

**RECEIVED**

By Alameda County Environmental Health at 10:53 am, Dec 09, 2014

November 24, 2014

Mr. Mark Detterman, P.G., C.E.G.  
Alameda County Health Care Services Agency  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**RE: Groundwater Monitoring Report - 4th Quarter 2014**

**SITE: Sheaff's Garage**  
**5930 College Avenue, Oakland, California**  
**ACHCSA Fuel Leak Case No. RO0000377**  
**GGE Project 2014**

Dear Mr. Detterman:

Upon my authorization, Golden Gate Environmental, Inc. has prepared the attached *Groundwater Monitoring Report* for the semi-annual groundwater monitoring and sampling activities conducted during the 4th Quarter 2014 at the above-referenced property on October 20, 2014. GGTR has uploaded an electronic copy of the document to the State Water Resources Control Board's GeoTracker Database System, as well as the Alameda County Health Care Services Agency FTP Site. Should you have any questions, please contact Mr. Brent Wheeler, Project Engineer of Golden Gate Environmental at (415) 512-1555 at your convenience.

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

Respectfully Submitted,



Dr. Brian R. Sheaff

William G. Sheaff & Patricia Warren Restated Living Trust U/D/T 2/14/89

Distribution: (1) Addressee



## GROUNDWATER MONITORING REPORT 4<sup>th</sup> Quarter 2014

**Sheaff's Garage  
5930 College Avenue  
Oakland, CA 94618**

**Alameda County Fuel Leak Case No. RO0000377**

Prepared For:

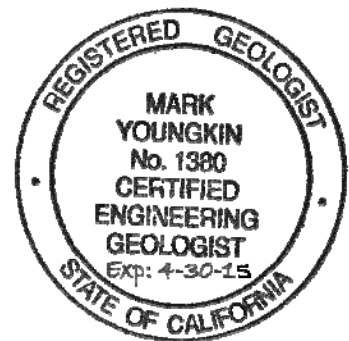
**William G. Sheaff & Patricia Warren Restated Living Trust U/D/T 2/14/89**  
Dr. Brian R. Sheaff, D.D.S.  
1945 Parkside Drive  
Concord, CA 94519

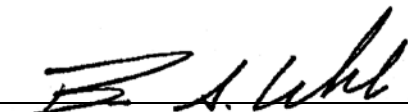
Prepared By:


**Golden Gate Environmental, Inc.**  
1455 Yosemite Avenue  
San Francisco, California 94124

Project No. 2014

Sampling Date: October 20, 2014  
Report Date: November 24, 2014



  
Brent Wheeler  
Project Manager

  
Mark Youngkin  
Registered Geologist CEG No. 1380

**GROUNDWATER MONITORING REPORT**  
**4<sup>th</sup> Quarter 2014**

Sheaff's Garage, 5930 College Avenue, Oakland, CA

**CONTENTS**

<b>Introduction</b>	<b>1</b>
<b>Site Location</b>	<b>1</b>
<b>Site Description</b>	<b>2</b>
<b>Groundwater Monitoring &amp; Sampling: April 2014</b>	<b>3</b>
Groundwater Monitoring & Sampling	3
Waste Management	3
Water Sample Analytical Methods	4
GeoTracker Electronic Submittal	5
Groundwater Monitoring Results	5
Results of Groundwater Sampling and Laboratory Analysis	6
<b>Conclusions and Recommendations</b>	<b>7</b>
<b>Report Distribution</b>	<b>8</b>
<b>Limitations</b>	<b>8</b>

**FIGURES**

1. Site Location Map
2. Site Vicinity Map
3. Site Plan
4. Groundwater Data Diagram

**TABLES**

1. Historical Groundwater Levels & Hydrocarbon Analytical Results
2. Historical Groundwater VOC Analytical Results in PW-1

**ATTACHMENTS**

- A Fluid-Level Monitoring Data Sheets
- Well Purging/Sampling Data Sheets
- B Liquid Waste Manifest
- Laboratory Certificates of Analysis
- Chain of Custody Record
- GeoTracker Upload Confirmation Sheets
- EPA On-Line Tools for Site Assessment Calculation Sheet

# **GROUNDWATER MONITORING REPORT**

## **4<sup>th</sup> Quarter 2014**

Sheaff's Garage, 5930 College Avenue, Oakland, California

### **Introduction**

Golden Gate Environmental, Inc. (GGE) presents the results of the 4<sup>th</sup> Quarter 2014 groundwater monitoring and sampling event conducted on October 20, 2014, at 5930 College Avenue in Oakland, California (the Site). The Alameda County Environmental Health (ACEH) agency has designated the Site as Fuel Leak Case No. RO000377 and requires semi-annual groundwater monitoring and sampling as part of an ongoing Leaking Underground Storage Tank (LUST) cleanup investigation. Figure 1 presents a Site Location Map. Figure 2 titled Site Vicinity Map and Figure 3 titled Site Plan depict the pertinent features of the Site and adjacent properties along with the associated land use. Figure 4 titled Groundwater Data Diagram shows the groundwater flow direction for the October 20, 2014 event. Table 1 provides a tabulated summary of the laboratory results of historical groundwater sample analyses and fluid-level monitoring data at the Site. Table 2 provides a tabulated summary of sample analyses for Volatile Organic Compounds (VOCs) in piezometer PW-1. Documentation of the monitoring, sampling and laboratory procedures are presented in the attachments.

### **Site Location**

The Site is a commercial property located at 5930 College Avenue along the east side of College Avenue between Harwood Street and Chabot Road in Oakland, California. The Site lies approximately 0.2 mile (1,000 feet) north of Highway 24 and about two miles east of Interstate 80 and the San Francisco Bay. The elevation of the Site is approximately 195 feet above Mean Sea Level. The property is relatively flat lying with the local topographic relief directed toward the west-southwest in the general direction of the San Francisco Bay as shown on Figure 1, Site Location Map. The topographic map of Figure 1 depicts the area of the subject property as dense urban development. Figure 2, Site Vicinity Map, shows the mixed-use commercial-residential character of the surrounding neighborhood. Commercial-retail corridors are located along main thoroughfares such as College Avenue with residential neighborhoods situated between the business corridors.

### **Site Description**

The property is currently 100% occupied by Stauder Automotive Service for the maintenance and repair of automobiles. Figure 3, Site Plan, shows features of the subject property. The subject building is a small single-story industrial-style building constructed in 1952. The subject property is approximately 5,500 square feet in area with about 75% utilized by the garage building and 25% used as an exterior paved storage yard and parking lot. Two underground storage tanks (UST) were formerly located beneath the sidewalk at the southwest corner of the Site on the College Avenue frontage. One 675-gallon gasoline and one 340-gallon waste oil UST were removed in August 1996 from the sidewalk. Product piping was removed from beneath sidewalk and former dispenser location in late 2002. No active USTs, fuel storage, or fuel distribution system currently exist onsite. Most of the building consists of an open work area

with a small enclosed office. The property is completely paved with the building constructed on a concrete slab and surrounded by concrete sidewalk and asphalt-paved rear parking area.

A commercial-residential building is adjacent to the Site on the south with address of 5916-20 College Avenue. This building contains a parking garage and a retail store (T-Mobile) on the ground floor and 12 apartments on three upper floors. To the south and east of the Site is an older single-family residential neighborhood with residence backyards adjoining the Site's rear paved parking area. The surface channel of Harwood Branch creek is located within residential backyards about one block east and up-gradient of the Site. On the west, an Alameda County Flood Control District cutoff storm water conduit (90" diameter) associated with Harwood Branch creek is located beneath College Avenue. A church and retail shopping building occur across College Avenue to the west.

The adjacent property to the north was formerly occupied by Chevron Service Station #209339 from 1938 to 1968. Former station facilities consisted of four USTs, one dispenser island, station building and a garage-service building. The station was replaced by a parking lot until redeveloped with a multi-tenant commercial-retail structure in 1978-1979 called College Square. College Square is currently occupied by a restaurant (Barclays Restaurant & Pub) and office space (5940 College Avenue). This commercial development's ground floor retail space and parking garage are approximately 3-4 feet below the grade of the subject property. Conestoga-Rovers & Associates (CRA; Emeryville, CA) and Gettler-Ryan, Inc. (GR; Dublin, CA) conducted a separate groundwater investigation of the former Chevron Station utilizing two groundwater monitoring wells (GR-MW1 & GR-MW2) to evaluate the potential contamination in groundwater. Figures 2 and 3 show the location of each CRA / Gettler-Ryan well relative to the monitor wells on the subject property.

Since April 8, 2002, CRA / Gettler-Ryan monitored and sampled each well on a biannual basis, performing their most recent monitoring and sampling event of GR-MW1 & GR-MW2 in October 2012. Golden Gate Tank Removal, Inc. and GGE conducted joint monitoring and sampling activities with CRA between October 2000 and October 2011. Chevron performed additional investigation and submitted data gap and case closure request documents in 2013-2014. In a letter dated June 13, 2014, the ACHCSA issued its *Public Participation Notification for Potential Case Closure* for the 5940 College Avenue property. Following completion of the public comment period and submittal of a monitor well decommissioning report, a uniform case closure letter will be issued for the adjoining site and the two existing monitoring wells destroyed.

## **Groundwater Monitoring & Sampling: October 2014**

The scope of work for the 4<sup>th</sup> Quarter 2014 groundwater monitoring and sampling event included the following:

- Monitoring, purging and sampling of field points MW-1, MW-2, MW-3 and PW-1
- Laboratory analysis of groundwater samples
- Waste management
- Electronic data upload to GeoTracker Database System
- Data interpretation

On October 20, 2014, GGE in conjunction with Dysert Environmental, Inc. (DEI) monitored and sampled wells MW-1, MW-2, MW-3 and piezometer PW-1.

### **Groundwater Monitoring and Sampling**

Prior to purging and sampling, DEI removed the well cover and locking compression cap and allowed the water in each well column to stabilize for approximately 20 minutes. DEI then measured and recorded the depth to product/groundwater using a Keck electronic oil/water interface meter. Fluid levels were measured relative to the north side of the top of each well casing to the nearest 0.01 foot. No floating petroleum product was detected at the Site. An odor of petroleum or gasoline was noted in wells MW-1, MW-2 and MW-3. Groundwater depths ranged from 10.09 in well MW-3 to 12.54 feet below grade in well MW-2.

DEI subsequently purged groundwater from the monitor wells using a peristaltic pump (average flow rate @ 500 to 600 milliliters per minute), and simultaneously monitored and recorded the pH, temperature, and specific conductivity of the purged well water. DEI terminated well purging after evacuation of approximately 2 to 5.25 gallons of water from each well and three successive readings of each parameter varied by less than 0.1, 10%, and 3%, respectively. DEI transferred the purge water directly to a 55-gallon, D.O.T.-approved steel drum.

After the groundwater in each well recharged sufficiently to allow sample collection (at least 80% of initial depth to water), DEI recovered a groundwater sample using a peristaltic pump with dedicated tubing lowered just below the last measured groundwater level. The groundwater sample was collected from the discharge end of the dedicated tubing into pre-cleaned, laboratory-provided sample containers. The sample containers were sealed with Teflon caps and all volatile organic analysis (VOA) vials were inverted and checked to insure that no entrapped air was present. The samples were properly labeled and stored in a cooler chilled to approximately 4°C. Attachment A contains a copy of the Fluid-Level Monitoring Data Form and Well Purging/Sampling Data Sheets for this event.

### **Waste Management**

The well purge and equipment wash and rinse water generated during this event was transferred directly to a D.O.T.-approved, 55-gallon drum, appropriately labeled and sealed, and temporarily stored onsite in a secure area pending final disposal at a licensed facility. The liquid waste stream was profiled for disposal/recycling following receipt of the laboratory analysis results of

the October 2014 groundwater sampling. On November 11, 2014, Icon Environmental Services Inc. (ICON) transported the drummed waste liquid under Non-Hazardous Waste Manifest No. 10594 to ICON's disposal/recycling facility in Union City, California. A copy of the waste manifest is presented in Appendix B.

### **Water Sample Analytical Methods**

On October 20, 2014, GGE submitted all groundwater samples under formal chain of custody command to Torrent Laboratory, Inc., a State-certified analytical laboratory (CA ELAP #1991) in Milpitas, California, for laboratory analysis of the following fuel constituents:

- Total Petroleum Hydrocarbons (TPH) as Gasoline by Method 8260TPH
- TPH as Diesel/Motor Oil by Method SW8015B(M)
- Naphthalene by Method SW8260B
- Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) by Method SW8260B
- Methyl Tertiary Butyl Ether (MTBE), Tertiary Butyl Alcohol (TBA), 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC) by Method SW8260B
- Poly-Aromatic Hydrocarbons (PAHs) by Method SW8270C
- Volatile Organic Compounds (Full List) by Method SW8260B (PW-1 only)

Tables 1 and 2 attached presents a summary of the analytical results for the sampling event as well as previous monitoring/sampling events at the Site. Attachment B includes a copy of the Laboratory Certificate of Analysis and associated Chain of Custody Record for this event.

Torrent submitted their certified analytical report on October 28, 2014. Torrent completed all volatile organic analyses within the 14-day required time limit for analysis. Torrent reported that no issues were encountered with the receiving, preparation, analysis or reporting of the results associated with the submitted samples. GGE directed Torrent to submit all analytical data in electronic deliverable format (EDF) in accordance with the State Water Resources Control Board's GeoTracker database system.

### **GeoTracker Electronic Submittal**

Torrent submitted all analytical data in electronic deliverable format (EDF) via the Internet. GGE uploaded the analytical data as well as the Fluid-Level Monitoring Data (GEO\_WELL) for each event to the State Water Resources Control Board's GeoTracker Database System. GGE also uploaded a copy of this report in Portable Data Format (PDF) to the GeoTracker Database. Attachment B includes a copy of each associated GeoTracker Upload Confirmation Sheet.

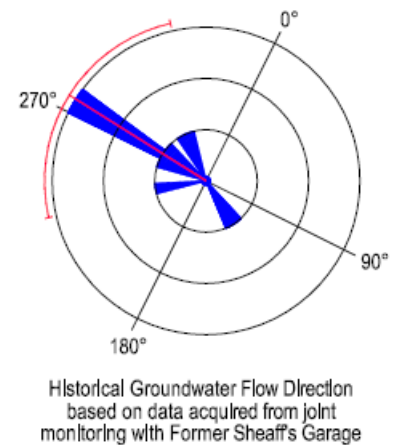
### **Groundwater Monitoring Results**

For the October 20, 2014 event, the groundwater elevations calculated relative to the top of well casing in wells MW-1, MW-3 and PW-1 ranged between 184.7 (MW-1) and 185.13 (MW-3) feet, as referenced to Mean Sea Level (MSL), a range of 0.43 feet. The groundwater elevation and coordinate data for each monitoring event was entered into the EPA On-Line Tools for Site

Assessment Calculation, Hydraulic Gradient – Magnitude and Direction. This tool calculates gradient by a least-squares fitting of the data to a plane and used to calculate the approximate groundwater hydraulic gradient and flow direction across the Site. The attached Figure 4, titled Groundwater Data Diagram - October 2014 shows the groundwater data for the subject monitoring event. The EPA On-Line Tools for Site Assessment Calculation sheet is included in Attachment B.

During the October 20, 2014 monitoring event, the groundwater flow direction beneath the Site was estimated at North 27° West (333°) under a hydraulic gradient of approximately 0.014 ft/ft. The groundwater flow direction for the October 20, 2014 event shifted approximately 172° to the west, as compared to the April 2014 event, and is consistent with historical data for the Site with the flow direction ranging widely from south to northwest. The large variation in groundwater flow direction is inconsistent with previous studies at nearby former gasoline stations. The wide variation in flow direction data may be attributed to the subject monitor array consisting of few monitor wells arranged in a linear direction within the narrow site boundaries. One site well MW-2 has previously been excluded from flow direction calculations for obvious inconsistencies in groundwater elevation data.

Chevron and Conestoga-Rovers & Associates (CRA) submitted the December 11, 2012, Second Semi-Annual 2012 Groundwater Monitoring and Sampling Report for the Former Chevron Service Station 209339 at the adjoining 5940 College Avenue property. The report contains groundwater flow direction collected during joint monitoring with the subject property for a total of five monitor well field points. The accompanying rose diagram is copied from Figure 2 of the CRA report and shows the results of the joint measurement of flow direction. The resulting flow direction centered about 270° is consistent with previous groundwater investigations at nearby gas stations on College Avenue. GGE believes that this joint data best represents the actual groundwater flow direction for the subject property.



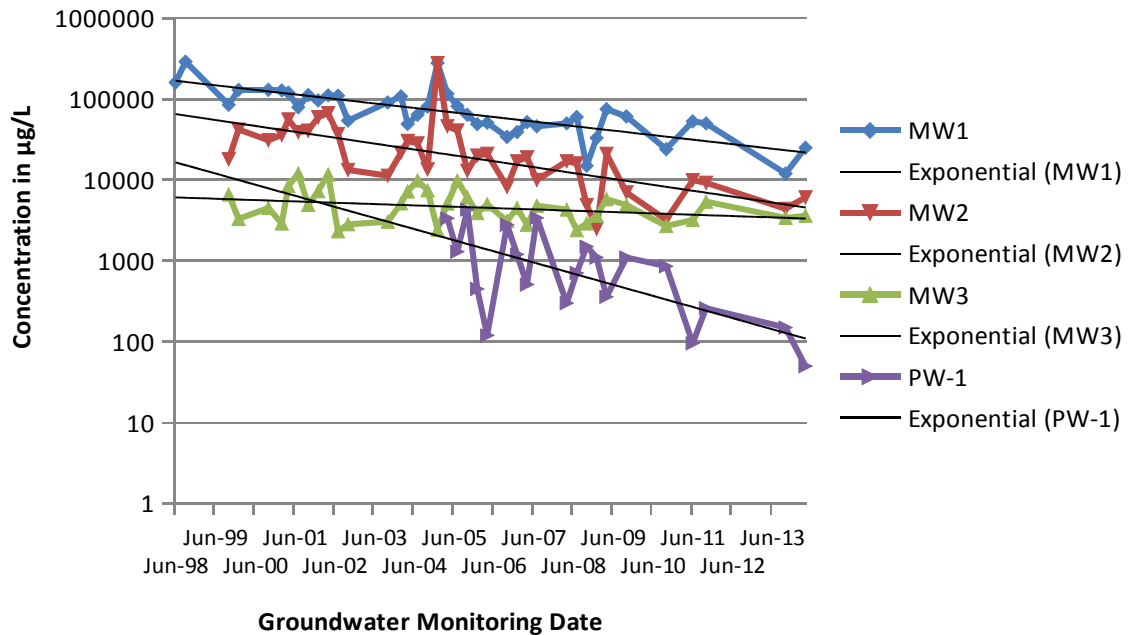
### **Results of Groundwater Sampling and Laboratory Analysis**

The attached Tables 1 & 2 include the historical groundwater analysis results for the October 2014 event and the associated laboratory report is included in Attachment B. As shown on Table 1, the laboratory reported concentrations of TPH as gasoline ranging from 380 µg/l in piezometer PW-1 to 18,000 µg/l in well MW-1 in groundwater samples collected during the October 2014 event. Benzene concentrations ranged between 2.4 µg/l in piezometer PW-1 to 5,600 µg/l in well MW-1. As compared with the April 2014 event, the gasoline constituent concentrations decreased in well MW-1 from 25,000 to 18,000 µg/l; however, the Benzene concentration increased from 3,000 to 5,600 µg/l. The TPH as gasoline measured in MW-2 increased slightly from 6,100 to 8,600 µg/l and in MW-3 from 3,600 to 9,200 µg/l. The laboratory reported Naphthalene at 300 µg/l in well MW-1, 24 µg/l in well MW-2, and ND<2.1 µg/l in well MW-3, with concentrations having decreased in all wells since the April 2014 event.



The following chart plots gasoline concentrations in monitor wells versus time displaying an overall decreasing trend in contaminant concentrations following primary source removal in 1996. The recently measured concentrations appear consistent with the historical trend lines.

### Historical TPH Gasoline in Groundwater



TPH as diesel was detected in MW-1 to MW-3 and PW-1 at concentrations of 2000, 3700, 25000 and 140 µg/l, respectively. The laboratory analytical report noted that for each TPH as diesel sample result, the chromatographic pattern does not resemble the typical diesel reference standard, and that unknown organics within the diesel range (lighter than diesel quantified as diesel) are present. TPH as motor oil was not detected in any of the monitoring wells for this event.

PCE was detected in the groundwater sample collected in well PW-1 at a concentration of 36 µg/l, decreasing from the 110 µg/l concentration measured during the April 2014 event. As shown on Table 2, the recently measured PCE concentration of 36 µg/l is below its applicable San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (63 µg/l), and just above the historical low values for PCE of 25 and 26 µg/l reported in October 2005 and 2006, respectively. Since April 2005, PCE concentrations in well PW-1 continue to seasonally fluctuate between 25 and 120 µg/l. The PCE breakdown products of TCE and Cis-1,2-DCE were measured in well PW-1 at concentrations of 6.4 and 33 µg/l during this event. Table 2 includes a summary of the historical groundwater VOC analysis results for the October 2014 event and the complete VOC laboratory report for well PW-1 is included in Attachment B.

### **Conclusions / Recommendations**

Due to the elevated concentrations of TPH-G and Benzene remaining in monitor wells MW-1 to MW-3, GGE, recommends continuing the groundwater monitoring and sampling program at the subject property on a semi-annual basis. Sampling should be conducted during the 2<sup>nd</sup> & 4<sup>th</sup> Quarters, in which historical groundwater contaminant concentrations in MW-1 to MW-3 have generally been the highest. The next semi-annual monitoring and sampling event is tentatively scheduled at the Site in April 2015.

Groundwater samples will continue to be analyzed for TPH as gasoline, BTEX, MTBE and Naphthalene by EPA Method SW8260B, TPH as diesel/motor oil by SW8015M, and PAHs by EPA Method SW8270C. Additionally, GGE recommends continuing analysis of the groundwater sample from PW-1 for VOCs (full list) by EPA Method 8260B to further monitor the elevated concentrations of PCE in groundwater in the vicinity of this field point.

## Report Distribution

This report and future correspondence associated with GGE Project 2014 will be submitted to:

Mr. Mark Detterman, P.G., C.E.G.  
Alameda County Health Care Services Agency  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577 *(1 Electronic Copy via ACHCSA FTP Site)*

Dr. Brian R. Sheaff, D.D.S.  
1945 Parkside Drive  
Concord, CA 94519 *(1 Copy; Bound)*

## Limitations

It should be understood that all environmental assessments are inherently limited in that conclusions are drawn and recommendations developed from information obtained from limited research and visual observations. Subsurface conditions change significantly with distance and time and may differ from the conditions implied by subsurface investigation. It must be noted that no investigation can absolutely rule out the existence of any hazardous materials at a given site. Existing hazardous materials and contaminants can escape detection using these methods. The work performed in conjunction with this assessment and the data developed are intended as a description of available information at the dates and location given.

GGE's professional services have been performed, with findings obtained and recommendations prepared in accordance with customary principles and practices in the field of environmental science, at the time of the assessment. This warranty is in lieu of all other warranties either expressed or implied. GGE is not responsible for the accuracy of information reported by others or the independent conclusions, opinions or recommendations made by others based on the field exploration presented in this report. The findings contained in this report are based upon information contained in previous reports of corrective action activities performed at the subject property and based upon site conditions, as they existed at the time of the investigation, and are subject to change. The scope of services conducted in execution of this phase of investigation may not be appropriate to satisfy the needs of other users and any use or reuse of this document and any of its information presented herein is at the sole risk of said user. No other party may rely on this report for any other purpose.

**GROUNDWATER MONITORING REPORT  
4th Quarter 2014**

**Sheaff's Garage  
5930 College Avenue  
Oakland, CA 94618**

**ACHCSA Fuel Leak Case No. RO0000377**

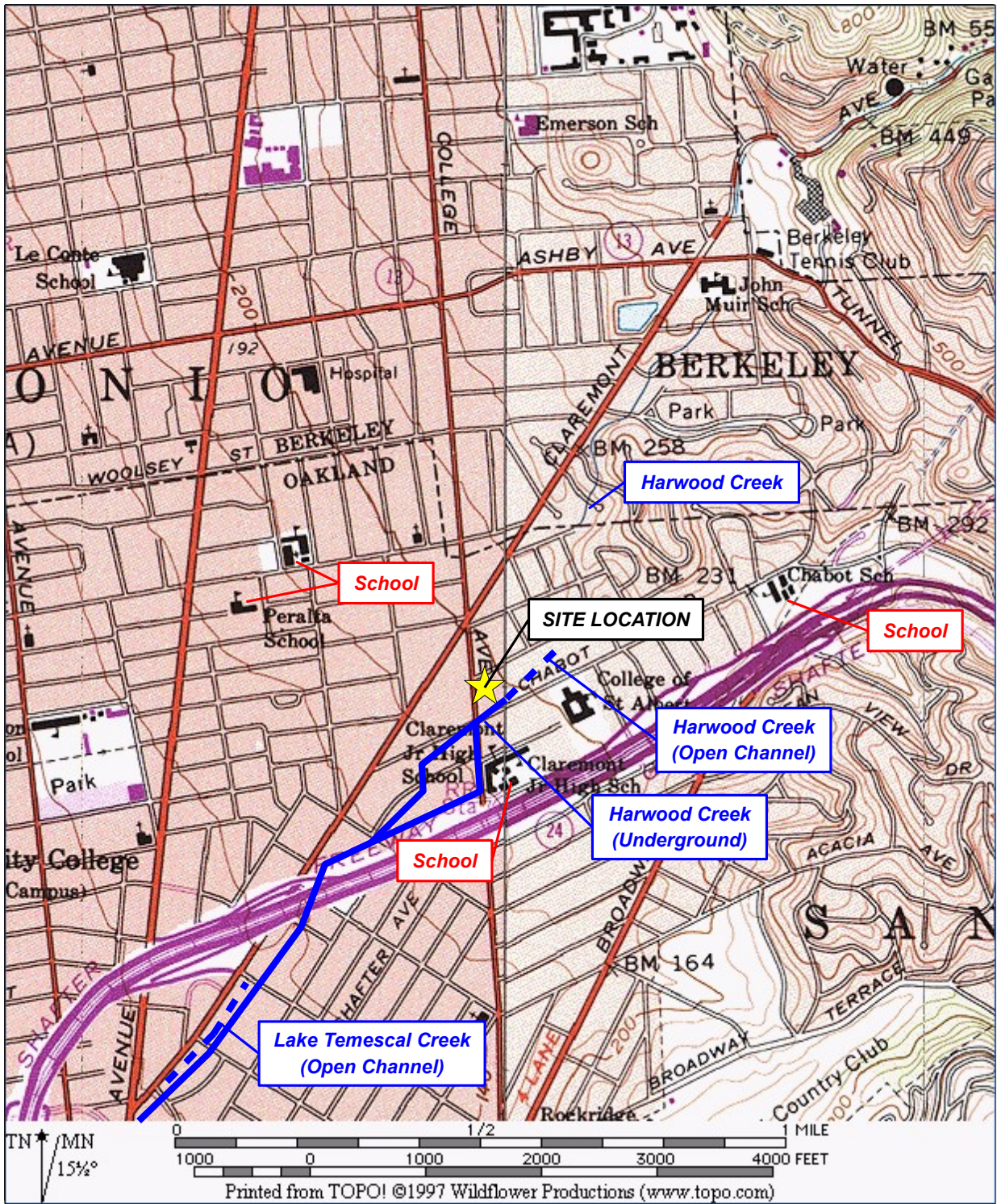
**FIGURES**

- Figure 1 - Site Location Map
- Figure 2 - Site Vicinity Map
- Figure 3 - Site Plan
- Figure 4 - Groundwater Data Diagram

**Golden Gate Environmental, Inc.**  
1455 Yosemite Avenue, San Francisco, CA 94124

GGE Project No. 2014





**GOLDEN GATE ENVIRONMENTAL, INC.**  
 1455 Yosemite Av., San Francisco, CA 94124  
 Phone (415) 970-9088 Fax (415) 970-9089

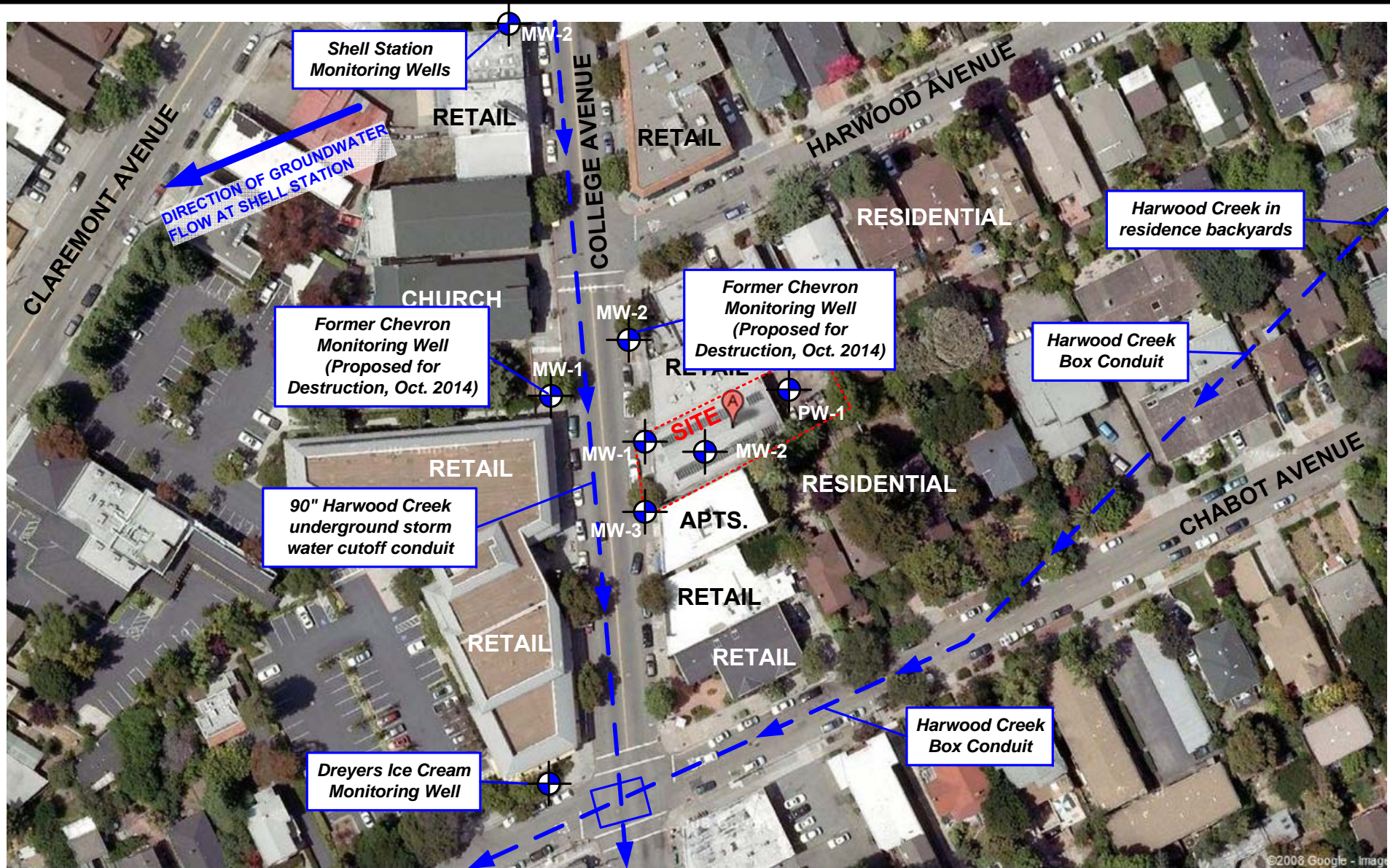
**SITE LOCATION MAP**  
 5930 College Avenue, Oakland, California

GGE Project No. 2014

October 2014

**Figure 1**





Base Map from Google Maps, 2008, at a scale of about 1"=100 feet with North to top of map.

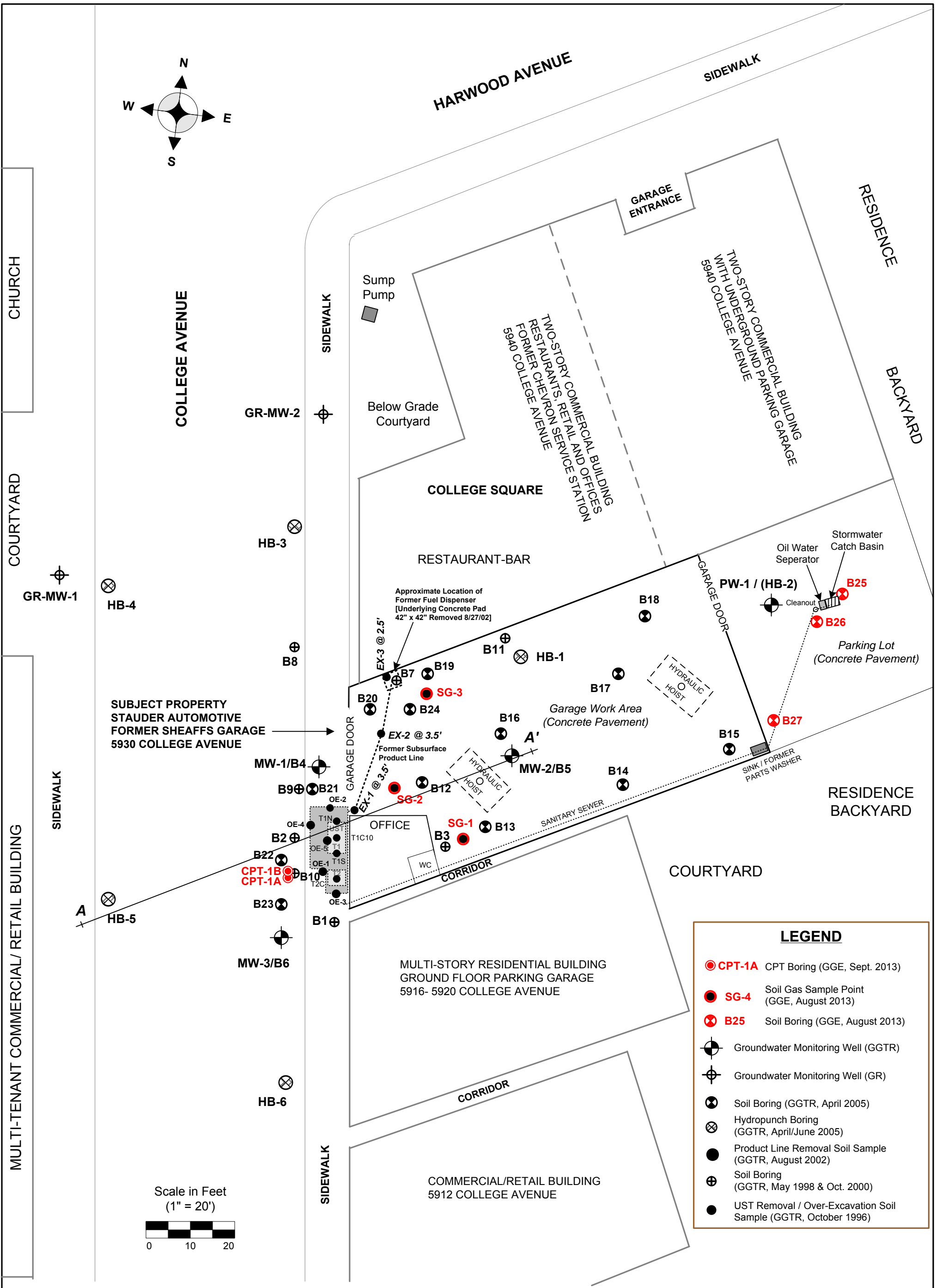


**GOLDEN GATE ENVIRONMENTAL, INC.**  
 1455 Yosemite Avenue, San Francisco, CA 94124  
 Phone (415) 970-9088 Fax (415) 970-9089



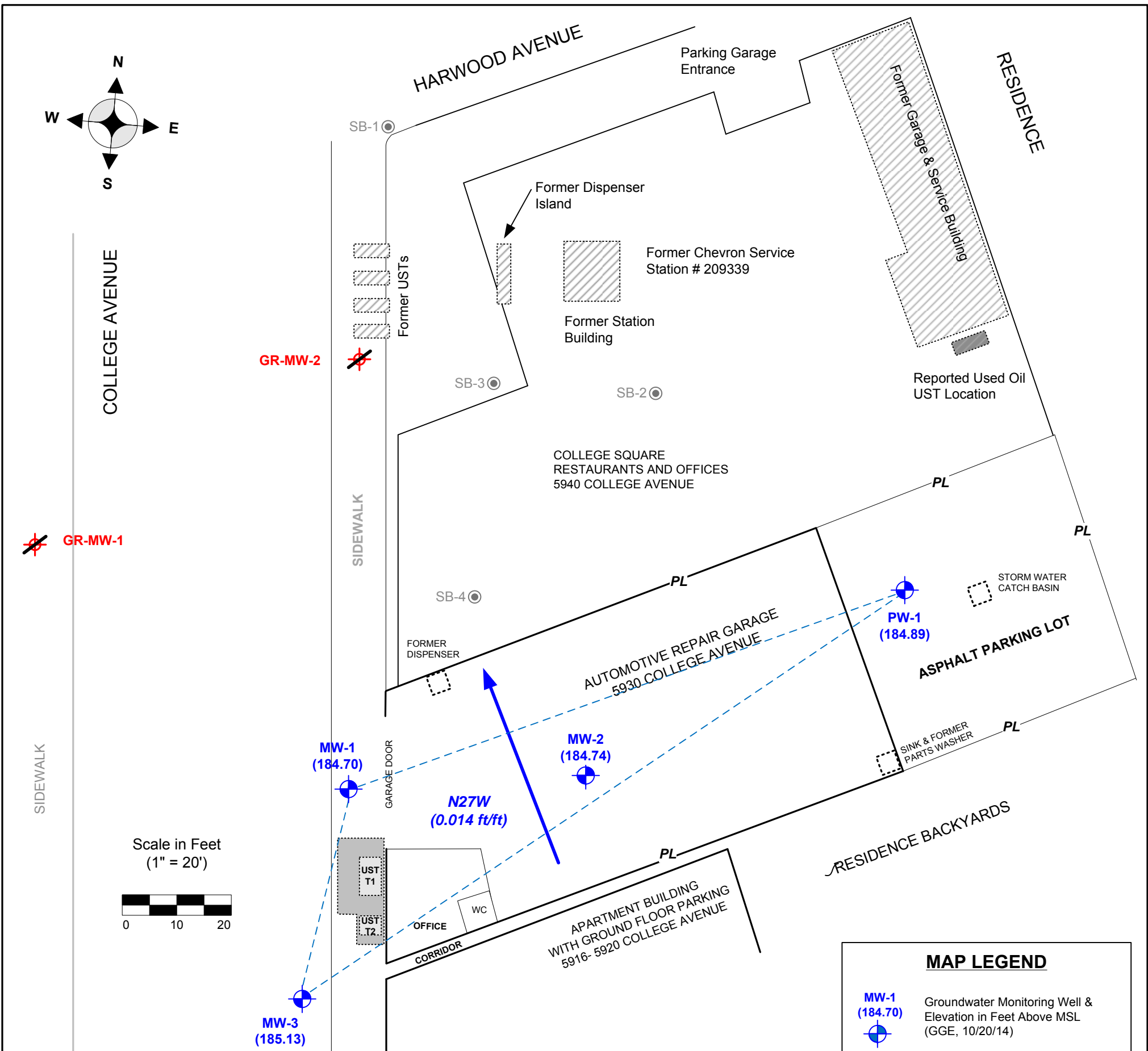
**SITE VICINITY MAP**  
 Sheaffs Garage  
 5930 College Avenue, Oakland, California



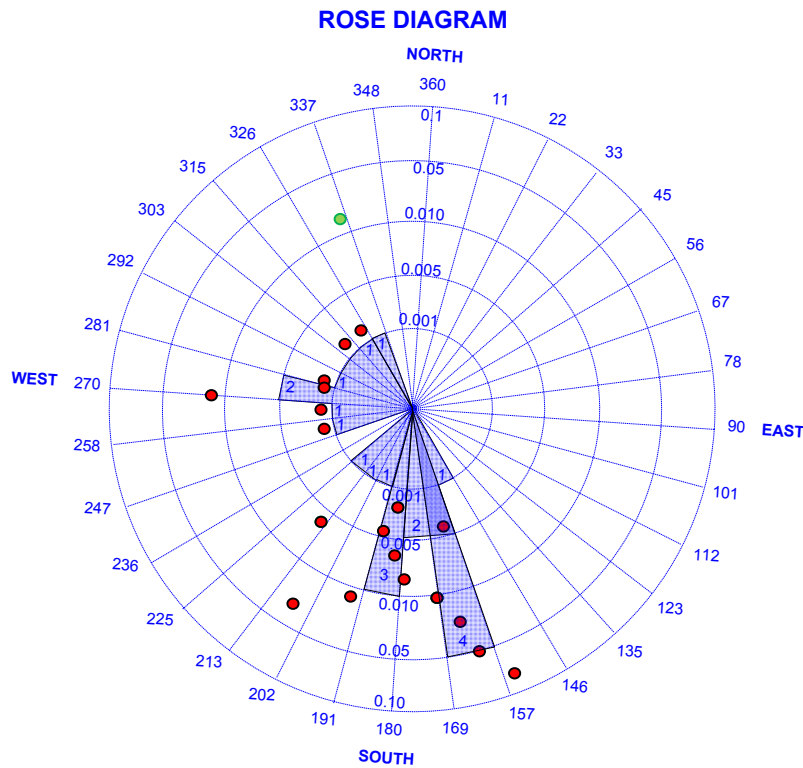


**GOLDEN GATE ENVIRONMENTAL, INC.**  
 1455 Yosemite Avenue, San Francisco, CA 94124  
 Phone (415) 970-9088 Fax (415) 970-9089

**SITE PLAN**  
 Former Sheaff's Service Garage  
 5930 College Avenue, Oakland, CA 94618



Date	Groundwater Flow Direction / Hydraulic Gradient (ft/ft)
<b>Wells MW-1, MW-3 &amp; PW-1:</b>	
4/14/05	161.3@0.05
7/26/05	282.5@0.002
10/14/05	309.9@0.002
1/13/06	194.8@0.016
04/14/06	208.5@0.026
10/26/06	249.9@0.002
01/30/07	325@0.002
04/13/07	265.9@0.002
07/24/07	281.8@0.002
4/21/08	155.2@0.072
7/22/08	270.4@0.012
10/21/08	159.5@0.004
1/19/09	184 @ 0.0017
10/27/09	179 @ 0.008
10/14/10	188 @ 0.004
6/9/11	184 @ 0.006
10/7/11	216 @ 0.006
10/16/2013	169.1@0.012
4/14/2014	161.6@0.025
10/20/2014	333.4@0.014



Rose diagram showing historic flow direction & gradient. Circles show recent data from three wells MW-1, MW-3 & PW-1 since April 14, 2005. Note non-linear scale for gradient to accommodate large variation in data. Bar graph shows number of values within each interval of flow direction for 2005-2014 data.

**MAP LEGEND**

- MW-1 (184.70)** Groundwater Monitoring Well & Elevation in Feet Above MSL (GGE, 10/20/14)
- GR-MW-1** Groundwater Monitoring Well Proposed for Destruction by October 24, 2014
- Approximate Groundwater Flow Direction and Hydraulic Gradient (GGE, 10/20/14)
- ug/L Micrograms per liter
- Approx. Limit of Former UST Excavation
- PL** Property Line

<p><b>GOLDEN GATE ENVIRONMENTAL, INC.</b> 3730 Mission Street, San Francisco, CA 94110 Phone (415) 970-9088 Fax (415) 970-9089</p>	<p><b>GROUNDWATER DATA DIAGRAM</b> <b>October 2014</b> Sheaffs Service Garage 5930 College Avenue, Oakland, CA 94618</p>
--------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------



**GROUNDWATER MONITORING REPORT  
4th Quarter 2014**

**Sheaff's Garage  
5930 College Avenue  
Oakland, CA 94618**

**ACHCSA Fuel Leak Case No. RO0000377**

**TABLES**

TABLE 1A - Historical Results of Groundwater Sample Analysis & Fluid-Level Data  
TABLE 1B - Groundwater Sampling Results for VOCs in PW-1

**Golden Gate Environmental, Inc.**  
1455 Yosemite Avenue, San Francisco, CA 94124

GGE Project No. 2014

**TABLE 1**  
**Historical Groundwater Levels & Hydrocarbon Analytical Results**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	TPH-D (ug/L)	MTBE (ug/L)	BTEX (ug/L)	Naphthalene (ug/L)
MW-1	6/1/98	50.00 *	4.81	45.19	slight sheen	160000	NA	1900	28000 / 21000 / 3800 / 21000	NA
	9/10/98	50.00 *	7.5	42.5	Odor	290000	NA	440	<50 / 25000 / 7100 / 32000	NA
	10/7/99	50.00 *	10.04	39.96	Odor	85000	NA	1100	20000 / 13000 / 3800 / 17000	NA
	1/26/00	50.00 *	8.26	41.74	slight sheen	130000	NA	470	25000 / 18000 / 4500 / 22000	NA
	10/25/00	50.00 *	10.1	39.9	Odor	130000	NA	1300	23000 / 12000 / 3900 / 18000	NA
	2/2/01	50.00 *	9.61	40.39	Odor	128000	NA	780	19000 / 11000 / 3800 / 18000	NA
	4/25/01	195.9	7.39	188.51	Odor	120000	NA	900	21000 / 13000 / 390 / 18000	NA
	7/10/01		9.72	186.18	Odor	79000	NA	660	15000 / 7800 / 3000 / 15000	NA
	10/8/01		10.88	185.02	Odor/sheen	112000	NA	374	25300 / 11800 / 4280 / 20600	NA
	1/7/02		4.34	191.56	Odor	96100	NA	596	21100 / 13500 / 4160 / 21900	NA
	4/8/02		6.84	189.06	slight odor	111000	NA	679	21200 / 13400 / 4230 / 21000	NA
	7/9/02		9.4	186.5	slight odor	110000	NA	570	20300 / 13300 / 4060 / 19800	NA
	10/23/02		11.04	184.86	None	54100	NA	1010 (1080)**	10800 / 3870 / 2320 / 9440	NA
	10/15/03		10.8	185.1	None	90700	NA	724	17800 / 4740 / 3150 / 13900	NA
	2/2/04		7.35	188.55	None	108000	NA	194	14200 / 7420 / 3450 / 19800	NA
	4/23/04		6.83	189.07	slight odor	49200	NA	114	7910 / 1480 / 1810 / 10100	NA
	7/19/04		8.95	186.95	Odor	63900	NA	303	7260 / 2270 / 2510 / 10100	NA
	10/22/04		10.15	185.75	None	80700	NA	493 (296)**	13900 / 1670 / 3550 / 15200	NA
	1/21/05		5.45	190.45	Odor	278000	NA	271 (174)**	14700 / 25300 / 10800 / 73500	NA
	4/14/05		5.3	190.6	Odor /sheen	116000	NA	366 (410)**	15100 / 7080 / 4220 / 20700	NA
	7/26/05		7.6	188.3	Odor	82000	NA	ND<250	12000 / 4500 / 3300 / 14000	NA
	10/14/05		9.58	186.32	Odor/sheen	64000	NA	ND<250	13000 / 5700 / 3400 / 16000	NA
	1/13/06		4.6	191.3	Odor/sheen	49000	NA	ND<250	12000 / 5300 / 3500 / 17000	NA
	4/14/06		3.08	192.82	Odor	51000	NA	270	14000 / 5300 / 3500 / 17000	NA
	10/26/06		9.22	186.68	Odor	34000	NA	ND<250	12000 / 1600 / 3100 / 8600	NA
	1/30/07		9.6	186.3	Odor	39000	NA	ND<200	10000 / 2200 / 2900 / 10000	NA
	4/13/07		9.24	186.66	NM	52000	NA	150	9100 / 2600 / 3100 / 11000	NA
	7/24/07		10.67	185.23	None	46000	NA	240	10000 / 1200 / 3500 / 6200	NA
	4/21/08		7.24	188.66	None	50000	NA	ND<100	7800 / 1500 / 3000 / 12000	NA
	7/22/08		9.71	186.19	Odor	60000	NA	470 <sup>1</sup>	8100 / 1500 / 2700 / 9800	NA
	10/21/08		11.63	184.27	Odor	15000	NA	110	4900 / 430 / 1900 / 2260	NA
	1/19/09		10.91	184.99	Odor/Sheen	33000	NA	143	8830/837/2160/3880	NA
	4/27/09		7.7	188.2	Odor	75000	NA	53	8500/2100/2300/11000	NA
	10/27/09		9.34	186.56	Odor	61000	NA	75	8300/1500/2600/7900	NA
10/14/10	10.3		185.6	Clear/Odor	24000 <sup>2</sup>	NA	220	8100/820/2200/4400	NA	
6/9/11	6.38		189.5	Clear/Odor	53000	NA	NA	14000/3000/3800/16900	NA	
10/7/11	9.08		186.82	None	50000 <sup>2</sup>	NA	89	9200/1500/4200/13500	NA	
10/16/13	10.83		185.07	Clear	12000 <sup>2</sup>	NA	ND<21	2400/330/1500/2780	NA	
4/4/14	10.92		184.98	Clear	25000 <sup>6</sup>	3000 <sup>7,8</sup>	ND<21	3000/480/2100/6700	500 <sup>9</sup>	
10/20/14	11.2		184.7	Clear/Odor	18000 <sup>2</sup>	2000 <sup>7,8</sup>	63	5600/300/2000/910	300 <sup>9</sup>	
SF Bay RWQCB December 2013 ESL						500	640	1800	27 / 130 / 43 / 100	24

Table & Notes Following

**TABLE 1 (Cont.)**  
**Historical Groundwater Levels & Hydrocarbon Analytical Results**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	TPH-D (ug/L)	MTBE (ug/L)	BTEX (ug/L)	Naphthalene (ug/L)
MW-2	10/7/99	51.42*	11.49	39.93	slight/odor	18000	NA	490	3000 / 1700 / 1000 / 3900	NA
	1/26/00	51.42*	7.85	43.57	None	42000	NA	560	9300 / 2200 / 2300 / 7700	NA
	10/25/00	51.42*	11.57	39.85	slight/odor	31000	NA	500	5500 / 370 / 1700 / 2600	NA
	2/2/01	51.42*	10.77	40.65	Odor	36000	NA	400	4300 / 530 / 1800 / 4500	NA
	4/25/01	197.28	8.52	188.76	Odor	56000	NA	460	6700 / 1700 / 2600 / 8200	NA
	7/10/01		11.05	186.23	Odor	39000	NA	180	6200 / 730 / 2300 / 6100	NA
	10/8/01		12.79	184.49	Odor/sheen	40700	NA	6460	6310 / 399 / 2100 / 5320	NA
	1/7/02		4.92	192.36	Odor	59600	NA	366**	10300 / 3250 / 4180 / 14400	NA
	4/8/02		8.4	188.88	slight odor	66700	NA	583**	10200 / 2670 / 3840 / 13200	NA
	7/9/02		10.55	186.73	slight odor	37100	NA	303 (298)**	5340 / 890 / 2110 / 6920	NA
	10/23/02		13.85	183.43	None	13300	NA	322 (360)**	2420 / 216 / 922 / 1470	NA
	10/15/03		12.38	184.9	None	11300	NA	264 (322)**	2660 / 51 / 1180 / 1220	NA
	2/2/04		8.8	188.48	None	21700	NA	168 (200)**	2130 / 51 / 1030 / 2060	NA
	4/23/04		8.4	188.88	Slight odor	30400	NA	112 (203)**	3570 / 322 / 1620 / 4140	NA
	7/19/04		10.3	186.98	Odor	28300	NA	283 (373)**	2540 / 239 / 1320 / 2300	NA
	10/22/04		10.25	187.03	Mod odor	13500	NA	273 (229)**	1790 / 54 / 892 / 915	NA
	1/21/05		6.65	190.63	Mod odor	278000	NA	161 (163)**	5980 / 1030 / 2890 / 9070	NA
	4/14/05		8.7	188.58	None	46100	NA	155 (150)**	5170 / 787 / 2530 / 6010	NA
	7/26/05		8.95	188.33	Mod odor	41000	NA	ND (ND)**	5600 / 550 / 2600 / 4600	NA
	10/14/05		10.92	186.36	Odor/sheen	13000	NA	130	2900 / 100 / 1300 / 1200	NA
	1/13/06		5.48	191.8	Odor	20000	NA	ND<100	4900 / 490 / 2400 / 4200	NA
	4/14/06		3.61	193.67	Odor	21000	NA	ND<100	4000 / 740 / 2300 / 5100	NA
	10/26/06		10.58	186.7	Odor	8200	NA	68	1400 / 51 / 840 / 500	NA
	1/30/07		10.98	186.3	Odor	17000	NA	62	3200 / 150 / 2200 / 1800	NA
	4/13/07		10.54	186.74	NM	19000	NA	57	2000 / 85 / 1300 / 1100	NA
	7/24/07		12.04	185.24	None	10000	NA	84	1300 / 41 / 710 / 270	NA
	4/21/08		8.01	189.27	None	17000	NA	48	1800 / 100 / 1400 / 1300	NA
	7/22/08		11.12	186.16	None	16000	NA	100 <sup>1</sup>	1900 / 98 / 1600 / 741	NA
	10/21/08		13.11	184.17	Odor/sheen	4900	NA	65	700 / 20 / 370 / 52	NA
	1/19/09		12.31	184.97	Odor	2500	NA	90	167/8.49/114/50.3	NA
	4/27/09		9.01	188.27	Odor/sheen	21000	NA	ND<0.5	1700/130/1100/1800	NA
	10/27/09		10.52	186.76	Odor	7000	NA	ND<0.5***	510/19/330/160	NA
	10/14/2010		11.56	185.72	None	3200 <sup>2</sup>	NA	35	460/16/230/110	NA
6/9/2011	7.67		189.61	Clear/Odor	9900	NA	NA	1900/75/1100/1013	NA	
10/7/2011	10.42		186.86	Clear/Odor	9200 <sup>4</sup>	NA	ND<22	810/34/610/100	NA	
10/16/2013	12.18		185.1	Clear/Odor	4400 <sup>2,5</sup>	NA	ND<4.2	780/33/200/39.8	NA	
4/14/2014	12.34		C55-D88	Clear/Odor	6100 <sup>2</sup>	2500 <sup>7,8</sup>	ND<2.1	530/270/19/47.6	86 <sup>9</sup>	
10/20/2014	12.54	184.74	Clear/Odor	8600 <sup>2</sup>	3700 <sup>7,8</sup>	15	140/5.6/73/20.9	24 <sup>9</sup>		
SF Bay RWQCB December 2013 ESL						500	640	1800	27 / 130 / 43 / 100	24

Table & Notes Following

**TABLE 1 (Cont.)**  
**Historical Groundwater Levels & Hydrocarbon Analytical Results**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	TPH-D (ug/L)	MTBE (ug/L)	BTEX (ug/L)	Naphthalene (ug/L)
MW-3	10/7/99	49.39*	9.67	39.72	None	6600	NA	390	310 / 110 / 430 / 1000	NA
	1/26/00	49.39*	5.4	43.99	None	3300	NA	40	110 / 8 / 100 / 32	NA
	10/25/00	49.39*	9.24	40.15	Slight odor	4500	NA	ND	100 / 2 / 120 / 130	NA
	2/2/01	49.39*	8.73	40.66	Slight odor	2900	NA	35	35 / 3 / 160 / 298	NA
	4/25/01	195.22	6.61	188.61	Slight odor	8400	NA	56	260 / 33 / 290 / 510	NA
	7/10/01		8.85	186.37	Slight odor	12000	NA	35	39 / 10 / 690 / 1600	NA
	10/8/01		9.75	185.47	Odor/sheen	4913	NA	52	108 / 4 / 99 / 133	NA
	1/7/02		4.25	190.97	Odor/sheen	7260	NA	81.7**	723 / 138 / 492 / 887	NA
	4/8/02		6.33	188.89	Odor	11700	NA	ND**	540 / 108 / 706 / 1710	NA
	7/9/02		8.56	186.66	Odor	2320	NA	28.3 (20)**	37.1 / 4.7 / 98.5 / 187	NA
	10/23/02		10.02	185.2	Odor/sheen	2830	NA	ND (ND)**	46.8 / 4.7 / 43.6 / 65.5	NA
	10/15/03		9.8	185.42	Odor/sheen	3040	NA	ND (ND)**	91.3 / 8.4 / 69.9 / 148	NA
	2/2/04		6.85	188.37	Odor/sheen	5140	NA	ND (ND)**	126 / 8.7 / 134 / 238	NA
	4/23/04		6.17	189.05	None	7210	NA	ND (ND)**	227 / 39.5 / 448 / 879	NA
	7/19/04		8.25	186.97	Slight odor	9860	NA	ND (ND)**	20.4 / 3.2 / 30.6 / 117	NA
	10/22/04		9.25	185.97	None	7420	NA	96 (21)**	152 / 12.8 / 267 / 480	NA
	1/21/05		5.22	190	Slight odor	2420	NA	ND (ND)**	111 / 11.4 / 139 / 265	NA
	4/14/05		6.64	188.58	Odor/sheen	5130	NA	54 (41.4)**	357 / 19.4 / 287 / 510	NA
	7/26/05		6.9	188.32	None	9800	NA	ND (21)**	200 / 23 / 220 / 360	NA
	10/14/05		8.83	186.39	Odor/sheen	6100	NA	ND	76 / 19 / 170 / 350	NA
	1/13/06		4.61	190.61	Odor	3900	NA	24	380 / 17 / 230 / 300	NA
	4/14/06		3.41	191.81	Odor	5000	NA	69	760 / 44 / 230 / 190	NA
	10/26/06		8.57	186.65	Odor	3100	NA	17	120 / 9.8 / 55 / 54	NA
	1/30/07		8.83	186.39	Odor	4500	NA	ND<10	90 / 7.6 / 75 / 44	NA
	4/13/07		8.57	186.65	NM	2800	NA	ND<5	55 / 4.9 / 19 / 6.1	NA
	7/24/07		9.98	185.24	None	4800	NA	ND<5	140 / 8.3 / 66 / 22	NA
	4/21/08		9.3	185.92	None	4300	NA	ND<5	200 / 11 / 30 / 14	NA
	7/22/08		9.05	186.17	None	2400	NA	53 <sup>1</sup>	140 / 13 / 26 / 18.5	NA
	10/21/08		11.12	184.1	Slight Odor	2900	NA	2.2	170 / 9.2 / 99 / 25.8	NA
	1/19/09		10.29	184.93	Odor	3600	NA	ND<0.5	148/6.73/24.5/22.1	NA
	4/27/09		7.15	188.07	Odor/sheen	5800	NA	8.8	370/12/82/84	NA
	10/27/09		8.96	186.26	Odor	4900 <sup>2</sup>	NA	ND<0.5***	130/8.5/89/130	NA
	10/14/2010		9.76	185.46	None	2700 <sup>2</sup>	NA	ND<4.4	270/11/290/399.2	NA
6/9/2011	5.92		189.3	Clear/Odor	3200 <sup>2</sup>	NA	NA	220/ND<4.4/37/20	NA	
10/7/2011	8.6		186.62	None	5400 <sup>2</sup>	NA	ND<4.4	140/7.0/160/67	NA	
10/16/2013	10.56		184.66	Lt. Gray/Odor	3400 <sup>2</sup>	NA	ND<4.2	990/58/75/71	NA	
4/14/2014	11.07		184.15	Clear	3600 <sup>2</sup>	700 <sup>7,8</sup>	ND<1.1	400/22/24/13.3	4.0 <sup>9</sup>	
10/20/2014	10.09	185.13	Clear/Odor	9200 <sup>2</sup>	25000 <sup>7,8</sup>	9.2	180/8.4/21/11	ND<2.1 <sup>9</sup>		
SF Bay RWQCB December 2013 ESL						500	640	1800	27 / 130 / 43 / 100	24

Table & Notes Following

**TABLE 1 (Cont.)**  
**Historical Groundwater Levels & Hydrocarbon Analytical Results**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	TPH-D (ug/L)	MTBE (ug/L)	BTEX (ug/L)	Naphthalene (ug/L)
PW-1	4/14/05	197.17	6.4	190.77	None	3360	NA	ND (ND**)	62.8 / 6.7 / 79.5 / 317	NA
	7/26/05		8.63	188.54	None	1300	NA	ND (ND**)	22 / ND / 48 / 110	NA
	10/14/05		10.71	186.46	None	4300	NA	ND	93 / 1.2 / 100 / 140	NA
	1/13/06		4.87	192.3	None	450	NA	ND<2.0	10 / ND / 37 / 72	NA
	4/14/06		2.27	194.9	Odor	120	NA	ND<2.0	2.3 / ND<1.0 / 3.5 / 9.3	NA
	10/26/06		10.3	186.87	Odor	2800	NA	ND<10	61 / ND<5.0 / 130 / 34	NA
	1/30/07		10.8	186.37	Odor	1200	NA	ND<2	22 / ND<1.0 / 100 / 200	NA
	4/13/07		10.31	186.86	NM	510	NA	ND<1	6 / ND<0.5 / 30 / 56	NA
	7/24/07		11.81	185.36	None	3400	NA	ND<5	63 / ND<2.5 / 180 / 5.6	NA
	4/21/08		9.08	188.09	None	300	NA	ND<1	3 / ND<0.5 / 16 / 26	NA
	7/22/08		9.83	187.34	None	710	NA	3.1 <sup>1</sup>	9.3 / 1.2 <sup>1</sup> / 49 / 67.86	NA
	10/21/08		12.9	184.27	None	1500 <sup>2</sup>	NA	1	20 / ND<0.5 / 57 / 20	NA
	1/19/09		12.11	185.06	Odor/sheen	1100 <sup>2</sup>	NA	ND<0.5	12.3/ND<0.5/30.8/9.20	NA
	4/27/2009		8.69	188.48	None	360 <sup>3</sup>	NA	ND<0.5	2.7/ND<0.5/12/18	NA
	10/27/2009		10.32	186.85	None	1100 <sup>2</sup>	NA	ND<0.5	12/ND<0.5/36/34	NA
	10/14/2010		11.38	185.79	None	860 <sup>3</sup>	NA	ND<0.5	8.8/.55/44/44	NA
	6/9/2011		7.43	189.74	None	96 <sup>3</sup>	NA	ND<0.5	ND<0.5/ND<0.5/3.1/2.5	NA
	10/7/2011		9.79	187.38	None	260 <sup>5</sup>	NA	ND<0.5	ND<0.5/ND<0.5/5.9/4.5	NA
	10/16/2013		11.91	185.26	Clear	150 <sup>2,5</sup>	NA	ND<0.5	0.87/ND<0.5/ND<0.5/ND≤1.0	NA
	4/14/2014		12.14	185.03	Clear	ND<50	ND<0.1 <sup>8</sup>	ND<0.5	ND<0.5/ND<0.5/ND<0.5/ND≤1.0	ND<0.5 <sup>9</sup>
10/20/2014	12.28	184.89	Clear	380 <sup>2</sup>	140 <sup>7,8</sup>	ND<0.5	2.4/ND<0.5/11/4.0	2.3 <sup>9</sup>		
<b>SF Bay RWQCB December 2013 ESL</b>						<b>500</b>	<b>640</b>	<b>1800</b>	<b>27 / 130 / 43 / 100</b>	<b>24</b>

**NOTES:**

ft, MSL = feet Above Mean Sea Level

TOC = Top of Well Casing

GW = Depth to Groundwater in feet Below TOC

TPH-G = Total Petroleum Hydrocarbons as Gasoline

MTBE = Methyl Tertiary Butyl Ether

BTEX = Benzene / Toluene / Ethylbenzene / Total Xylenes

ug/L = micrograms per liter

ND = Not detected above laboratory reporting limit

<sup>1</sup> = Presence confirmed, but Relative Percentage Difference (RPD) between columns exceeds 40%

<sup>2</sup> = Sample exhibit chromatographic pattern that does not resemble standard; See laboratory report for additional information

<sup>3</sup> = Although TPH-gas compounds are present, value is elevated due to discrete peak (PCE) within C5-C12 range quantified as gasoline

<sup>4</sup> = Result is elevated due to contribution from heavy end hydrocarbons within C5-C12 range quantified as gasoline

<sup>5</sup> = Result is elevated due to contribution from heavy end hydrocarbons and discrete peak of non-fuel compound within C5-C12 range quantified as gasoline

<sup>6</sup> = Reported TPH value includes amount due to discrete peak (See 8260B results - elevated aromatic compounds)

<sup>7</sup> = Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range lighter than diesel quantified as diesel.

<sup>8</sup> = Sample also analyzed for TPH as Motor Oil (EPA Method SW8015B); Result ND (See Lab Report)

<sup>9</sup> = Sample also analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method SW8270C; See Lab Report for Sample Results

\* = Arbitrary datum point with assumed elevation of 50 ft used prior to MSL survey on 4/ 25/01

\*\* = Concentration confirmed by EPA Method 8260

\*\* = Sample also analyzed for other Fuel oxygenates (EPA Method 8260); All results ND (See Lab Report)

SF Bay RWQCB/ESL = San Francisco Bay Regional Water Quality Control Board's Interim Final - December 2013, Environmental Screening Level at a residential or commercial/industrial use permitted sites with groundwater that Is Not a potential source of drinking water.

**Well Construction Data:**

Well #	Total Depth (ft, TOC)	Screen Interval (ft)	Installation Date
MW-1	14.5	5 to TD	5/20/1998
MW-2	19.6	5 to TD	10/2/1999
MW-3	19	5 to TD	10/2/1999
PW-1	19.8	5 to TD	4/5/2005

**TABLE 2**  
**Historical Groundwater VOC Analytical Results in PW-1**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	IPB (ug/L)	n-PB (ug/L)	1,3,5-TMB (ug/L)	1,2,4-TMB (ug/L)	Sec-BB (ug/L)	n-BB (ug/L)	Naphthalene (ug/L)	TCE (ug/L)	MC (ug/L)	cis-1,2-DCE (ug/L)	Vinyl Chloride (ug/L)	PCE (ug/L)	
PW-1	4/14/05	197.17	6.4	190.77	11	22	110	100	ND,10	ND<10	43	3.3	ND<25	12	ND<0.5	84.9	
	7/26/05		8.63	188.54	7.3	17	37	100	ND<10	ND<10	43	ND<1	ND<10	7	ND<1	48	
	10/14/05		10.71	186.46	28	72	67	120	12	17	43	4.1	ND<40	29	ND<1	25	
	1/13/06		4.87	192.3	ND<20	ND<10	ND<10	37	ND<10	ND<10	ND<10	1.4	ND<40	5	ND<1	95	
	4/14/06		2.27	194.9	ND<2	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	1.1	ND<40	2.8	ND<1	68	
	10/26/06		10.3	186.87	ND<10	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	6.2	ND<200	32	ND<5.0	26
	1/30/07		10.8	186.37	ND<2	23	31	120	ND<10	ND<10	ND<10	18	ND<1	ND<40	11	ND<1	29
	4/13/07		10.31	186.86	2.4	6.1	7	30	ND<5	ND<5	ND<5	6.8	0.84	ND<20	4.7	ND<0.5	64
	7/24/07		11.81	185.36	ND<5.0	60	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25	ND<2.5	ND<100	58	ND<2.5	50
	4/21/08		9.08	188.09	1.1	ND<5	ND<5	15	ND<5	ND<5	ND<5	ND<5	0.88	ND<20	3.7	ND<0.5	91
	7/22/08		9.83	187.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/21/08		12.9	184.27	17	14	5	15	9.4	14	14	5.1	6.2	ND<10	56	0.6	44
	4/27/09		8.69	188.48	1.2	3.3	3.4	16	ND<0.5	ND<0.5	ND<1.0	1.4	ND<5.0	4	ND<0.5	120	
	10/27/09		10.32	186.85	6	4.8	ND<0.5	15	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	35	ND<0.5	78	
	10/14/10		11.38	185.79	9.8	15	12	44	4.4	ND<0.5	ND<0.5	4	5	ND<5.0	61	ND<0.5	35
	6/9/11		7.43	189.74	0.55	1.7	0.98	3.7	ND<0.5	ND<0.5	ND<1.0	0.85	ND<5.0	1.4	ND<0.5	86	
	10/7/11		9.79	187.38	0.79	1.8	0.99	3.8	ND<0.5	0.68	1.2	0.63	ND<5.0	2	ND<0.5	76	
10/16/13	11.91	185.26	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1.0	2.7	ND<5.0	12	ND<0.5	45		
4/14/14	12.14	185.03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1.0	1.4	ND<5.0	3.3	ND<0.5	110		
10/20/14	12.28	184.89	1.8	2.9	1	2.3	1.6	ND<0.5	2.3	6.4	ND<5.0	33	ND<0.5	36			
<b>SF Bay RWQCB December 2013 ESL</b>					<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>NC</b>	<b>24</b>	<b>130</b>	<b>2200</b>	<b>590</b>	<b>1.8</b>	<b>63</b>	

**NOTES:**

ft, MSL = feet Above Mean Sea Level  
 TOC = Top of Well Casing  
 GW = Depth to Groundwater in feet Below TOC  
 VOC = Volatile Organic Compounds  
 IPB = Isopropylbenzene  
 n-PB = n-Propylbenzene  
 1,3,5-TMB = 1,3,5-Trimethylbenzene  
 1,2,4-TMB = 1,2,4-Trimethylbenzene  
 sec-BB = sec-Butylbenzene  
 n-BB = n-Butylbenzene  
 TCE = Trichloroethene  
 MC = Methylene Chloride  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 PCE = Tetrachloroethene  
 ug/l = micrograms per liter  
 ND = Not detected above laboratory reporting limit  
 NC = No Criteria Listed  
 NA = Not Analyzed  
 SF Bay RWQCB/ESL =

**Well Construction Data:**

Well #	Total Well Depth (ft, TOC)	Screen Interval (ft)	Installation Date
PW-1	19.8	5 to TD	4/5/2005

San Francisco Bay Regional Water Quality Control Board's Interim Final - December 2013, Environmental Screening Level at a residential or commercial/industrial use permitted sites with groundwater that Is Not a potential source of drinking water.

**GROUNDWATER MONITORING REPORT**  
**4<sup>th</sup> Quarter 2014**

**Sheaff's Garage**  
**5930 College Avenue**  
**Oakland, CA 94618**

**ACHCSA Fuel Leak Case No. RO0000377**

**ATTACHMENT A**

**Fluid-Level Monitoring Data Sheet**  
**Well Purging/Sampling Data Sheets**

# FLUID-LEVEL MONITORING DATA

Project Name: SHEAFFS SERVICE GARAGE Date: 10-20-14

Project/Site Location: 5930 COLLEGE AVE, OAKLAND, CA 94618

Technician: RICHARD VASQUEZ Method: ELECTRONIC

Boring/Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
PW-1	12.28	N/D	N/D	19.78	@ 1140
MW-3	10.09	N/D	N/D	19.03	@ 1145
MW-2	12.54	N/D	N/D	19.58	@ 1149
MW-1	11.20	N/D	N/D	14.46	@ 1153

Measurements referenced to top of well casing. NORTH

\* N/D = NONE DETECTED SHARPIE MARK



WELL NUMBER / FIELD POINT ID: PW-1  
 DATE: 10-20-14  
 PROJECT / GLOBAL ID: T0600102112  
 SITE LOCATION: 5930 College Avenue  
 CITY: Oakland STATE: CA

circle one submersible pump peristaltic pump bladder pump disposable bailer  
**PURGE DEVICE**  
circle one submersible pump peristaltic pump bladder pump disposable bailer  
**SAMPLING DEVICE**  
 casing diameter (inches) circle one 0.75 1 1.5 2 4 6  
 casing volumes (gallons) circle one 0.02 0.05 0.15 0.2 0.7 1.52

**WELL DATA**  
 SAMPLER/S: DILHARD UASLOWE  
 WELL NUMBER / FIELD POINT ID: PW-1  
 SCREEN INTERVAL (if known):  
 A. TOTAL WELL DEPTH: 19.78  
 B. DEPTH TO WATER: 12.28  
 C. WATER HEIGHT (A-B): 7.5  
 D. WELL CASING DIAMETER: 2  
 E. CASING VOLUME: 0.2  
 F. SINGLE CASE VOLUME (Cx): 1.5  
 G: 80% RECHARGE LEVEL (F+B): 13.78

**PURGE DATA**  
 START TIME: 1225  
 PUMP DEPTH: 15'  
 FINISH TIME: 1300  
 PUMP DEPTH: 19.5' **WELL DE WATERED**

**SAMPLE TIME** 1500  
 DEPTH TO WATER: 13.76 TIME MEASURED: 1457  
 SAMPLE APPEARANCE / ODOR: CLOUDY REDISH NO ODOR  
 ~TOTAL GALLONS PURGED: 3.5 GALLONS

**WELL FLUID PARAMETERS**

Time (interval 3 to 5 min.)	0	3	3	3	3	3	3	3
~Total Volume Purged (Gal)	0	.5	1.0	1.5	2.0	2.5	3.0	3.5
pH (su)	6.24	6.45	6.42	6.42	6.43	6.41	6.43	6.41
Temperature (Celsius)	19.0	18.5	18.6	18.6	18.6	18.6	18.6	18.6
COND/SC (us/cm)	869	865	853	851	857	852	861	854
DO (mg/L / %)	40.9	---	---	---	---	---	---	---
ORP (mV)								
DTW (ft.)	12.28	14.68	16.21	18.43	19.01	18.64	19.12	19.07
~Pump Depth (ft)	15'	17'	19'	19.5'				
~Pump Rate (Gal/min.)	600ml pump							

WELL NUMBER / FIELD POINT ID: MW-3

DATE: 10-20-14

PROJECT / GLOBAL ID: T0600102112

SITE LOCATION: 5930 College Avenue

CITY: Oakland

STATE: CA

PURGE DEVICE

circle one submersible pump peristaltic pump bladder pump disposable bailer

SAMPLING DEVICE

circle one submersible pump peristaltic pump bladder pump disposable bailer

casing diameter (inches) circle one 0.75 1 1.5 2 4 6
casing volumes (gallons) circle one 0.02 0.05 0.15 0.2 0.7 1.52

WELL DATA

SAMPLER/S: RICHARD VASQUEZ

WELL NUMBER / FIELD POINT ID: MW-3

SCREEN INTERVAL (if known):

A. TOTAL WELL DEPTH: 19.05

B. DEPTH TO WATER: 10.09

C. WATER HEIGHT (A-B): 6.94

D. WELL CASING DIAMETER: 2

E. CASING VOLUME: 0.2

F. SINGLE CASE VOLUME (Cx E): 1.79

G: 80% RECHARGE LEVEL (F+B): 11.68

PURGE DATA

START TIME: 1310

PUMP DEPTH: 15-

FINISH TIME: 1345

PUMP DEPTH: 18-

SAMPLE TIME 1612

DEPTH TO WATER: 14.63

TIME MEASURED: 1604

SAMPLE APPEARANCE / ODOR: CLEAR STRONG FUEL ODOR

-TOTAL GALLONS PURGED: 5-25

WELL FLUID PARAMETERS

Table with columns for Time (interval 3 to 5 min.), Total Volume Purged (Gal), pH (su), Temperature (Celsius), COND/SC (us/cm), DO (mg/L / %), ORP (mV), DTW (ft.), Pump Depth (ft), Pump Rate (Gal/min.) and rows for 0, 5, 10, 15, 20, 25, 30, 35 minutes.

WELL NUMBER / FIELD POINT ID: MW-2

DATE: 10-20-12

PROJECT / GLOBAL ID: T0600102112

SITE LOCATION: 5930 College Avenue

CITY: Oakland

STATE: CA

circle one submersible pump peristaltic pump bladder pump disposable bailer

**PURGE DEVICE**

circle one submersible pump peristaltic pump bladder pump disposable bailer

**SAMPLING DEVICE**

casing diameter (inches) circle one 0.75 1 1.5 2 4 6  
casing volumes (gallons) circle one 0.02 0.05 0.15 0.2 0.7 1.52

**WELL DATA**

SAMPLER/S: RICHARD VASQUEZ

WELL NUMBER / FIELD POINT ID: MW-2

SCREEN INTERVAL (if known):

A. TOTAL WELL DEPTH: 19.58

B. DEPTH TO WATER: 12.54

C. WATER HEIGHT (A-B): 7.04

D. WELL CASING DIAMETER: 2

E. CASING VOLUME: 0.2

F. SINGLE CASE VOLUME (Cx E): 1.408

G: 80% RECHARGE LEVEL (F+B): 13.95

**PURGE DATA**

START TIME: 1400

PUMP DEPTH: 15'

FINISH TIME: 1430

PUMP DEPTH: 19'

**SAMPLE TIME** 1630

DEPTH TO WATER: 12.86

TIME MEASURED: 1617

SAMPLE APPEARANCE / ODOR: STRONG FUEL ODOR CLEAR

-TOTAL GALLONS PURGED: 4.5

**WELL FLUID PARAMETERS**

Time (interval 3 to 5 min.)	0	5	10	15	20	25	30
~Total Volume Purged (Gal)	0	.75	1.50	2.25	3.0	3.75	4.50
pH (su)	6.65	6.61	6.54	6.53	6.62	6.53	6.54
Temperature (Celsius)	19.4	19.3	19.6	19.7	19.5	19.3	19.3
COND/SC (us/cm)	2313	2318	2220	2177	2261	2281	2289
DO (mg/L / %)	---	---	---	---	---	---	---
ORP (mV)							
DTW (ft.)	12.54	13.23	14.08	15.26	16.68	17.36	18.34
~Pump Depth (ft)	15'	→ 19'					
~Pump Rate (Gal/min.)	600ml p.m.	→					

WELL NUMBER / FIELD POINT ID: MW-1

DATE: 10-20-14

PROJECT / GLOBAL ID: T0600102112

SITE LOCATION: 5930 College Avenue

CITY: Oakland

STATE: CA

circle one submersible pump peristaltic pump bladder pump disposable bailer

**PURGE DEVICE**

circle one submersible pump peristaltic pump bladder pump disposable bailer

**SAMPLING DEVICE**

casing diameter (inches) circle one 0.75 1 1.5 2 4 6  
casing volumes (gallons) circle one 0.02 0.05 0.15 0.2 0.7 1.52

**WELL DATA**

SAMPLER/S: DIAPHRAGM VACUOLET

WELL NUMBER / FIELD POINT ID: MW-1

SCREEN INTERVAL (if known):

A. TOTAL WELL DEPTH: 14.46

B. DEPTH TO WATER: 11.20

C. WATER HEIGHT (A-B): 3.26

D. WELL CASING DIAMETER: 2

E. CASING VOLUME: 0.2

F. SINGLE CASE VOLUME (Cx E): 0.652

G: 80% RECHARGE LEVEL (F+B): 12.50

**PURGE DATA**

START TIME: 1435

PUMP DEPTH: 13'

FINISH TIME: 1450

PUMP DEPTH: 14'

**SAMPLE TIME 1632**

DEPTH TO WATER: 11.87

TIME MEASURED: 1628

SAMPLE APPEARANCE / ODOR: CLEAR SOME FUEL ODOR

-TOTAL GALLONS PURGED: 2 - GALLONS

**WELL FLUID PARAMETERS**

Time (interval 3 to 5 min.)	0	3	6	9	12			
~Total Volume Purged (Gal)	0	.5	1.0	1.5	2.0			
pH (su)	6.73	6.61	6.57	6.57	6.60			
Temperature (Celsius)	20.3	20.4	20.4	20.4	20.3			
COND/SC (us/cm)	1427	1400	1421	1429	1437			
DO (mg/L / %)	---	---	---	---	---			
ORP (mV)								
DTW (ft.)	11.20	12.06	12.88	13.52	13.78			
~Pump Depth (ft)	13'	→	14'	→	→			
~Pump Rate (Gal/min.)	500 mL p. min	→	→	→	→			

**GROUNDWATER MONITORING REPORT  
4<sup>th</sup> Quarter 2014**

**Sheaff's Garage  
5930 College Avenue  
Oakland, CA 94618**

**ACHCSA Fuel Leak Case No. RO0000377**

**ATTACHMENT B**

**Liquid Waste Manifest  
Laboratory Certificates of Analysis  
Chain of Custody Record  
GeoTracker Upload Confirmation Sheets  
EPA On-Line Tools for Site Assessment Calculation Sheet**

# NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

2. Page 1 of 1

3. Document Number

10594

4. Generator's Name and Mailing Address

Stauder Automotive  
5930 College Ave  
Oakland, CA 94618

Generator's Phone

5. Transporter Company Name

ICON Environmental Services  
CLEARWATER ENVIRONMENTAL SERVICES

6. US EPA ID Number

CAL 000 362 980  
~~CAL 000 007 013~~

7. Transporter Phone

(510) 476-1740

8. Designated Facility Name and Site Address

Icon Environmental Services Inc  
1220 Whipple Rd  
Union City Ca 94587

9. US EPA ID Number

CAL 000 369 026

10. Facility's Phone

510-476-1740

11. Waste Shipping Name and Description

a. Non-Hazardous waste, Liquid

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

001

Dm

25

G

15. Special Handling Instructions and Additional Information

Wear PPE  
Emergency Contact  
(510) 476-1740  
Attn: Charles Seaton

Handling Codes for Wastes Listed Above

11a.

11b.

H-141

Cust: IGGTR

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to state or federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

John Accacia

Month Day Year  
11/11/14

17. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Charles Seaton

Month Day Year  
11/07/14

18. Discrepancy Indication Space

19. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 18.

Printed/Typed Name

Signature

Charles Seaton

Month Day Year  
11/11/14



Golden Gate Environmental, Inc  
1455 Yosemite Avenue  
San Francisco, California 94124  
Tel: (415) 686-8846 cell  
RE: 5930 College Avenue, Oakland

Work Order No.: 1410120

Dear Brent Wheeler:

Torrent Laboratory, Inc. received 4 sample(s) on October 21, 2014 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

A handwritten signature in blue ink, appearing to read "Patti Sandrock", is written over a horizontal line.

\_\_\_\_\_  
Patti Sandrock  
QA Officer

October 28, 2014  
\_\_\_\_\_  
Date



**Date:** 10/28/2014

---

**Client:** Golden Gate Environmental, Inc

**Project:** 5930 College Avenue, Oakland

**Work Order:** 1410120

### **CASE NARRATIVE**

---

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

This report shall not be reproduced, except in full, without the written approval of Torrent Analytical, Inc.

Analytical comments for METHOD 8260B: Although the Method Blank associated with QC Batch ID 422934 had a reportable level of Dichlorodifluoromethane and Bromomethane, no samples associated with had detectable levels of either compound present and/or was not a compound of concern. No corrective action is required.





### Sample Result Summary

Report prepared for: Brent Wheeler  
Golden Gate Environmental, Inc

Date Received: 10/21/14  
Date Reported: 10/28/14  
1410120-001

MW-1

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Gasoline	8260TPH	42	1300	2100	18000	ug/L
MTBE	SW8260B	42	7.2	21	63	ug/L
Benzene	SW8260B	42	3.7	21	5600	ug/L
Toluene	SW8260B	42	2.5	21	300	ug/L
Ethyl Benzene	SW8260B	42	3.1	21	2000	ug/L
m,p-Xylene	SW8260B	42	5.6	42	770	ug/L
o-Xylene	SW8260B	42	3.2	21	140	ug/L
Naphthalene	SW8260B	42	5.7	42	300	ug/L
TPH as Diesel	SW8015B(M)	1	0.0400	0.10	2.0	mg/L
Naphthalene	SW8270C	5	5.2	20	110	ug/L
2-Methylnaphthalene	SW8270C	5	4.6	20	110	ug/L
1-Methylnaphthalene	SW8270C	5	4.6	20	69	ug/L



### Sample Result Summary

Report prepared for: Brent Wheeler  
Golden Gate Environmental, Inc

Date Received: 10/21/14  
Date Reported: 10/28/14  
1410120-002

MW-2

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
MTBE	SW8260B	2.1	0.36	1.1	15	ug/L
tert-Butanol	SW8260B	2.1	3.2	11	27	ug/L
Benzene	SW8260B	2.1	0.18	1.1	140	ug/L
Toluene	SW8260B	2.1	0.12	1.1	5.6	ug/L
Ethyl Benzene	SW8260B	2.1	0.16	1.1	73	ug/L
m,p-Xylene	SW8260B	2.1	0.28	2.1	19	ug/L
o-Xylene	SW8260B	2.1	0.16	1.1	1.9	ug/L
Naphthalene	SW8260B	2.1	0.28	2.1	24	ug/L
TPH as Gasoline	8260TPH	42	1300	2100	8600	ug/L
Naphthalene	SW8270C	1	1.0	4.0	12	ug/L
1-Methylnaphthalene	SW8270C	1	0.93	4.0	44	ug/L
2-Methylnaphthalene	SW8270C	10	9.3	40	68	ug/L
TPH as Diesel	SW8015B(M)	5	0.200	0.50	3.7	mg/L



## Sample Result Summary

Report prepared for: Brent Wheeler  
Golden Gate Environmental, Inc

Date Received: 10/21/14  
Date Reported: 10/28/14  
1410120-003

MW-3

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
MTBE	SW8260B	2.1	0.36	1.1	9.2	ug/L
Benzene	SW8260B	2.1	0.18	1.1	180	ug/L
1,2-Dichloroethane	SW8260B	2.1	0.24	1.1	1.4	ug/L
Toluene	SW8260B	2.1	0.12	1.1	8.4	ug/L
Ethyl Benzene	SW8260B	2.1	0.16	1.1	21	ug/L
m,p-Xylene	SW8260B	2.1	0.28	2.1	11	ug/L
TPH as Gasoline	8260TPH	8.4	260	420	9200	ug/L
Naphthalene	SW8270C	1	1.0	4.0	6.5	ug/L
Phenanthrene	SW8270C	1	0.45	4.0	4.2	ug/L
Fluoranthene	SW8270C	1	0.43	4.0	13	ug/L
Pyrene	SW8270C	1	0.46	4.0	12	ug/L
TPH as Diesel	SW8015B(M)	25	1.00	2.5	25	mg/L
2-Methylnaphthalene	SW8270C	4	3.7	16	72	ug/L
1-Methylnaphthalene	SW8270C	4	3.7	16	80	ug/L



## Sample Result Summary

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14

**Date Reported:** 10/28/14

PW-1

1410120-004

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Gasoline	8260TPH	1	31	50	380	ug/L
cis-1,2-Dichloroethene	SW8260B	1	0.19	0.50	33	ug/L
Chloroform	SW8260B	1	0.13	0.50	3.5	ug/L
Benzene	SW8260B	1	0.13	0.50	2.4	ug/L
Trichloroethylene	SW8260B	1	0.13	0.50	6.4	ug/L
Tetrachloroethylene	SW8260B	1	0.14	0.50	36	ug/L
1,1,2-Trichloroethane	SW8260B	1	0.14	0.50	4.5	ug/L
Ethyl Benzene	SW8260B	1	0.15	0.50	11	ug/L
m,p-Xylene	SW8260B	1	0.13	1.0	4.0	ug/L
Isopropyl Benzene	SW8260B	1	0.097	0.50	1.8	ug/L
n-Propylbenzene	SW8260B	1	0.078	0.50	2.9	ug/L
1,3,5-Trimethylbenzene	SW8260B	1	0.074	0.50	1.0	ug/L
1,2,4-Trimethylbenzene	SW8260B	1	0.083	0.50	2.3	ug/L
sec-Butyl Benzene	SW8260B	1	0.092	0.50	1.6	ug/L
Naphthalene	SW8260B	1	0.14	1.0	2.3	ug/L
TPH as Diesel	SW8015B(M)	1	0.0400	0.10	0.14	mg/L



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-1	<b>Lab Sample ID:</b>	1410120-001A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:32		
<b>Tag Number:</b>	5930 College Avenue, Oakland		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/22/14	42	7.2	21	63		ug/L	422934	NA
tert-Butanol	SW8260B	NA	10/22/14	42	65	210	ND		ug/L	422934	NA
Benzene	SW8260B	NA	10/22/14	42	3.7	21	5600		ug/L	422934	NA
1,2-Dichloroethane	SW8260B	NA	10/22/14	42	4.7	21	ND		ug/L	422934	NA
Toluene	SW8260B	NA	10/22/14	42	2.5	21	300		ug/L	422934	NA
1,2-Dibromoethane	SW8260B	NA	10/22/14	42	2.8	21	ND		ug/L	422934	NA
Ethyl Benzene	SW8260B	NA	10/22/14	42	3.1	21	2000		ug/L	422934	NA
m,p-Xylene	SW8260B	NA	10/22/14	42	5.6	42	770		ug/L	422934	NA
o-Xylene	SW8260B	NA	10/22/14	42	3.2	21	140		ug/L	422934	NA
Naphthalene	SW8260B	NA	10/22/14	42	5.7	42	300		ug/L	422934	NA
(S) Dibromofluoromethane	SW8260B	NA	10/22/14	42	61.2	131	99.1		%	422934	NA
(S) Toluene-d8	SW8260B	NA	10/22/14	42	75.1	127	91.3		%	422934	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/22/14	42	64.1	120	96.6		%	422934	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Gasoline	8260TPH	10/21/14	10/21/14	42	1300	2100	18000	x	ug/L	422932	12994
(S) 4-Bromofluorobenzene	8260TPH	10/21/14	10/21/14	42	41.5	125	89.8		%	422932	12994

**NOTE:** x - Although TPH as Gasoline constituents are present, sample chromatogram does not resemble pattern of reference Gasoline standard.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-1	<b>Lab Sample ID:</b>	1410120-001B
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:32		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
Acenaphthylene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Acenaphthene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Fluorene	SW8270C	10/24/14	10/24/14	1	0.60	4.0	ND		ug/L	422986	13014
Phenanthrene	SW8270C	10/24/14	10/24/14	1	0.45	4.0	ND		ug/L	422986	13014
Anthracene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
Fluoranthene	SW8270C	10/24/14	10/24/14	1	0.43	4.0	ND		ug/L	422986	13014
Pyrene	SW8270C	10/24/14	10/24/14	1	0.46	4.0	ND		ug/L	422986	13014
Benz[a]anthracene	SW8270C	10/24/14	10/24/14	1	0.44	4.0	ND		ug/L	422986	13014
Chrysene	SW8270C	10/24/14	10/24/14	1	0.64	4.0	ND		ug/L	422986	13014
Benzo[b]fluoranthene	SW8270C	10/24/14	10/24/14	1	1.2	4.0	ND		ug/L	422986	13014
Benzo[k]fluoranthene	SW8270C	10/24/14	10/24/14	1	2.1	4.0	ND		ug/L	422986	13014
Benzo[a]pyrene	SW8270C	10/24/14	10/24/14	1	0.28	4.0	ND		ug/L	422986	13014
Indeno[1,2,3-cd]pyrene	SW8270C	10/24/14	10/24/14	1	0.55	4.0	ND		ug/L	422986	13014
Dibenz[a,h]anthracene	SW8270C	10/24/14	10/24/14	1	1.4	4.0	ND		ug/L	422986	13014
Benzo[g,h,i]perylene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
2-Fluorobiphenyl (S)	SW8270C	10/24/14	10/24/14	1	41.4	120	67.8		%	422986	13014
p-Terphenyl-d14 (S)	SW8270C	10/24/14	10/24/14	1	35.3	135	134		%	422986	13014
Naphthalene	SW8270C	10/24/14	10/27/14	5	5.2	20	110		ug/L	422995	13014
2-Methylnaphthalene	SW8270C	10/24/14	10/27/14	5	4.6	20	110		ug/L	422995	13014
1-Methylnaphthalene	SW8270C	10/24/14	10/27/14	5	4.6	20	69		ug/L	422995	13014

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/23/14	10/23/14	1	0.0400	0.10	2.0	x	mg/L	422960	13005
TPH as Motor Oil	SW8015B(M)	10/23/14	10/23/14	1	0.0900	0.40	ND		mg/L	422960	13005
Pentacosane (S)	SW8015B(M)	10/23/14	10/23/14	1	64.2	123	85.2		%	422960	13005

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range lighter than diesel quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-2	<b>Lab Sample ID:</b>	1410120-002A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:30		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/27/14	2.1	0.36	1.1	15		ug/L	422991	NA
tert-Butanol	SW8260B	NA	10/27/14	2.1	3.2	11	27		ug/L	422991	NA
Benzene	SW8260B	NA	10/27/14	2.1	0.18	1.1	140		ug/L	422991	NA
1,2-Dichloroethane	SW8260B	NA	10/27/14	2.1	0.24	1.1	ND		ug/L	422991	NA
Toluene	SW8260B	NA	10/27/14	2.1	0.12	1.1	5.6		ug/L	422991	NA
1,2-Dibromoethane	SW8260B	NA	10/27/14	2.1	0.14	1.1	ND		ug/L	422991	NA
Ethyl Benzene	SW8260B	NA	10/27/14	2.1	0.16	1.1	73		ug/L	422991	NA
m,p-Xylene	SW8260B	NA	10/27/14	2.1	0.28	2.1	19		ug/L	422991	NA
o-Xylene	SW8260B	NA	10/27/14	2.1	0.16	1.1	1.9		ug/L	422991	NA
Naphthalene	SW8260B	NA	10/27/14	2.1	0.28	2.1	24		ug/L	422991	NA
(S) Dibromofluoromethane	SW8260B	NA	10/27/14	2.1	61.2	131	93.4		%	422991	NA
(S) Toluene-d8	SW8260B	NA	10/27/14	2.1	75.1	127	93.3		%	422991	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/27/14	2.1	64.1	120	88.6		%	422991	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Gasoline	8260TPH	10/21/14	10/21/14	42	1300	2100	8600	x	ug/L	422932	12994
(S) 4-Bromofluorobenzene	8260TPH	10/21/14	10/21/14	42	41.5	125	59.6		%	422932	12994

**NOTE:** x - Although TPH as Gasoline constituents are present, sample chromatogram does not resemble pattern of reference Gasoline standard.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-2	<b>Lab Sample ID:</b>	1410120-002B
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:30		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
Naphthalene	SW8270C	10/24/14	10/24/14	1	1.0	4.0	12		ug/L	422986	13014
1-Methylnaphthalene	SW8270C	10/24/14	10/24/14	1	0.93	4.0	44		ug/L	422986	13014
Acenaphthylene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Acenaphthene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Fluorene	SW8270C	10/24/14	10/24/14	1	0.60	4.0	ND		ug/L	422986	13014
Phenanthrene	SW8270C	10/24/14	10/24/14	1	0.45	4.0	ND		ug/L	422986	13014
Anthracene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
Fluoranthene	SW8270C	10/24/14	10/24/14	1	0.43	4.0	ND		ug/L	422986	13014
Pyrene	SW8270C	10/24/14	10/24/14	1	0.46	4.0	ND		ug/L	422986	13014
Benz[a]anthracene	SW8270C	10/24/14	10/24/14	1	0.44	4.0	ND		ug/L	422986	13014
Chrysene	SW8270C	10/24/14	10/24/14	1	0.64	4.0	ND		ug/L	422986	13014
Benzo[b]fluoranthene	SW8270C	10/24/14	10/24/14	1	1.2	4.0	ND		ug/L	422986	13014
Benzo[k]fluoranthene	SW8270C	10/24/14	10/24/14	1	2.1	4.0	ND		ug/L	422986	13014
Benzo[a]pyrene	SW8270C	10/24/14	10/24/14	1	0.28	4.0	ND		ug/L	422986	13014
Indeno[1,2,3-cd]pyrene	SW8270C	10/24/14	10/24/14	1	0.55	4.0	ND		ug/L	422986	13014
Dibenz[a,h]anthracene	SW8270C	10/24/14	10/24/14	1	1.4	4.0	ND		ug/L	422986	13014
Benzo[g,h,i]perylene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
2-Fluorobiphenyl (S)	SW8270C	10/24/14	10/24/14	1	41.4	120	67.2		%	422986	13014
p-Terphenyl-d14 (S)	SW8270C	10/24/14	10/24/14	1	35.3	135	72.7		%	422986	13014
2-Methylnaphthalene	SW8270C	10/24/14	10/27/14	10	9.3	40	68		ug/L	422995	13014

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/23/14	10/23/14	5	0.200	0.50	3.7	x	mg/L	422960	13005
TPH as Motor Oil	SW8015B(M)	10/23/14	10/23/14	5	0.450	2.0	ND		mg/L	422960	13005
Pentacosane (S)	SW8015B(M)	10/23/14	10/23/14	5	64.2	123	85.0		%	422960	13005

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range lighter than diesel quantified as diesel.





## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-3	<b>Lab Sample ID:</b>	1410120-003A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:12		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/22/14	2.1	0.36	1.1	9.2		ug/L	422934	NA
tert-Butanol	SW8260B	NA	10/22/14	2.1	3.2	11	ND		ug/L	422934	NA
Benzene	SW8260B	NA	10/22/14	2.1	0.18	1.1	180		ug/L	422934	NA
1,2-Dichloroethane	SW8260B	NA	10/22/14	2.1	0.24	1.1	1.4		ug/L	422934	NA
Toluene	SW8260B	NA	10/22/14	2.1	0.12	1.1	8.4		ug/L	422934	NA
1,2-Dibromoethane	SW8260B	NA	10/22/14	2.1	0.14	1.1	ND		ug/L	422934	NA
Ethyl Benzene	SW8260B	NA	10/22/14	2.1	0.16	1.1	21		ug/L	422934	NA
m,p-Xylene	SW8260B	NA	10/22/14	2.1	0.28	2.1	11		ug/L	422934	NA
o-Xylene	SW8260B	NA	10/22/14	2.1	0.16	1.1	ND		ug/L	422934	NA
Naphthalene	SW8260B	NA	10/22/14	2.1	0.28	2.1	ND		ug/L	422934	NA
(S) Dibromofluoromethane	SW8260B	NA	10/22/14	2.1	61.2	131	109		%	422934	NA
(S) Toluene-d8	SW8260B	NA	10/22/14	2.1	75.1	127	93.9		%	422934	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/22/14	2.1	64.1	120	99.0		%	422934	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Gasoline	8260TPH	10/21/14	10/21/14	8.4	260	420	9200	x	ug/L	422932	12994
(S) 4-Bromofluorobenzene	8260TPH	10/21/14	10/21/14	8.4	41.5	125	101		%	422932	12994

**NOTE:** x - Although TPH as Gasoline constituents are present, sample chromatogram does not resemble pattern of reference Gasoline standard.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	MW-3	<b>Lab Sample ID:</b>	1410120-003B
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 16:12		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
Naphthalene	SW8270C	10/24/14	10/24/14	1	1.0	4.0	6.5		ug/L	422986	13014
Acenaphthylene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Acenaphthene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Fluorene	SW8270C	10/24/14	10/24/14	1	0.60	4.0	ND		ug/L	422986	13014
Phenanthrene	SW8270C	10/24/14	10/24/14	1	0.45	4.0	4.2		ug/L	422986	13014
Anthracene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
Fluoranthene	SW8270C	10/24/14	10/24/14	1	0.43	4.0	13		ug/L	422986	13014
Pyrene	SW8270C	10/24/14	10/24/14	1	0.46	4.0	12		ug/L	422986	13014
Benz[a]anthracene	SW8270C	10/24/14	10/24/14	1	0.44	4.0	ND		ug/L	422986	13014
Chrysene	SW8270C	10/24/14	10/24/14	1	0.64	4.0	ND		ug/L	422986	13014
Benzo[b]fluoranthene	SW8270C	10/24/14	10/24/14	1	1.2	4.0	ND		ug/L	422986	13014
Benzo[k]fluoranthene	SW8270C	10/24/14	10/24/14	1	2.1	4.0	ND		ug/L	422986	13014
Benzo[a]pyrene	SW8270C	10/24/14	10/24/14	1	0.28	4.0	ND		ug/L	422986	13014
Indeno[1,2,3-cd]pyrene	SW8270C	10/24/14	10/24/14	1	0.55	4.0	ND		ug/L	422986	13014
Dibenz[a,h]anthracene	SW8270C	10/24/14	10/24/14	1	1.4	4.0	ND		ug/L	422986	13014
Benzo[g,h,i]perylene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
2-Fluorobiphenyl (S)	SW8270C	10/24/14	10/24/14	1	41.4	120	103		%	422986	13014
p-Terphenyl-d14 (S)	SW8270C	10/24/14	10/24/14	1	35.3	135	72.4		%	422986	13014
2-Methylnaphthalene	SW8270C	10/24/14	10/27/14	4	3.7	16	72		ug/L	422995	13014
1-Methylnaphthalene	SW8270C	10/24/14	10/27/14	4	3.7	16	80		ug/L	422995	13014

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/23/14	10/23/14	25	1.00	2.5	25	x	mg/L	422960	13005
TPH as Motor Oil	SW8015B(M)	10/23/14	10/23/14	25	2.25	10	ND		mg/L	422960	13005
Pentacosane (S)	SW8015B(M)	10/23/14	10/23/14	25	64.2	123	0.000	D	%	422960	13005

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range lighter than diesel quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	PW-1	<b>Lab Sample ID:</b>	1410120-004A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 15:00		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
Dichlorodifluoromethane	SW8260B	NA	10/28/14	1	0.18	0.50	ND		ug/L	423006	NA
Chloromethane	SW8260B	NA	10/28/14	1	0.16	0.50	ND		ug/L	423006	NA
Vinyl Chloride	SW8260B	NA	10/28/14	1	0.16	0.50	ND		ug/L	423006	NA
Bromomethane	SW8260B	NA	10/28/14	1	0.18	0.50	ND		ug/L	423006	NA
Trichlorofluoromethane	SW8260B	NA	10/28/14	1	0.18	0.50	ND		ug/L	423006	NA
1,1-Dichloroethene	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
Freon 113	SW8260B	NA	10/28/14	1	0.19	0.50	ND		ug/L	423006	NA
Methylene Chloride	SW8260B	NA	10/28/14	1	0.23	5.0	ND		ug/L	423006	NA
trans-1,2-Dichloroethene	SW8260B	NA	10/28/14	1	0.19	0.50	ND		ug/L	423006	NA
MTBE	SW8260B	NA	10/28/14	1	0.17	0.50	ND		ug/L	423006	NA
tert-Butanol	SW8260B	NA	10/28/14	1	1.5	5.0	ND		ug/L	423006	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/28/14	1	0.13	0.50	ND		ug/L	423006	NA
1,1-Dichloroethane	SW8260B	NA	10/28/14	1	0.13	0.50	ND		ug/L	423006	NA
ETBE	SW8260B	NA	10/28/14	1	0.17	0.50	ND		ug/L	423006	NA
cis-1,2-Dichloroethene	SW8260B	NA	10/28/14	1	0.19	0.50	33		ug/L	423006	NA
2,2-Dichloropropane	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
Bromochloromethane	SW8260B	NA	10/28/14	1	0.20	0.50	ND		ug/L	423006	NA
Chloroform	SW8260B	NA	10/28/14	1	0.13	0.50	3.5		ug/L	423006	NA
Carbon Tetrachloride	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
1,1,1-Trichloroethane	SW8260B	NA	10/28/14	1	0.097	0.50	ND		ug/L	423006	NA
1,1-Dichloropropene	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
Benzene	SW8260B	NA	10/28/14	1	0.13	0.50	2.4		ug/L	423006	NA
TAME	SW8260B	NA	10/28/14	1	0.17	0.50	ND		ug/L	423006	NA
1,2-Dichloroethane	SW8260B	NA	10/28/14	1	0.14	0.50	ND		ug/L	423006	NA
Trichloroethylene	SW8260B	NA	10/28/14	1	0.13	0.50	6.4		ug/L	423006	NA
Dibromomethane	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
1,2-Dichloropropane	SW8260B	NA	10/28/14	1	0.17	0.50	ND		ug/L	423006	NA
Bromodichloromethane	SW8260B	NA	10/28/14	1	0.13	0.50	ND		ug/L	423006	NA
cis-1,3-Dichloropropene	SW8260B	NA	10/28/14	1	0.096	0.50	ND		ug/L	423006	NA
Toluene	SW8260B	NA	10/28/14	1	0.14	0.50	ND		ug/L	423006	NA
Tetrachloroethylene	SW8260B	NA	10/28/14	1	0.14	0.50	36		ug/L	423006	NA
trans-1,3-Dichloropropene	SW8260B	NA	10/28/14	1	0.23	0.50	ND		ug/L	423006	NA
1,1,2-Trichloroethane	SW8260B	NA	10/28/14	1	0.14	0.50	4.5		ug/L	423006	NA
Dibromochloromethane	SW8260B	NA	10/28/14	1	0.096	0.50	ND		ug/L	423006	NA
1,3-Dichloropropane	SW8260B	NA	10/28/14	1	0.10	0.50	ND		ug/L	423006	NA



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	PW-1	<b>Lab Sample ID:</b>	1410120-004A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 15:00		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
1,2-Dibromoethane	SW8260B	NA	10/28/14	1	0.19	0.50	ND		ug/L	423006	NA
Chlorobenzene	SW8260B	NA	10/28/14	1	0.14	0.50	ND		ug/L	423006	NA
Ethyl Benzene	SW8260B	NA	10/28/14	1	0.15	0.50	11		ug/L	423006	NA
1,1,1,2-Tetrachloroethane	SW8260B	NA	10/28/14	1	0.096	0.50	ND		ug/L	423006	NA
m,p-Xylene	SW8260B	NA	10/28/14	1	0.13	1.0	4.0		ug/L	423006	NA
o-Xylene	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
Styrene	SW8260B	NA	10/28/14	1	0.21	0.50	ND		ug/L	423006	NA
Bromoform	SW8260B	NA	10/28/14	1	0.21	1.0	ND		ug/L	423006	NA
Isopropyl Benzene	SW8260B	NA	10/28/14	1	0.097	0.50	1.8		ug/L	423006	NA
Bromobenzene	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
1,1,2,2-Tetrachloroethane	SW8260B	NA	10/28/14	1	0.11	0.50	ND		ug/L	423006	NA
n-Propylbenzene	SW8260B	NA	10/28/14	1	0.078	0.50	2.9		ug/L	423006	NA
2-Chlorotoluene	SW8260B	NA	10/28/14	1	0.076	0.50	ND		ug/L	423006	NA
1,3,5-Trimethylbenzene	SW8260B	NA	10/28/14	1	0.074	0.50	1.0		ug/L	423006	NA
4-Chlorotoluene	SW8260B	NA	10/28/14	1	0.088	0.50	ND		ug/L	423006	NA
tert-Butylbenzene	SW8260B	NA	10/28/14	1	0.081	0.50	ND		ug/L	423006	NA
1,2,3-Trichloropropane	SW8260B	NA	10/28/14	1	0.14	0.50	ND		ug/L	423006	NA
1,2,4-Trimethylbenzene	SW8260B	NA	10/28/14	1	0.083	0.50	2.3		ug/L	423006	NA
sec-Butyl Benzene	SW8260B	NA	10/28/14	1	0.092	0.50	1.6		ug/L	423006	NA
p-Isopropyltoluene	SW8260B	NA	10/28/14	1	0.093	0.50	ND		ug/L	423006	NA
1,3-Dichlorobenzene	SW8260B	NA	10/28/14	1	0.10	0.50	ND		ug/L	423006	NA
1,4-Dichlorobenzene	SW8260B	NA	10/28/14	1	0.069	0.50	ND		ug/L	423006	NA
n-Butylbenzene	SW8260B	NA	10/28/14	1	0.081	0.50	ND		ug/L	423006	NA
1,2-Dichlorobenzene	SW8260B	NA	10/28/14	1	0.057	0.50	ND		ug/L	423006	NA
1,2-Dibromo-3-Chloropropane	SW8260B	NA	10/28/14	1	0.15	0.50	ND		ug/L	423006	NA
Hexachlorobutadiene	SW8260B	NA	10/28/14	1	0.19	0.50	ND		ug/L	423006	NA
1,2,4-Trichlorobenzene	SW8260B	NA	10/28/14	1	0.12	0.50	ND		ug/L	423006	NA
Naphthalene	SW8260B	NA	10/28/14	1	0.14	1.0	2.3		ug/L	423006	NA
1,2,3-Trichlorobenzene	SW8260B	NA	10/28/14	1	0.23	0.50	ND		ug/L	423006	NA
(S) Dibromofluoromethane	SW8260B	NA	10/28/14	1	61.2	131	95.0		%	423006	NA
(S) Toluene-d8	SW8260B	NA	10/28/14	1	75.1	127	94.8		%	423006	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/28/14	1	64.1	120	97.9		%	423006	NA



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	PW-1	<b>Lab Sample ID:</b>	1410120-004A
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 15:00		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Gasoline	8260TPH	10/21/14	10/21/14	1	31	50	380	x	ug/L	422932	12994
(S) 4-Bromofluorobenzene	8260TPH	10/21/14	10/21/14	1	41.5	125	97.1		%	422932	12994

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.



## SAMPLE RESULTS

**Report prepared for:** Brent Wheeler  
Golden Gate Environmental, Inc

**Date Received:** 10/21/14  
**Date Reported:** 10/28/14

<b>Client Sample ID:</b>	PW-1	<b>Lab Sample ID:</b>	1410120-004B
<b>Project Name/Location:</b>	5930 College Avenue, Oakland	<b>Sample Matrix:</b>	Groundwater
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/20/14 / 15:00		
<b>Tag Number:</b>	5930 College Avenue		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
Naphthalene	SW8270C	10/24/14	10/24/14	1	1.0	4.0	ND		ug/L	422986	13014
2-Methylnaphthalene	SW8270C	10/24/14	10/24/14	1	0.93	4.0	ND		ug/L	422986	13014
1-Methylnaphthalene	SW8270C	10/24/14	10/24/14	1	0.93	4.0	ND		ug/L	422986	13014
Acenaphthylene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Acenaphthene	SW8270C	10/24/14	10/24/14	1	0.61	4.0	ND		ug/L	422986	13014
Fluorene	SW8270C	10/24/14	10/24/14	1	0.60	4.0	ND		ug/L	422986	13014
Phenanthrene	SW8270C	10/24/14	10/24/14	1	0.45	4.0	ND		ug/L	422986	13014
Anthracene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
Fluoranthene	SW8270C	10/24/14	10/24/14	1	0.43	4.0	ND		ug/L	422986	13014
Pyrene	SW8270C	10/24/14	10/24/14	1	0.46	4.0	ND		ug/L	422986	13014
Benz[a]anthracene	SW8270C	10/24/14	10/24/14	1	0.44	4.0	ND		ug/L	422986	13014
Chrysene	SW8270C	10/24/14	10/24/14	1	0.64	4.0	ND		ug/L	422986	13014
Benzo[b]fluoranthene	SW8270C	10/24/14	10/24/14	1	1.2	4.0	ND		ug/L	422986	13014
Benzo[k]fluoranthene	SW8270C	10/24/14	10/24/14	1	2.1	4.0	ND		ug/L	422986	13014
Benzo[a]pyrene	SW8270C	10/24/14	10/24/14	1	0.28	4.0	ND		ug/L	422986	13014
Indeno[1,2,3-cd]pyrene	SW8270C	10/24/14	10/24/14	1	0.55	4.0	ND		ug/L	422986	13014
Dibenz[a,h]anthracene	SW8270C	10/24/14	10/24/14	1	1.4	4.0	ND		ug/L	422986	13014
Benzo[g,h,i]perylene	SW8270C	10/24/14	10/24/14	1	0.50	4.0	ND		ug/L	422986	13014
2-Fluorobiphenyl (S)	SW8270C	10/24/14	10/24/14	1	41.4	120	103		%	422986	13014
p-Terphenyl-d14 (S)	SW8270C	10/24/14	10/24/14	1	35.3	135	80.9		%	422986	13014

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/23/14	10/23/14	1	0.0400	0.10	0.14	x	mg/L	422960	13005
TPH as Motor Oil	SW8015B(M)	10/23/14	10/23/14	1	0.0900	0.40	ND		mg/L	422960	13005
Pentacosane (S)	SW8015B(M)	10/23/14	10/23/14	1	64.2	123	89.1		%	422960	13005

**NOTE:** x- Diesel result due to unknown organics within quantified range.



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	5030	<b>Prep Date:</b>	10/21/14	<b>Prep Batch:</b>	12994
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	10/21/14	<b>Analytical Batch:</b>	422932
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
------------	-----	-----	--------------------	---------------	--

TPH as Gasoline	31	50	ND		
(S) 4-Bromofluorobenzene			83.8		

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	3510_TPH	<b>Prep Date:</b>	10/23/14	<b>Prep Batch:</b>	13005
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8015B(M)	<b>Analyzed Date:</b>	10/23/14	<b>Analytical Batch:</b>	422960
<b>Units:</b>	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
------------	-----	-----	--------------------	---------------	--

TPH as Diesel	0.0440	0.10	ND		
TPH as Motor Oil	0.0920	0.40	ND		
Pentacosane (S)			91.0		

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	3510_BNA	<b>Prep Date:</b>	10/24/14	<b>Prep Batch:</b>	13014
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8270C	<b>Analyzed Date:</b>	10/24/14	<b>Analytical Batch:</b>	422986
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
------------	-----	-----	--------------------	---------------	--

Naphthalene	1.0	4.0	ND		
2-Methylnaphthalene	0.93	4.0	ND		
1-Methylnaphthalene	0.93	4.0	ND		
Acenaphthylene	0.61	4.0	ND		
Acenaphthene	0.61	4.0	ND		
Fluorene	0.60	4.0	ND		
Phenanthrene	0.45	4.0	ND		
Anthracene	0.50	4.0	ND		
Fluoranthene	0.43	4.0	ND		
Pyrene	0.46	4.0	ND		
Benz[a]anthracene	0.44	4.0	ND		
Chrysene	0.64	4.0	ND		
Benzo[b]fluoranthene	1.2	4.0	ND		
Benzo[k]fluoranthene	2.1	4.0	ND		
Benzo[a]pyrene	0.28	4.0	ND		
Indeno[1,2,3-cd]pyrene	0.55	4.0	ND		
Dibenz[a,h]anthracene	1.4	4.0	ND		
Benzo[g,h,i]perylene	0.50	4.0	ND		



### MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	3510_BNA	<b>Prep Date:</b>	10/24/14	<b>Prep Batch:</b>	13014
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8270C	<b>Analyzed Date:</b>	10/24/14	<b>Analytical Batch:</b>	422986
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
------------	-----	-----	--------------------	---------------

2-Fluorobiphenyl (S)			103	
p-Terphenyl-d14 (S)			79.2	





## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/22/14	<b>Analytical Batch:</b>	422934
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Dichlorodifluoromethane	0.18	0.50	2.0	B	
Vinyl Chloride	0.16	0.50	ND		
Bromomethane	0.18	0.50	3.2	B	
Trichlorofluoromethane	0.18	0.50	ND		
1,1-Dichloroethene	0.15	0.50	ND		
Freon 113	0.19	0.50	ND		
Methylene Chloride	0.23	5.0	ND		
trans-1,2-Dichloroethene	0.19	0.50	ND		
MTBE	0.17	0.50	ND		
tert-Butanol	1.5	5.0	ND		
Diisopropyl ether (DIPE)	0.13	0.50	ND		
1,1-Dichloroethane	0.13	0.50	ND		
ETBE	0.17	0.50	ND		
cis-1,2-Dichloroethene	0.19	0.50	ND		
2,2-Dichloropropane	0.15	0.50	ND		
Bromochloromethane	0.20	0.50	ND		
Chloroform	0.13	0.50	ND		
Carbon Tetrachloride	0.15	0.50	ND		
1,1,1-Trichloroethane	0.097	0.50	ND		
1,1-Dichloropropene	0.15	0.50	0.30		
Benzene	0.13	0.50	0.15		
TAME	0.17	0.50	ND		
1,2-Dichloroethane	0.14	0.50	ND		
Trichloroethylene	0.13	0.50	ND		
Dibromomethane	0.15	0.50	ND		
1,2-Dichloropropane	0.17	0.50	ND		
Bromodichloromethane	0.13	0.50	ND		
cis-1,3-Dichloropropene	0.096	0.50	ND		
Toluene	0.14	0.50	ND		
Tetrachloroethylene	0.14	0.50	ND		
trans-1,3-Dichloropropene	0.23	0.50	ND		
1,1,2-Trichloroethane	0.14	0.50	ND		
Dibromochloromethane	0.096	0.50	ND		
1,3-Dichloropropane	0.10	0.50	ND		
1,2-Dibromoethane	0.19	0.50	ND		
Chlorobenzene	0.14	0.50	ND		
Ethyl Benzene	0.15	0.50	ND		
1,1,1,2-Tetrachloroethane	0.096	0.50	ND		
m,p-Xylene	0.13	1.0	ND		
o-Xylene	0.15	0.50	ND		
Styrene	0.21	0.50	ND		



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/22/14	<b>Analytical Batch:</b>	422934
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Bromoform	0.21	1.0	ND		
Isopropyl Benzene	0.097	0.50	ND		
Bromobenzene	0.15	0.50	ND		
1,1,2,2-Tetrachloroethane	0.11	0.50	ND		
n-Propylbenzene	0.078	0.50	ND		
2-Chlorotoluene	0.076	0.50	ND		
1,3,5,-Trimethylbenzene	0.074	0.50	ND		
4-Chlorotoluene	0.088	0.50	ND		
tert-Butylbenzene	0.081	0.50	ND		
1,2,3-Trichloropropane	0.14	0.50	ND		
1,2,4-Trimethylbenzene	0.083	0.50	ND		
sec-Butyl Benzene	0.092	0.50	ND		
p-Isopropyltoluene	0.093	0.50	ND		
1,3-Dichlorobenzene	0.10	0.50	ND		
1,4-Dichlorobenzene	0.069	0.50	ND		
n-Butylbenzene	0.081	0.50	ND		
1,2-Dichlorobenzene	0.057	0.50	ND		
1,2-Dibromo-3-Chloropropane	0.15	0.50	ND		
Hexachlorobutadiene	0.19	0.50	ND		
1,2,4-Trichlorobenzene	0.12	0.50	ND		
Naphthalene	0.14	1.0	ND		
1,2,3-Trichlorobenzene	0.23	0.50	ND		
(S) Dibromofluoromethane			99.2		
(S) Toluene-d8			92.2		
(S) 4-Bromofluorobenzene			96.1		
Ethanol	0.21	0.50	ND	TIC	



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/27/14	<b>Analytical Batch:</b>	422991
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Dichlorodifluoromethane	0.18	0.50	ND		
Chloromethane	0.16	0.50	ND		
Vinyl Chloride	0.16	0.50	ND		
Bromomethane	0.18	0.50	ND		
Trichlorofluoromethane	0.18	0.50	ND		
1,1-Dichloroethene	0.15	0.50	ND		
Freon 113	0.19	0.50	ND		
Methylene Chloride	0.23	5.0	ND		
trans-1,2-Dichloroethene	0.19	0.50	ND		
MTBE	0.17	0.50	ND		
tert-Butanol	1.5	5.0	4.8		
Diisopropyl ether (DIPE)	0.13	0.50	ND		
1,1-Dichloroethane	0.13	0.50	ND		
ETBE	0.17	0.50	ND		
cis-1,2-Dichloroethene	0.19	0.50	ND		
2,2-Dichloropropane	0.15	0.50	ND		
Bromochloromethane	0.20	0.50	ND		
Chloroform	0.13	0.50	ND		
Carbon Tetrachloride	0.15	0.50	ND		
1,1,1-Trichloroethane	0.097	0.50	ND		
1,1-Dichloropropene	0.15	0.50	ND		
Benzene	0.13	0.50	ND		
TAME	0.17	0.50	ND		
1,2-Dichloroethane	0.14	0.50	ND		
Trichloroethylene	0.13	0.50	ND		
Dibromomethane	0.15	0.50	ND		
1,2-Dichloropropane	0.17	0.50	ND		
Bromodichloromethane	0.13	0.50	ND		
cis-1,3-Dichloropropene	0.096	0.50	ND		
Toluene	0.14	0.50	ND		
Tetrachloroethylene	0.14	0.50	ND		
trans-1,3-Dichloropropene	0.23	0.50	ND		
1,1,2-Trichloroethane	0.14	0.50	ND		
Dibromochloromethane	0.096	0.50	ND		
1,3-Dichloropropane	0.10	0.50	ND		
1,2-Dibromoethane	0.19	0.50	ND		
Chlorobenzene	0.14	0.50	ND		
Ethyl Benzene	0.15	0.50	ND		
1,1,1,2-Tetrachloroethane	0.096	0.50	ND		
m,p-Xylene	0.13	1.0	ND		
o-Xylene	0.15	0.50	ND		



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/27/14	<b>Analytical Batch:</b>	422991
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.21	0.50	ND		
Bromoform	0.21	1.0	ND		
Isopropyl Benzene	0.097	0.50	ND		
Bromobenzene	0.15	0.50	ND		
1,1,2,2-Tetrachloroethane	0.11	0.50	ND		
n-Propylbenzene	0.078	0.50	ND		
2-Chlorotoluene	0.076	0.50	ND		
1,3,5,-Trimethylbenzene	0.074	0.50	ND		
4-Chlorotoluene	0.088	0.50	ND		
tert-Butylbenzene	0.081	0.50	ND		
1,2,3-Trichloropropane	0.14	0.50	ND		
1,2,4-Trimethylbenzene	0.083	0.50	ND		
sec-Butyl Benzene	0.092	0.50	ND		
p-Isopropyltoluene	0.093	0.50	ND		
1,3-Dichlorobenzene	0.10	0.50	ND		
1,4-Dichlorobenzene	0.069	0.50	ND		
n-Butylbenzene	0.081	0.50	ND		
1,2-Dichlorobenzene	0.057	0.50	ND		
1,2-Dibromo-3-Chloropropane	0.15	0.50	ND		
Hexachlorobutadiene	0.19	0.50	ND		
1,2,4-Trichlorobenzene	0.12	0.50	ND		
Naphthalene	0.14	1.0	ND		
1,2,3-Trichlorobenzene	0.23	0.50	ND		
(S) Dibromofluoromethane			97.2		
(S) Toluene-d8			92.9		
(S) 4-Bromofluorobenzene			89.7		
Ethanol	0.21	0.50	ND	TIC	



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/28/14	<b>Analytical Batch:</b>	423006
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Dichlorodifluoromethane	0.18	0.50	ND		
Chloromethane	0.16	0.50	ND		
Vinyl Chloride	0.16	0.50	ND		
Bromomethane	0.18	0.50	ND		
Trichlorofluoromethane	0.18	0.50	ND		
1,1-Dichloroethene	0.15	0.50	ND		
Freon 113	0.19	0.50	ND		
Methylene Chloride	0.23	5.0	ND		
trans-1,2-Dichloroethene	0.19	0.50	ND		
MTBE	0.17	0.50	ND		
tert-Butanol	1.5	5.0	ND		
Diisopropyl ether (DIPE)	0.13	0.50	ND		
1,1-Dichloroethane	0.13	0.50	ND		
ETBE	0.17	0.50	ND		
cis-1,2-Dichloroethene	0.19	0.50	ND		
2,2-Dichloropropane	0.15	0.50	ND		
Bromochloromethane	0.20	0.50	ND		
Chloroform	0.13	0.50	ND		
Carbon Tetrachloride	0.15	0.50	ND		
1,1,1-Trichloroethane	0.097	0.50	ND		
1,1-Dichloropropene	0.15	0.50	ND		
Benzene	0.13	0.50	ND		
TAME	0.17	0.50	ND		
1,2-Dichloroethane	0.14	0.50	ND		
Trichloroethylene	0.13	0.50	ND		
Dibromomethane	0.15	0.50	ND		
1,2-Dichloropropane	0.17	0.50	ND		
Bromodichloromethane	0.13	0.50	ND		
cis-1,3-Dichloropropene	0.096	0.50	ND		
Toluene	0.14	0.50	ND		
Tetrachloroethylene	0.14	0.50	ND		
trans-1,3-Dichloropropene	0.23	0.50	ND		
1,1,2-Trichloroethane	0.14	0.50	ND		
Dibromochloromethane	0.096	0.50	ND		
1,3-Dichloropropane	0.10	0.50	ND		
1,2-Dibromoethane	0.19	0.50	ND		
Chlorobenzene	0.14	0.50	ND		
Ethyl Benzene	0.15	0.50	ND		
1,1,1,2-Tetrachloroethane	0.096	0.50	ND		
m,p-Xylene	0.13	1.0	ND		
o-Xylene	0.15	0.50	ND		



## MB Summary Report

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/28/14	<b>Analytical Batch:</b>	423006
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.21	0.50	ND		
Bromoform	0.21	1.0	ND		
Isopropyl Benzene	0.097	0.50	ND		
Bromobenzene	0.15	0.50	ND		
1,1,2,2-Tetrachloroethane	0.11	0.50	ND		
n-Propylbenzene	0.078	0.50	ND		
2-Chlorotoluene	0.076	0.50	ND		
1,3,5,-Trimethylbenzene	0.074	0.50	ND		
4-Chlorotoluene	0.088	0.50	ND		
tert-Butylbenzene	0.081	0.50	ND		
1,2,3-Trichloropropane	0.14	0.50	ND		
1,2,4-Trimethylbenzene	0.083	0.50	ND		
sec-Butyl Benzene	0.092	0.50	ND		
p-Isopropyltoluene	0.093	0.50	ND		
1,3-Dichlorobenzene	0.10	0.50	ND		
1,4-Dichlorobenzene	0.069	0.50	ND		
n-Butylbenzene	0.081	0.50	0.10		
1,2-Dichlorobenzene	0.057	0.50	ND		
1,2-Dibromo-3-Chloropropane	0.15	0.50	ND		
Hexachlorobutadiene	0.19	0.50	ND		
1,2,4-Trichlorobenzene	0.12	0.50	0.12		
Naphthalene	0.14	1.0	0.27		
1,2,3-Trichlorobenzene	0.23	0.50	0.33		
(S) Dibromofluoromethane			96.7		
(S) Toluene-d8			95.7		
(S) 4-Bromofluorobenzene			105		
Ethanol	0.21	0.50	ND	TIC	



## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	5030	<b>Prep Date:</b>	10/21/14	<b>Prep Batch:</b>	12994
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	10/21/14	<b>Analytical Batch:</b>	422932
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Gasoline	31	50	ND	238.1	100	90.2	10.3	52.4 - 127	30	
(S) 4-Bromofluorobenzene			83.8	11.9	91.5	94.3		41.5 - 125		

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	3510_TPH	<b>Prep Date:</b>	10/23/14	<b>Prep Batch:</b>	13005
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8015B(M)	<b>Analyzed Date:</b>	10/23/14	<b>Analytical Batch:</b>	422960
<b>Units:</b>	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Diesel	0.0440	0.10	ND	1	79.4	90.2	12.7	50.3 - 125	30	
Pentacosane (S)			ND	100	92.7	104		57.9 - 125		

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	3510_BNA	<b>Prep Date:</b>	10/24/14	<b>Prep Batch:</b>	13014
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8270C	<b>Analyzed Date:</b>	10/24/14	<b>Analytical Batch:</b>	422986
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
Acenaphthene	0.61	4.0	ND	20	113	103	8.89	52.5 - 116	30	
Pyrene	0.46	4.0	ND	20	110	108	1.82	45.9 - 127	30	
2-Fluorobiphenyl (S)			ND	25	107	102		21.3 - 123		
p-Terphenyl-d14 (S)			ND	50	73.3	68.5		10 - 123		



## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/22/14	<b>Analytical Batch:</b>	422934
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.14	0.50	2.0	17.86	91.3	106	14.9	61.4 - 129	30	
Benzene	0.087	0.50	110	17.86	91.1	97.3	6.41	66.9 - 140	30	
Trichloroethylene	0.057	0.50	ND	17.86	85.8	88.7	3.53	69.3 - 144	30	
Toluene	0.059	0.50	3.2	17.86	88.7	91.4	2.61	76.6 - 123	30	
Chlorobenzene	0.068	0.50	ND	17.86	89.3	89.6	0.0625	73.9 - 137	30	
(S) Dibromofluoromethane			ND	11.9	93.7	95.4		61.2 - 131		
(S) Toluene-d8			ND	11.9	93.0	91.8		75.1 - 127		
(S) 4-Bromofluorobenzene			ND	11.9	89.2	93.7		64.1 - 120		

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/27/14	<b>Analytical Batch:</b>	422991
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.14	0.50	ND	17.86	98.9	88.4	11.5	61.4 - 129	30	
Benzene	0.087	0.50	ND	17.86	101	91.4	10.3	66.9 - 140	30	
Trichloroethylene	0.057	0.50	ND	17.86	100	92.5	8.02	69.3 - 144	30	
Toluene	0.059	0.50	ND	17.86	99.1	91.5	7.99	76.6 - 123	30	
Chlorobenzene	0.068	0.50	ND	17.86	101	95.6	5.86	73.9 - 137	30	
(S) Dibromofluoromethane			ND	11.9	95.5	95.5		61.2 - 131		
(S) Toluene-d8			ND	11.9	92.6	95.1		75.1 - 127		
(S) 4-Bromofluorobenzene			ND	11.9	87.1	87.3		64.1 - 120		





## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1410120	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Water	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/28/14	<b>Analytical Batch:</b>	423006
<b>Units:</b>	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.14	0.50	ND	17.86	83.0	73.9	11.4	61.4 - 129	30	
Benzene	0.087	0.50	ND	17.86	79.7	77.0	3.22	66.9 - 140	30	
Trichloroethylene	0.057	0.50	ND	17.86	76.1	72.9	4.35	69.3 - 144	30	
Toluene	0.059	0.50	ND	17.86	80.4	79.4	1.56	76.6 - 123	30	
Chlorobenzene	0.068	0.50	ND	17.86	81.8	82.6	1.02	73.9 - 137	30	
(S) Dibromofluoromethane			ND	11.9	98.2	98.9		61.2 - 131		
(S) Toluene-d8			ND	11.9	95.8	101		75.1 - 127		
(S) 4-Bromofluorobenzene			ND	11.9	102	99.0		64.1 - 120		



## Laboratory Qualifiers and Definitions

### DEFINITIONS:

<b>Accuracy/Bias (% Recovery)</b> - The closeness of agreement between an observed value and an accepted reference value.
<b>Blank (Method/Preparation Blank)</b> -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
<b>Duplicate</b> - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
<b>Laboratory Control Sample (LCS ad LCSD)</b> - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
<b>Matrix</b> - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
<b>Matrix Spike (MS/MSD)</b> - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
<b>Method Detection Limit (MDL)</b> - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
<b>Practical Quantitation Limit (PQL)</b> - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
<b>Precision (%RPD)</b> - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
<b>Surrogate (S) or (Surr)</b> - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
<b>Tentatively Identified Compound (TIC)</b> - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
<b>Units:</b> the unit of measure used to express the reported result - <b>mg/L</b> and <b>mg/Kg</b> (equivalent to PPM - parts per million in <b>liquid</b> and <b>solid</b> ), <b>ug/L</b> and <b>ug/Kg</b> (equivalent to PPB - parts per billion in <b>liquid</b> and <b>solid</b> ), <b>ug/m<sup>3</sup></b> , <b>mg.m<sup>3</sup></b> , <b>ppbv</b> and <b>ppmv</b> (all units of measure for reporting concentrations in air), % (equivalent to 10000 ppm or 1,000,000 ppb), <b>ug/Wipe</b> ( concentration found on the surface of a single Wipe usually taken over a 100cm <sup>2</sup> surface)

### LABORATORY QUALIFIERS:

<p><b>B</b> - Indicates when the analyte is found in the associated method or preparation blank</p> <p><b>D</b> - Surrogate is not recoverable due to the necessary dilution of the sample</p> <p><b>E</b> - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.</p> <p><b>H</b>- Indicates that the recommended holding time for the analyte or compound has been exceeded</p> <p><b>J</b>- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative</p> <p><b>NA</b> - Not Analyzed</p> <p><b>N/A</b> - Not Applicable</p> <p><b>NR</b> - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added</p> <p><b>R</b>- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts</p> <p><b>S</b>- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative</p> <p><b>X</b> -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



## Sample Receipt Checklist

Client Name: Golden Gate Environmental, Inc

Project Name: 5930 College Avenue, Oakland

Work Order No.: 1410120

Date and Time Received: 10/21/2014 11:15

Received By: ng

Physically Logged By: ng

Checklist Completed By: ng

Carrier Name: FedEx

### Chain of Custody (COC) Information

Chain of custody present? Yes  
Chain of custody signed when relinquished and received? Yes  
Chain of custody agrees with sample labels? Yes  
Custody seals intact on sample bottles? Not Present

### Sample Receipt Information

Custody seals intact on shipping container/cooler? Not Present  
Shipping Container/Cooler In Good Condition? Yes  
Samples in proper container/bottle? Yes  
Samples containers intact? Yes  
Sufficient sample volume for indicated test? Yes

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  
Container/Temp Blank temperature in compliance? Yes      Temperature: 3 °C  
Water-VOA vials have zero headspace? Yes  
Water-pH acceptable upon receipt? N/A  
pH Checked by: na      pH Adjusted by: na



## Login Summary Report

**Client ID:** TL5127 Golden Gate Environmental, Inc  
**Project Name:** 5930 College Avenue, Oakland  
**Project # :**  
**Report Due Date:** 10/28/2014

**QC Level:**  
**TAT Requested:** 5+ day:0  
**Date Received:** 10/21/2014  
**Time Received:** 11:15

**Comments:**

**Work Order # :** 1410120

<u>WO Sample ID</u>	<u>Client Sample ID</u>	<u>Collection Date/Time</u>	<u>Matrix</u>	<u>Scheduled Disposal</u>	<u>Sample On Hold</u>	<u>Test On Hold</u>	<u>Requested Tests</u>	<u>Subbed</u>
1410120-001A	MW-1	10/20/14 16:32	Water	12/05/14			EDF W_GCMS-GRO W_8260PetE	
<b>Sample Note:</b> TPHgas, BTEX, Naphthalene, MTBE, TBA, EDB, EDC. (for 001A, 002A & 003A).								
1410120-001B	MW-1	10/20/14 16:32	Water	12/05/14			W_TPHDO W_8270CPAH	
1410120-002A	MW-2	10/20/14 16:30	Water	12/05/14			W_GCMS-GRO W_8260PetE	
1410120-002B	MW-2	10/20/14 16:30	Water	12/05/14			W_TPHDO W_8270CPAH	
1410120-003A	MW-3	10/20/14 16:12	Water	12/05/14			W_GCMS-GRO W_8260PetE	
1410120-003B	MW-3	10/20/14 16:12	Water	12/05/14			W_TPHDO W_8270CPAH	
1410120-004A	PW-1	10/20/14 15:00	Water	12/05/14			W_8260Full W_GCMS-GRO	
<b>Sample Note:</b> Tests for 004A sample: TPHg, VOCs.								
1410120-004B	PW-1	10/20/14 15:00	Water	12/05/14			W_TPHDO W_8270CPAH	



483 Sinclair Frontage Road  
Milpitas, CA 95035  
Phone: 408.263.5258  
FAX: 408.263.8293  
www.torrentlab.com

### CHAIN OF CUSTODY

LAB WORK ORDER NO  
**1410120**

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

Company Name: <b>Golden Gate Environmental, Inc.</b>			Location of Sampling: <b>5930 College Avenue, Oakland</b>		
Address: <b>1455 Yosemite Avenue</b>			Purpose: <b>4th Quarter 2014 Groundwater Monitoring/Sampling</b>		
City: <b>San Francisco</b>	State: <b>CA</b>	Zip Code: <b>94124</b>	Special Instructions / Comments: <b>Global ID: T0600102112. Field Point ID=Sample ID</b>		
Telephone: <b>415-970-9088</b>		FAX: <b>415-970-9089</b>			
REPORT TO: <b>Brent Wheeler</b>		SAMPLER: <b>DEI RICHARD VASQUEZ</b>	P.O. #: <b>GGE 2014</b>	EMAIL: <b>b.wheeler@ggtr.com</b>	

<b>TURNAROUND TIME:</b> <input type="checkbox"/> 10 Work Days <input type="checkbox"/> 3 Work Days <input type="checkbox"/> Noon - Nxt Day <input type="checkbox"/> 7 Work Days <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 2 - 8 Hours <input checked="" type="checkbox"/> 5 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> Other	<b>SAMPLE TYPE:</b> <input type="checkbox"/> Storm Water <input type="checkbox"/> Air <input type="checkbox"/> Waste Water <input type="checkbox"/> Other <input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Soil	<b>REPORT FORMAT:</b> <input type="checkbox"/> QC Level IV <input checked="" type="checkbox"/> EDF <input type="checkbox"/> Excel / EDD	TPH-G (8260)	BTEX (8260)	Naphthalene (8260)	MTBE/TBA (8260)	EDB/EDC (8260)	VOCs (Full List)	TPH-D/MO	PAHs (8270)	<b>ANALYSIS REQUESTED</b>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	--------------	-------------	--------------------	-----------------	----------------	------------------	----------	-------------	---------------------------

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TPH-G (8260)	BTEX (8260)	Naphthalene (8260)	MTBE/TBA (8260)	EDB/EDC (8260)	VOCs (Full List)	TPH-D/MO	PAHs (8270)	REMARKS
001A/B	MW-1	10-20-14/ 1632	GW	8	Misc.	✓	✓	✓	✓	✓		✓	✓	
002A/B	MW-2	10-20-14/ 1630	GW	8	Misc.	✓	✓	✓	✓	✓		✓	✓	
003A/B	MW-3	10-20-14/ 1612	GW	8	Misc.	✓	✓	✓	✓	✓		✓	✓	
004A/B	PW-1	10-20-14/ 1500	GW	8	Misc.	✓					✓	✓	✓	
														Temp. 3°C
														REC NG LING LBLNG LIR

1	Relinquished By: <i>[Signature]</i>	Print:	Date: 10-20-14	Time: 1730	Received By: <i>[Signature]</i>	Print:	Date: 10-20-14	Time: 1730
2	Relinquished By: <i>[Signature]</i>	Print:	Date: 10-21-14	Time:	Received By: <i>[Signature]</i>	Print:	Date:	Time:

Were Samples Received in Good Condition?  Yes  NO    Samples on Ice?  Yes  NO    Method of Shipment FedEx City    Sample seals intact?  Yes  NO  N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrange -ments are made.    Page 1 of 1

Log In By: *[Signature]*    Date: 10/21/14    Log In Reviewed By: *[Signature]*    Date: 10/21/14 11:15 Am.

---

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A EDF FILE

**SUCCESS**

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<u>Submittal Type:</u>	EDF
<u>Report Title:</u>	Groundwater Monitoring Report - 4th Quarter 2014
<u>Report Type:</u>	Monitoring Report - Semi-Annually
<u>Facility Global ID:</u>	T0600102112
<u>Facility Name:</u>	SHEAFFS SERVICE GARAGE
<u>File Name:</u>	GGE 1410120 5930 College EDF Rev. 1.zip
<u>Organization Name:</u>	Golden Gate Environmental, Inc.
<u>Username:</u>	GGE
<u>IP Address:</u>	108.81.108.167
<u>Submittal Date/Time:</u>	11/12/2014 9:03:45 AM
<u>Confirmation Number:</u>	<b>8131421923</b>

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)

Copyright © 2014 State of California

---

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A GEO\_WELL FILE

**SUCCESS**

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<u>Submittal Type:</u>	GEO_WELL
<u>Report Title:</u>	Groundwater Monitoring Report - 4th Quarter 2014
<u>Facility Global ID:</u>	T0600102112
<u>Facility Name:</u>	SHEAFFS SERVICE GARAGE
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	Golden Gate Environmental, Inc.
<u>Username:</u>	GGE
<u>IP Address:</u>	108.81.108.167
<u>Submittal Date/Time:</u>	11/12/2014 9:01:39 AM
<u>Confirmation Number:</u>	<b>3778383374</b>

Copyright © 2014 State of California

---

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

UPLOADING A GEO\_REPORT FILE

**SUCCESS**

**Your GEO\_REPORT file has been successfully submitted!**

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Groundwater Monitoring Report - 4th Quarter 2014
<u>Report Type:</u>	Monitoring Report - Semi-Annually
<u>Report Date:</u>	11/24/2014
<u>Facility Global ID:</u>	T0600102112
<u>Facility Name:</u>	SHEAFFS SERVICE GARAGE
<u>File Name:</u>	2014_GWM Report_ 4Q14_112414.pdf
<u>Organization Name:</u>	Golden Gate Environmental, Inc.
<u>Username:</u>	GGE
<u>IP Address:</u>	108.81.108.167
<u>Submittal Date/Time:</u>	12/8/2014 12:21:39 PM
<u>Confirmation Number:</u>	<b>1258394360</b>

Copyright © 2014 State of California





## EPA On-line Tools for Site Assessment Calculation

### Hydraulic Gradient -- Magnitude and Direction

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

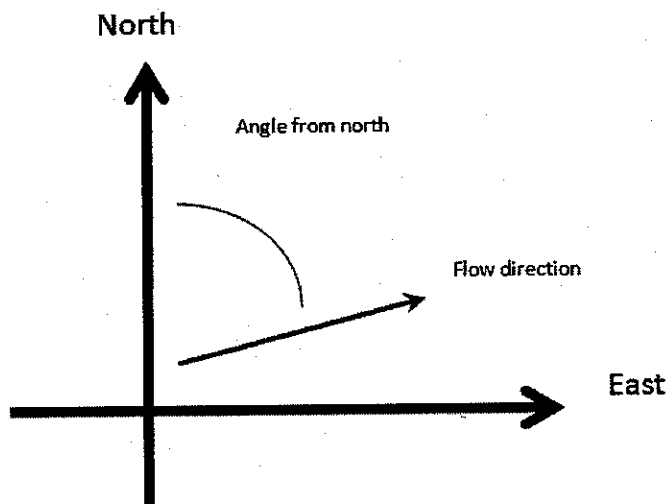
$$\begin{aligned}
 a x_1 + b y_1 + c &= h_1 \\
 a x_2 + b y_2 + c &= h_2 \\
 a x_3 + b y_3 + c &= h_3 \\
 &\dots \\
 a x_{30} + b y_{30} + c &= h_{30}
 \end{aligned}$$

where (x<sub>i</sub>,y<sub>i</sub>) are the coordinates of the well and  
h<sub>i</sub> is the head

i = 1,2,3, ... , 30

The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

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



#### Inputs

Example Data Set 1

Site Name

Date

Calculation basis

Coordinates

I.D. x-coordinate y-coordinate head

1)	MW-1	6055822.91	2135878.96	184.70
2)	MW-3	6055818.98	2135842.80	185.13
3)	PW-1	6055924.91	2135914.96	184.89
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				

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

**Results**

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.1311
Gradient Magnitude (i)	0.01407
Flow direction as degrees from North (positive y axis)	333.4
Coefficient of Determination (R <sup>2</sup> )	1.00

WCMS

Last updated on Thursday, January 10, 2013