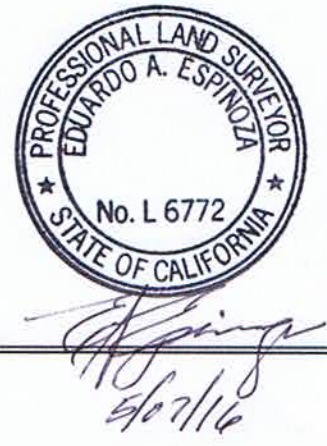
WELL ID #	NORTHING (FT.) / LATITUDE (D.DEG.)	EASTING (FT.) / LONGITUDE (D.DEG.)	ELEVATION (FT.)	DESCRIPTION
MW-10R	2083967.610	6092174.730	45.13	4.5" PVC NOTCH NORTH SIDE
	37.706998767N	122.123014857W	45.38	PUNCH NORTH SIDE RIM
			45.10	GROUND NORTH SIDE

HORIZONTAL AND VERTICAL CONTROL
SURVEY BASED ON PREVIOUS SURVEY BY EDGIS LAND SURVEYING DATED: 9/14/2014
COORDINATE VALUES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, NAD83.
ELEVATIONS ARE NAVD 88 DATUM.

EX-2, PUNCH
NORTHING 2,084,082.266, EASTING 6,092,129.987, ELEVATION 47.04

MW-11, PUNCH
NORTHING 2,083,923.462, EASTING 6,092,214.817, ELEVATION 42.83

EQUIPMENT USED: TRIMBLE S6



5/07/16

EDGIS LAND SURVEYING
Land Surveying and Mapping
2519 W. Shaw Avenue, Ste. 111
Fresno, CA 93711
Phone (559) 803-2679
email: edgis@aol.com

APPENDIX E
Photographic Documentation

Plate 1. Completion of DP-9

Plate 2. Cascade Drilling Decommissioning DP-9

Plate 3. Cascade Drilling Decommissioning DP-7

Plate 4. Hand Augering DP-8 to 5 Feet bgs

Plate 5. Sampling Groundwater from DP-8

Plate 6. Decommissioning DP-8

Plate 7. Cascade Drilling Converting MW-10 to MW-10R

APPENDIX F
Laboratory Analytical Report

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

Laboratory Job Number 276164
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2552
6620 Owens Dr.	Location : 15101 Freedom Avenue
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
DP-7@28	276164-001
DP-8@24	276164-002
DP-9@15	276164-003

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 Date: 04/27/2016

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

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**276164**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2552**
Location:	**15101 Freedom Avenue**
Request Date:	**04/20/16**
Samples Received:	**04/20/16**

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 04/20/16. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Low recoveries were observed for gasoline C7-C12 in the MS/MSD for batch 234321; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

CHAIN OF CUSTODY

Page 1 of 1

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

LOGIN # 276164

Sampler: Mansour Sepehr

Project No: 2552 | Report To: Joyce Bobek

Project Name:15101 Freedom Ave.,San Leandr | Company : SOMA Environmental

Turnaround Time: Standard | Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analyses: TPHg EPA 8015	Gasoline Oxygenates & Lead Scavengers (including TBA, TAME, ETBE, DIPE, 1,2-DCA, EDB), Ethanol	BTEX, MtBE 8260B	Naphthalene
		D.B 9:48												
	DP-7@28	4/20/16 ~~9:30~~	X			1					X	+	+	+
	DP-8@24	4/20/16 10:44	X			1					X	+	+	+
	DP-9@15	4/20/16 1:00	X			1					X	+	+	+

Notes: EDF OUTPUT REQUIRED

Cold & Intact

RELINQUISHED BY:	RECEIVED BY:
4/20/16 3:18PM DATE/TIME	4/20/16 3:17 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 276164 Date Received 4/20/16 Number of coolers 1
Client SoMA Project 1501 Freedom Ave., San Leandro

Date Opened 4/20 By (print) SC (sign)
Date Logged in ↳ By (print) ↳ (sign) ↳

1. Did cooler come with a shipping slip (airbill, etc)? YES NO
   Shipping info
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

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

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 6.3°

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☒ 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? (pH strip lot#) 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 12, 12/01/15

Curtis & Tompkins, Ltd.

Detections Summary for 276164

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

Client : SOMA Environmental Engineering Inc.
Project : 2552
Location : 15101 Freedom Avenue

Client Sample ID : DP-7@28 Laboratory Sample ID : 276164-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Benzene	5.7		4.4	ug/Kg	As Recd	0.8787	EPA 8260B	EPA 5030B
Naphthalene	14		4.4	ug/Kg	As Recd	0.8787	EPA 8260B	EPA 5030B

Client Sample ID : DP-8@24 Laboratory Sample ID : 276164-002

No Detections

Client Sample ID : DP-9@15 Laboratory Sample ID : 276164-003

No Detections

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	234321
Units:	mg/Kg	Sampled:	04/20/16
Basis:	as received	Received:	04/20/16
Diln Fac:	1.000		

Field ID: DP-7@28 Lab ID: 276164-001
Type: SAMPLE Analyzed: 04/21/16

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	78-138

Field ID: DP-8@24 Lab ID: 276164-002
Type: SAMPLE Analyzed: 04/21/16

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	78-138

Field ID: DP-9@15 Lab ID: 276164-003
Type: SAMPLE Analyzed: 04/22/16

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	78-138

Type: BLANK Analyzed: 04/21/16
Lab ID: QC832494

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	78-138

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC832493	Batch#:	234321
Matrix:	Soil	Analyzed:	04/21/16
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9817	98	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	78-138

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	276173-001	Batch#:	234321
Matrix:	Soil	Sampled:	04/19/16
Units:	mg/Kg	Received:	04/20/16
Basis:	as received	Analyzed:	04/21/16

Type: MS Lab ID: QC832495

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.08440	9.804	4.334	43 *	50-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	78-138

Type: MSD Lab ID: QC832496

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.901	4.186	41 *	50-120	4	31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	78-138

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-7@28	Diln Fac:	0.8787
Lab ID:	276164-001	Batch#:	234280
Matrix:	Soil	Sampled:	04/20/16
Units:	ug/Kg	Received:	04/20/16
Basis:	as received	Analyzed:	04/20/16

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	88
MTBE	ND	4.4
Isopropyl Ether (DIPE)	ND	4.4
Ethyl tert-Butyl Ether (ETBE)	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	5.7	4.4
Methyl tert-Amyl Ether (TAME)	ND	4.4
Ethanol	ND	880
Toluene	ND	4.4
1,2-Dibromoethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Naphthalene	14	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	102	78-134
1,2-Dichloroethane-d4	116	80-138
Toluene-d8	99	80-120
Bromofluorobenzene	95	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-8@24	Diln Fac:	0.9434
Lab ID:	276164-002	Batch#:	234280
Matrix:	Soil	Sampled:	04/20/16
Units:	ug/Kg	Received:	04/20/16
Basis:	as received	Analyzed:	04/20/16

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Ethanol	ND	940
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Naphthalene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	113	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	104	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-9@15	Diln Fac:	1.000
Lab ID:	276164-003	Batch#:	234280
Matrix:	Soil	Sampled:	04/20/16
Units:	ug/Kg	Received:	04/20/16
Basis:	as received	Analyzed:	04/20/16

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	1,000
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Naphthalene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-134
1,2-Dichloroethane-d4	117	80-138
Toluene-d8	99	80-120
Bromofluorobenzene	102	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC832334	Batch#:	234280
Matrix:	Soil	Analyzed:	04/20/16
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	140.4	112	49-131
MTBE	25.00	25.03	100	61-122
Isopropyl Ether (DIPE)	25.00	26.00	104	54-129
Ethyl tert-Butyl Ether (ETBE)	25.00	25.54	102	60-120
1,2-Dichloroethane	25.00	25.08	100	78-136
Benzene	25.00	28.27	113	80-123
Methyl tert-Amyl Ether (TAME)	25.00	28.80	115	70-120
Toluene	25.00	25.34	101	80-120
1,2-Dibromoethane	25.00	23.93	96	80-124
Ethylbenzene	25.00	25.68	103	80-122
m,p-Xylenes	50.00	53.34	107	80-127
o-Xylene	25.00	26.17	105	80-125

Surrogate	%REC	Limits
Dibromofluoromethane	94	78-134
1,2-Dichloroethane-d4	106	80-138
Toluene-d8	99	80-120
Bromofluorobenzene	93	78-123

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC832336	Batch#:	234280
Matrix:	Soil	Analyzed:	04/20/16
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	1,000
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Naphthalene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	103	78-134
1,2-Dichloroethane-d4	109	80-138
Toluene-d8	98	80-120
Bromofluorobenzene	100	78-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	276164	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	234280
MSS Lab ID:	276098-009	Sampled:	04/16/16
Matrix:	Soil	Received:	04/18/16
Units:	ug/Kg	Analyzed:	04/20/16
Basis:	as received		

Type: MS Diln Fac: 0.9747
Lab ID: QC832373

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<13.19	243.7	252.3	104	44-120
MTBE	<0.9963	48.73	47.68	98	49-120
Isopropyl Ether (DIPE)	<0.8668	48.73	49.56	102	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.7298	48.73	47.87	98	48-120
1,2-Dichloroethane	<0.9226	48.73	50.71	104	55-124
Benzene	<0.8987	48.73	57.08	117	57-120
Methyl tert-Amyl Ether (TAME)	<0.5669	48.73	53.80	110	52-120
Toluene	<0.7085	48.73	50.13	103	51-120
1,2-Dibromoethane	<0.6475	48.73	44.42	91	51-120
Ethylbenzene	<0.6761	48.73	52.48	108	45-120
m,p-Xylenes	<1.246	97.47	105.1	108	45-123
o-Xylene	<0.6236	48.73	49.85	102	44-122

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-134
1,2-Dichloroethane-d4	114	80-138
Toluene-d8	97	80-120
Bromofluorobenzene	92	78-123

Type: MSD Diln Fac: 1.000
Lab ID: QC832374

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	250.0	271.5	109	44-120	5	46
MTBE	50.00	47.60	95	49-120	3	40
Isopropyl Ether (DIPE)	50.00	48.90	98	46-120	4	41
Ethyl tert-Butyl Ether (ETBE)	50.00	48.27	97	48-120	2	40
1,2-Dichloroethane	50.00	50.92	102	55-124	2	41
Benzene	50.00	58.03	116	57-120	1	44
Methyl tert-Amyl Ether (TAME)	50.00	53.13	106	52-120	4	36
Toluene	50.00	52.27	105	51-120	2	47
1,2-Dibromoethane	50.00	45.49	91	51-120	0	45
Ethylbenzene	50.00	53.26	107	45-120	1	55
m,p-Xylenes	100.0	106.5	106	45-123	1	53
o-Xylene	50.00	51.90	104	44-122	1	55

Surrogate	%REC	Limits
Dibromofluoromethane	100	78-134
1,2-Dichloroethane-d4	109	80-138
Toluene-d8	96	80-120
Bromofluorobenzene	95	78-123

RPD= Relative Percent Difference

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

Laboratory Job Number 276163
ANALYTICAL REPORT

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

Project : 2552
Location : 15101 Freedom Avenue, San Leandro
Level : II

Sample ID	Lab ID
DP-7	276163-001
DP-8	276163-002
DP-9	276163-003

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 Date: 05/03/2016

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

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**276163**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2552**
Location:	**15101 Freedom Avenue, San Leandro**
Request Date:	**04/20/16**
Samples Received:	**04/20/16**

This data package contains sample and QC results for three water samples, requested for the above referenced project on 04/20/16. The samples were received cold and intact.

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

High recoveries were observed for isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), and MTBE in the MS/MSD for batch 234585; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPDs were within limits, and these high recoveries were not associated with any reported results. DP-7 (lab # 276163-001) was diluted due to high non-target analytes. DP-8 (lab # 276163-002) and DP-9 (lab # 276163-003) had pH greater than 2. 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 # 276163

Sampler: Mansour Sepehr/ Davoud Bazrpash

Project No: 2552

Report To: Joyce Bobek

Project Name: 15101 Freedom Ave.,San Leandr

Company : SOMA Environmental

Turnaround Time: Standard

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 & Lead Scavengers (including TBA, TAME, ETBE, DIPE, 1,2-DCA, EDB), Ethanol	Analyses: Naphthalene 8260
1	DP-7	4/20/16 ~~8155~~ 10:55		*		4 VOAs	*			*	*	*	*
2	DP-8	4/20/16 10:55		*		4 VOAs	*			*	*	*	*
3	DP-9	4/20/16 11:35PM		*		4 VOAs	*			*	*	*	*

Notes: EDF OUTPUT REQUIRED

Cold & HCl

RELINQUISHED BY:

4/20/16 3:17PM DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

9/20/16 3:17 DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 276163 Date Received 4/20/16 Number of coolers 1
Client SoMA Project 15101 Freedom Ave., San Leandro

Date Opened 4/20 By (print) SC (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓

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

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name_____ Date_____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received?_____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form)___ (YES) NO
6. Indicate the packing in cooler: (if other, describe)_____

☐ Bubble Wrap ☒ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

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

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 6.3

☐ Temperature blank(s) included? ☐ Thermometer#_____ ☒ IR Gun# 5

☒ 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? (pH strip lot#_____) 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
2e.) Bubbles > 6mm present in 4/4 VOAs for Samples 2 3

Rev 12, 12/01/15

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Detections Summary for 276163

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

Client : SOMA Environmental Engineering Inc.
Project : 2552
Location : 15101 Freedom Avenue, San Leandro

Client Sample ID : DP-7 Laboratory Sample ID : 276163-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	13,000		2,000	ug/L	As Recd	40.00	EPA 8260B	EPA 5030B
tert-Butyl Alcohol (TBA)	320		100	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
MTBE	8.7		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Benzene	20		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Ethylbenzene	190		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
m,p-Xylenes	210		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Naphthalene	39		20	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B

Client Sample ID : DP-8 Laboratory Sample ID : 276163-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
MTBE	4.2		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Benzene	0.56		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : DP-9 Laboratory Sample ID : 276163-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Methyl tert-Amyl Ether (TAME)	4.4		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
MTBE	44		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-7	Units:	ug/L
Lab ID:	276163-001	Sampled:	04/20/16
Matrix:	Water	Received:	04/20/16

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	13,000	2,000	40.00	234583	04/29/16
tert-Butyl Alcohol (TBA)	320	100	10.00	234627	05/01/16
Isopropyl Ether (DIPE)	ND	5.0	10.00	234627	05/01/16
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	10.00	234627	05/01/16
Methyl tert-Amyl Ether (TAME)	ND	5.0	10.00	234627	05/01/16
Ethanol	ND	10,000	10.00	234627	05/01/16
MTBE	8.7	5.0	10.00	234627	05/01/16
1,2-Dichloroethane	ND	5.0	10.00	234627	05/01/16
Benzene	20	5.0	10.00	234627	05/01/16
Toluene	ND	5.0	10.00	234627	05/01/16
1,2-Dibromoethane	ND	5.0	10.00	234627	05/01/16
Ethylbenzene	190	5.0	10.00	234627	05/01/16
m,p-Xylenes	210	5.0	10.00	234627	05/01/16
o-Xylene	ND	5.0	10.00	234627	05/01/16
Naphthalene	39	20	10.00	234627	05/01/16

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	107	80-128	10.00	234627	05/01/16
1,2-Dichloroethane-d4	98	75-139	10.00	234627	05/01/16
Toluene-d8	94	80-120	10.00	234627	05/01/16
Bromofluorobenzene	96	80-120	10.00	234627	05/01/16

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-8	Diln Fac:	1.000
Lab ID:	276163-002	Sampled:	04/20/16
Matrix:	Water	Received:	04/20/16
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	ND	50	234490	04/27/16
tert-Butyl Alcohol (TBA)	ND	10	234490	04/27/16
Isopropyl Ether (DIPE)	ND	0.50	234490	04/27/16
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	234490	04/27/16
Methyl tert-Amyl Ether (TAME)	ND	0.50	234490	04/27/16
Ethanol	ND	1,000	234560	04/28/16
MTBE	4.2	0.50	234490	04/27/16
1,2-Dichloroethane	ND	0.50	234490	04/27/16
Benzene	0.56	0.50	234490	04/27/16
Toluene	ND	0.50	234490	04/27/16
1,2-Dibromoethane	ND	0.50	234490	04/27/16
Ethylbenzene	ND	0.50	234490	04/27/16
m,p-Xylenes	ND	0.50	234490	04/27/16
o-Xylene	ND	0.50	234490	04/27/16
Naphthalene	ND	2.0	234490	04/27/16

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	100	80-128	234490	04/27/16
1,2-Dichloroethane-d4	109	75-139	234490	04/27/16
Toluene-d8	98	80-120	234490	04/27/16
Bromofluorobenzene	95	80-120	234490	04/27/16

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	DP-9	Diln Fac:	1.000
Lab ID:	276163-003	Sampled:	04/20/16
Matrix:	Water	Received:	04/20/16
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	ND	50	234544	04/28/16
tert-Butyl Alcohol (TBA)	ND	10	234544	04/28/16
Isopropyl Ether (DIPE)	ND	0.50	234544	04/28/16
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	234544	04/28/16
Methyl tert-Amyl Ether (TAME)	4.4	0.50	234544	04/28/16
Ethanol	ND	1,000	234585	04/29/16
MTBE	44	0.50	234544	04/28/16
1,2-Dichloroethane	ND	0.50	234544	04/28/16
Benzene	ND	0.50	234544	04/28/16
Toluene	ND	0.50	234544	04/28/16
1,2-Dibromoethane	ND	0.50	234544	04/28/16
Ethylbenzene	ND	0.50	234544	04/28/16
m,p-Xylenes	ND	0.50	234544	04/28/16
o-Xylene	ND	0.50	234544	04/28/16
Naphthalene	ND	2.0	234544	04/28/16

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	101	80-128	234544	04/28/16
1,2-Dichloroethane-d4	110	75-139	234544	04/28/16
Toluene-d8	93	80-120	234544	04/28/16
Bromofluorobenzene	102	80-120	234544	04/28/16

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234490
Units:	ug/L	Analyzed:	04/27/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833160

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	65.09	104	32-155
Isopropyl Ether (DIPE)	12.50	10.58	85	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	11.46	92	62-120
Methyl tert-Amyl Ether (TAME)	12.50	12.60	101	69-120
MTBE	12.50	12.05	96	65-120
1,2-Dichloroethane	12.50	13.62	109	74-133
Benzene	12.50	12.46	100	80-123
Toluene	12.50	12.39	99	80-121
1,2-Dibromoethane	12.50	12.71	102	80-120
Ethylbenzene	12.50	13.49	108	80-123
m,p-Xylenes	25.00	26.47	106	80-126
o-Xylene	12.50	13.14	105	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	115	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC833161

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	63.44	101	32-155	3	33
Isopropyl Ether (DIPE)	12.50	9.873	79	57-128	7	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.81	94	62-120	3	20
Methyl tert-Amyl Ether (TAME)	12.50	12.07	97	69-120	4	20
MTBE	12.50	11.83	95	65-120	2	22
1,2-Dichloroethane	12.50	12.70	102	74-133	7	20
Benzene	12.50	11.66	93	80-123	7	20
Toluene	12.50	12.24	98	80-121	1	20
1,2-Dibromoethane	12.50	12.30	98	80-120	3	20
Ethylbenzene	12.50	13.49	108	80-123	0	21
m,p-Xylenes	25.00	27.02	108	80-126	2	21
o-Xylene	12.50	13.13	105	80-126	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234490
Units:	ug/L	Analyzed:	04/27/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833162

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,033	103	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC833163

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,057	106	76-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	92	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833164	Batch#:	234490
Matrix:	Water	Analyzed:	04/27/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234544
Units:	ug/L	Analyzed:	04/28/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833370

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	65.21	104	32-155
Isopropyl Ether (DIPE)	12.50	9.755	78	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	10.43	83	62-120
Methyl tert-Amyl Ether (TAME)	12.50	11.64	93	69-120
MTBE	12.50	11.49	92	65-120
1,2-Dichloroethane	12.50	13.64	109	74-133
Benzene	12.50	11.88	95	80-123
Toluene	12.50	11.75	94	80-121
1,2-Dibromoethane	12.50	11.86	95	80-120
Ethylbenzene	12.50	13.12	105	80-123
m,p-Xylenes	25.00	24.87	99	80-126
o-Xylene	12.50	12.22	98	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	95	80-120

Type: BSD Lab ID: QC833371

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	63.32	101	32-155	3	33
Isopropyl Ether (DIPE)	12.50	9.730	78	57-128	0	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.59	93	62-120	11	20
Methyl tert-Amyl Ether (TAME)	12.50	11.71	94	69-120	1	20
MTBE	12.50	11.70	94	65-120	2	22
1,2-Dichloroethane	12.50	12.42	99	74-133	9	20
Benzene	12.50	11.58	93	80-123	3	20
Toluene	12.50	11.54	92	80-121	2	20
1,2-Dibromoethane	12.50	12.22	98	80-120	3	20
Ethylbenzene	12.50	13.25	106	80-123	1	21
m,p-Xylenes	25.00	25.18	101	80-126	1	21
o-Xylene	12.50	12.33	99	80-126	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	111	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234544
Units:	ug/L	Analyzed:	04/28/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833372

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,062	106	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC833373

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	978.1	98	76-120	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833374	Batch#:	234544
Matrix:	Water	Analyzed:	04/28/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234560
Units:	ug/L	Analyzed:	04/28/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833442

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	63.47	102	32-155
Isopropyl Ether (DIPE)	12.50	15.53	124	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	14.18	113	62-120
Methyl tert-Amyl Ether (TAME)	12.50	12.97	104	69-120
MTBE	12.50	12.89	103	65-120
1,2-Dichloroethane	12.50	11.37	91	74-133
Benzene	12.50	13.04	104	80-123
Toluene	12.50	12.53	100	80-121
1,2-Dibromoethane	12.50	12.37	99	80-120
Ethylbenzene	12.50	12.58	101	80-123
m,p-Xylenes	25.00	25.07	100	80-126
o-Xylene	12.50	12.24	98	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	90	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	108	80-120

Type: BSD Lab ID: QC833443

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	65.23	104	32-155	3	33
Isopropyl Ether (DIPE)	12.50	15.83	127	57-128	2	20
Ethyl tert-Butyl Ether (ETBE)	12.50	14.49	116	62-120	2	20
Methyl tert-Amyl Ether (TAME)	12.50	13.08	105	69-120	1	20
MTBE	12.50	13.13	105	65-120	2	22
1,2-Dichloroethane	12.50	11.60	93	74-133	2	20
Benzene	12.50	12.84	103	80-123	2	20
Toluene	12.50	12.47	100	80-121	1	20
1,2-Dibromoethane	12.50	12.85	103	80-120	4	20
Ethylbenzene	12.50	12.31	98	80-123	2	21
m,p-Xylenes	25.00	24.68	99	80-126	2	21
o-Xylene	12.50	12.14	97	80-126	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	90	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	108	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833444	Batch#:	234560
Matrix:	Water	Analyzed:	04/28/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	91	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	111	80-120

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234583
Units:	ug/L	Analyzed:	04/29/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833543

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	68.33	109	32-155
Isopropyl Ether (DIPE)	12.50	10.29	82	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	11.16	89	62-120
Methyl tert-Amyl Ether (TAME)	12.50	11.96	96	69-120
MTBE	12.50	12.02	96	65-120
1,2-Dichloroethane	12.50	13.53	108	74-133
Benzene	12.50	11.86	95	80-123
Toluene	12.50	13.33	107	80-121
1,2-Dibromoethane	12.50	12.51	100	80-120
Ethylbenzene	12.50	13.20	106	80-123
m,p-Xylenes	25.00	26.39	106	80-126
o-Xylene	12.50	12.13	97	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-120

Type: BSD Lab ID: QC833544

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	66.10	106	32-155	3	33
Isopropyl Ether (DIPE)	12.50	9.538	76	57-128	8	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.00	88	62-120	1	20
Methyl tert-Amyl Ether (TAME)	12.50	11.19	90	69-120	7	20
MTBE	12.50	11.77	94	65-120	2	22
1,2-Dichloroethane	12.50	13.08	105	74-133	3	20
Benzene	12.50	11.57	93	80-123	2	20
Toluene	12.50	11.75	94	80-121	13	20
1,2-Dibromoethane	12.50	11.77	94	80-120	6	20
Ethylbenzene	12.50	12.89	103	80-123	2	21
m,p-Xylenes	25.00	25.88	104	80-126	2	21
o-Xylene	12.50	12.46	100	80-126	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	111	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	94	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833545	Batch#:	234583
Matrix:	Water	Analyzed:	04/29/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	118	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234585
Units:	ug/L	Analyzed:	04/29/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833549

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	81.54	130	32-155
Isopropyl Ether (DIPE)	12.50	14.29	114	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	13.95	112	62-120
Methyl tert-Amyl Ether (TAME)	12.50	13.42	107	69-120
MTBE	12.50	13.89	111	65-120
1,2-Dichloroethane	12.50	14.00	112	74-133
Benzene	12.50	12.92	103	80-123
Toluene	12.50	12.74	102	80-121
1,2-Dibromoethane	12.50	12.51	100	80-120
Ethylbenzene	12.50	12.87	103	80-123
m,p-Xylenes	25.00	26.01	104	80-126
o-Xylene	12.50	12.41	99	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC833550

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	85.72	137	32-155	5	33
Isopropyl Ether (DIPE)	12.50	14.60	117	57-128	2	20
Ethyl tert-Butyl Ether (ETBE)	12.50	14.40	115	62-120	3	20
Methyl tert-Amyl Ether (TAME)	12.50	13.55	108	69-120	1	20
MTBE	12.50	13.72	110	65-120	1	22
1,2-Dichloroethane	12.50	13.94	112	74-133	0	20
Benzene	12.50	12.77	102	80-123	1	20
Toluene	12.50	12.68	101	80-121	0	20
1,2-Dibromoethane	12.50	12.78	102	80-120	2	20
Ethylbenzene	12.50	12.82	103	80-123	0	21
m,p-Xylenes	25.00	26.16	105	80-126	1	21
o-Xylene	12.50	12.44	100	80-126	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833551	Batch#:	234585
Matrix:	Water	Analyzed:	04/29/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	112	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	103	80-120

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234583
Units:	ug/L	Analyzed:	04/29/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833618

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	954.7	95	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	91	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC833619

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	978.6	98	76-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833620	Batch#:	234583
Matrix:	Water	Analyzed:	04/29/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	234585
MSS Lab ID:	276216-006	Sampled:	04/21/16
Matrix:	Water	Received:	04/21/16
Units:	ug/L	Analyzed:	04/29/16
Diln Fac:	1.000		

Type: MS Lab ID: QC833629

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.101	62.50	96.84	155	49-155
Isopropyl Ether (DIPE)	<0.1050	12.50	17.30	138 *	65-122
Ethyl tert-Butyl Ether (ETBE)	<0.1000	12.50	16.55	132 *	69-120
Methyl tert-Amyl Ether (TAME)	<0.1000	12.50	12.90	103	74-120
MTBE	<0.1000	12.50	15.75	126 *	71-120
1,2-Dichloroethane	<0.1000	12.50	14.01	112	80-130
Benzene	0.1723	12.50	13.08	103	80-120
Toluene	<0.1000	12.50	12.58	101	80-120
1,2-Dibromoethane	<0.1000	12.50	12.31	98	80-120
Ethylbenzene	<0.1321	12.50	12.59	101	80-120
m,p-Xylenes	<0.1123	25.00	25.56	102	80-121
o-Xylene	<0.1000	12.50	11.78	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

Type: MSD Lab ID: QC833630

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	89.46	143	49-155	8	33
Isopropyl Ether (DIPE)	12.50	16.31	130 *	65-122	6	22
Ethyl tert-Butyl Ether (ETBE)	12.50	14.97	120	69-120	10	20
Methyl tert-Amyl Ether (TAME)	12.50	12.96	104	74-120	0	20
MTBE	12.50	14.33	115	71-120	9	20
1,2-Dichloroethane	12.50	14.18	113	80-130	1	20
Benzene	12.50	13.12	104	80-120	0	20
Toluene	12.50	12.48	100	80-120	1	21
1,2-Dibromoethane	12.50	11.95	96	80-120	3	20
Ethylbenzene	12.50	12.45	100	80-120	1	25
m,p-Xylenes	25.00	24.86	99	80-121	3	23
o-Xylene	12.50	11.64	93	80-120	1	25

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	234627
Units:	ug/L	Analyzed:	05/01/16
Diln Fac:	1.000		

Type: BS Lab ID: QC833731

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	68.84	110	32-155
Isopropyl Ether (DIPE)	12.50	13.02	104	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	13.06	104	62-120
Methyl tert-Amyl Ether (TAME)	12.50	13.83	111	69-120
MTBE	12.50	13.39	107	65-120
1,2-Dichloroethane	12.50	12.34	99	74-133
Benzene	12.50	12.66	101	80-123
Toluene	12.50	11.99	96	80-121
1,2-Dibromoethane	12.50	12.96	104	80-120
Ethylbenzene	12.50	12.54	100	80-123
m,p-Xylenes	25.00	24.56	98	80-126
o-Xylene	12.50	12.24	98	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	112	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120

Type: BSD Lab ID: QC833732

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	65.87	105	32-155	4	33
Isopropyl Ether (DIPE)	12.50	11.92	95	57-128	9	20
Ethyl tert-Butyl Ether (ETBE)	12.50	12.72	102	62-120	3	20
Methyl tert-Amyl Ether (TAME)	12.50	12.79	102	69-120	8	20
MTBE	12.50	12.21	98	65-120	9	22
1,2-Dichloroethane	12.50	12.20	98	74-133	1	20
Benzene	12.50	12.16	97	80-123	4	20
Toluene	12.50	11.00	88	80-121	9	20
1,2-Dibromoethane	12.50	12.42	99	80-120	4	20
Ethylbenzene	12.50	11.96	96	80-123	5	21
m,p-Xylenes	25.00	24.47	98	80-126	0	21
o-Xylene	12.50	12.23	98	80-126	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	92	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC833733	Batch#:	234627
Matrix:	Water	Analyzed:	05/01/16
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
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
Naphthalene	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	99	80-120

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	276163	Location:	15101 Freedom Avenue, San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	234627
MSS Lab ID:	276307-001	Sampled:	04/21/16
Matrix:	Water	Received:	04/26/16
Units:	ug/L	Analyzed:	05/02/16
Diln Fac:	1.000		

Type: MS Lab ID: QC833741

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.239	125.0	121.0	97	49-155
Isopropyl Ether (DIPE)	<0.1000	25.00	24.30	97	65-122
Ethyl tert-Butyl Ether (ETBE)	<0.1000	25.00	24.67	99	69-120
Methyl tert-Amyl Ether (TAME)	<0.1002	25.00	23.77	95	74-120
MTBE	<0.1119	25.00	22.62	90	71-120
1,2-Dichloroethane	<0.1071	25.00	23.90	96	80-130
Benzene	<0.1000	25.00	23.41	94	80-120
Toluene	<0.1000	25.00	23.67	95	80-120
1,2-Dibromoethane	<0.1341	25.00	22.20	89	80-120
Ethylbenzene	<0.1000	25.00	24.28	97	80-120
m,p-Xylenes	<0.1454	50.00	47.01	94	80-121
o-Xylene	<0.1000	25.00	23.20	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	83	80-120

Type: MSD Lab ID: QC833742

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	115.9	93	49-155	4	33
Isopropyl Ether (DIPE)	25.00	23.58	94	65-122	3	22
Ethyl tert-Butyl Ether (ETBE)	25.00	25.79	103	69-120	4	20
Methyl tert-Amyl Ether (TAME)	25.00	23.19	93	74-120	2	20
MTBE	25.00	23.11	92	71-120	2	20
1,2-Dichloroethane	25.00	22.87	91	80-130	4	20
Benzene	25.00	21.97	88	80-120	6	20
Toluene	25.00	22.86	91	80-120	3	21
1,2-Dibromoethane	25.00	22.01	88	80-120	1	20
Ethylbenzene	25.00	23.45	94	80-120	3	25
m,p-Xylenes	50.00	45.84	92	80-121	3	23
o-Xylene	25.00	22.77	91	80-120	2	25

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

Data File: \\gcmsserver\DD\chem\MSVOA06.i\042916.b\FDT21TVH.D

Date : 29-APR-2016 16:57

Client ID: DYNA P&T

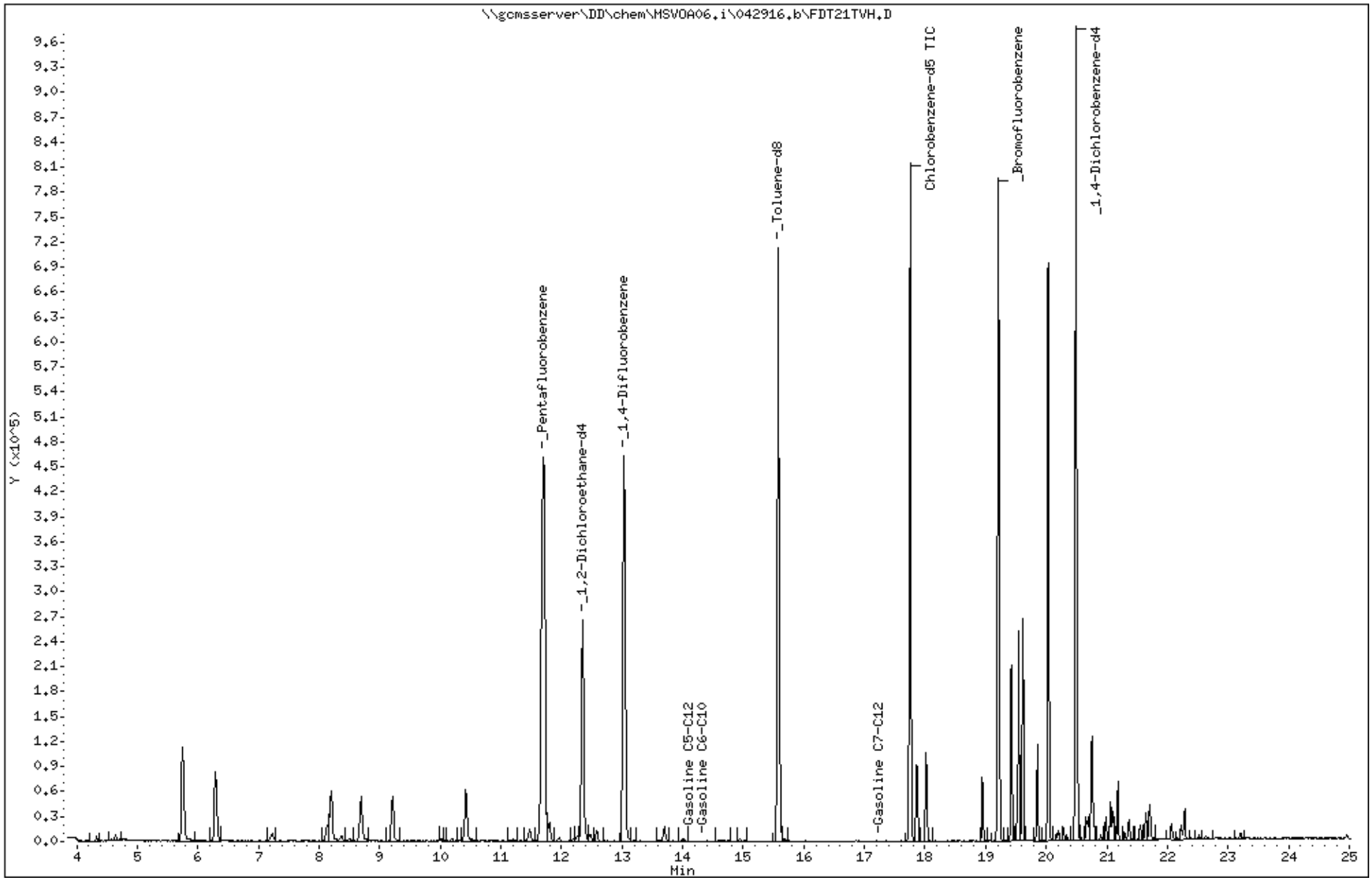
Instrument: MSVOA06.i

Sample Info: S,276163-001

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 27-APR-2016 11:57

Client ID: DYNA P&T

Instrument: MSVOA06.i

Sample Info: CCV/BS,QC833162,234490,S28894,.01/100

Operator: VOC

Column phase:

Column diameter: 2.00