



Alameda County

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Environmental Health

## QUARTERLY GROUNDWATER MONITORING REPORT

January 21, 2005

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

**ACHCSA Fuel Leak Case No. RO0000377**

Prepared For:

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## QUARTERLY GROUNDWATER MONITORING REPORT

January 21, 2004

5930 College Avenue, Oakland, California

### Introduction

This report presents the results and findings of the January 21, 2005 groundwater monitoring and sampling activities conducted by Golden Gate Tank Removal, Inc. (GGTR) at 5930 College Avenue in Oakland, California. This was the 17th quarterly monitoring event performed at the site for the three existing monitor wells, MW1 through MW3. The ACHCSA has designated the site as Fuel Leak Case No. RO000377. Figure 1, *Site Location Map*, shows the general location of the subject property in Oakland, California. The site, adjacent properties, and associated features are shown on the revised Figure 2, *Site Plan*. The groundwater elevation isocontour lines and associated gradient is shown on Figure 3, *Groundwater Elevation Potentiometric Map*. Table 1, *Historical Results of Groundwater Sample Analysis & Fluid-Level Data*, provides a tabulated summary of the laboratory results of historical groundwater sample analyses and fluid-level monitoring data at the site.

Gettler-Ryan, Inc. of Dublin, California is currently conducting a separate groundwater investigation for the former Chevron Station #20-9339 located adjacent to the north side of the subject property at 5940 College Avenue. Two groundwater monitoring wells (GR-MW1 & GR-MW2) are used to evaluate the hydrocarbon concentrations in groundwater at this site.

GGTR and Gettler-Ryan, Inc. has conducted joint monitoring and sampling activities at the associated sites on a quarterly basis since October 2000. As of the April 8, 2002 monitoring event, Gettler-Ryan has decreased their monitoring schedule to a biannual basis. Gettler-Ryan, Inc. performed their most recent biannual monitoring and sampling of GR-MW1 & GR-MW2 on October 22, 2004. Figures 2 and 3 show the location of each Gettler-Ryan well relative to the subject wells at 5930 College Avenue.

### **Site Location and Description**

The subject commercial property is 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 approximately 2.5 miles east of Interstate 80 and the San Francisco Bay. The general location of the site is shown on the attached Figure 1, *Site Location Map*.

The property is currently occupied by Sheaff's Garage for the service and repair of automobiles, with no active fuel storage or distribution systems. The site is approximately 5,500 square feet in area with about 75% utilized by a covered warehouse/garage and 25% used as an exterior (uncovered) storage yard. The ground surface of the entire property is paved with concrete. The elevation of the site is approximately 195 feet above Mean Sea Level (Figure 1). Figure 2 presents a *Site Plan* showing pertinent site structures and adjacent properties.

The property is relatively flat lying with the topographic relief in the immediate vicinity of the site generally directed toward the southwest (Figure 1). Regional topographic relief appears to be directed toward the west-southwest in the general direction of the San Francisco Bay. One 675-gallon gasoline UST and one 340-gallon waste oil UST were located beneath the sidewalk at the southwest corner of the site (Figure 2). The tanks were removed by GGTR in August 1996. A brief discussion of the tank removal activities is presented herein.

### **Site Geology and Hydrogeology**

According to a Geologic Map of the San Francisco-San Jose Quadrangle published by the California Department of Conservation, the site is underlain by up to 500 feet of dissected Quaternary alluvium deposited on marine sandstone, shale and conglomerate of the Mesozoic Franciscan Complex and possibly Mesozoic, cretaceous marine sedimentary rocks of the Great Valley Sequence (thicknesses not established). Native subsurface soil encountered at the site during the additional soil and groundwater investigation activities was predominantly a moist, dark yellowish brown, clayey silt up to approximately 7 fbg, overlying a dark yellowish brown and dark greenish gray, silty clay up to approximately 15 fbg. Moist to wet, clayey silt/sand and silty clay lenses extend up to a total explored sample depth of 20 fbg. Soil observed in soil borings B10 and B11 was predominantly a clayey, sandy silt.

Depth to groundwater, as measured on a quarterly basis in the three onsite monitoring wells (October 1999 through January 2005) ranged between approximately 5.22 and 13 fbg. The average depth to groundwater reported during the January 2005 monitoring event was approximately 5.77 fbg, with an associated mean groundwater elevation of 190.36 feet above Mean Sea Level. The associated groundwater gradient across the site historically has ranged between 0.005 (July 2001) and 0.032 (October 2002) foot per foot and the flow direction has fluctuated between 11° west of south (October 1999) to 71° east of north

(October 2002). The gradient measured during the January 2005 event was approximately 0.0125 ft/ft directed 16° west of south. The regional groundwater flow in the vicinity of the site is assumed to be towards the west-southwest, in the direction of the San Francisco Bay, and generally following the natural topographic relief of the area. *At this time, with no risk-based corrective action study performed to date at the site, shallow groundwater beneath the site is considered a potential drinking water source.*

The nearest surface water body is Claremont Creek, flowing southwest, with surface water flow ending approximately 0.9 mile northeast of the site. Creek flow then appears to continue southwest via an intermittent underground culvert and an open surface channel, and generally parallels Claremont Avenue towards its intersection with College Avenue, located approximately 0.1 mile (525 feet) north of the site (Figure 1). Lake Temescal, situated at an elevation approximately 200 feet higher than the site, is located approximately 1.1 miles east of the subject property, with effluent flow directed generally southeast.

### **Groundwater Sampling Field Procedures**

On January 21, 2005 GGTR monitored and sampled MW1 through MW3, in accordance with the requirements and procedures of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) and the ACHCSA. Prior to purging and sampling, GGTR removed the well cover and locking compression cap from each well and allowed the groundwater in each well column to stabilize for approximately 20 minutes. GGTR then measured and recorded the depth to groundwater and presence of floating product using a Keck® electronic oil/water interface probe. GGTR also measured the dissolved oxygen (DO) of the groundwater (in situ) using a YSI55® DO meter to assess the occurrence of biodegradation in shallow groundwater beneath the site. DO was measured prior to purging only. Fluid levels were measured relative to the north side of the top of each well casing to the nearest 0.01 foot.

GGTR then purged a minimum of three casing volumes from each well using a direct current, centrifugal purge pump, and simultaneously monitored and recorded the pH, temperature, and specific conductivity of the purged well water. Well purge water was transferred directly to a 55-gallon, D.O.T.-approved steel drum. After the groundwater in each well recharged to approximately 80% of its original level, GGTR collected a groundwater sample by lowering a disposable, bottom-fill, polyvinyl chloride (PVC) bailer to just below the well's air-water interface. The bailer was immediately removed from the well and the groundwater was carefully decanted from the bailer into pre-cleaned, laboratory-provided sample containers. All volatile organic analysis (VOA) vials were inverted and checked to insure that no entrapped air was present. The samples were sealed with Teflon caps, properly labeled, and stored in a cooler chilled to approximately 4°C.

## Water Sample Analytical Methods

On January 21, 2005, GGTR submitted the groundwater samples collected from the three monitoring wells under formal chain of custody command to NSL's State-certified, analytical laboratory (CA ELAP #1753) in South San Francisco, California for laboratory analysis of the following fuel constituents:

- Gasoline Range Organics (TPH-G; SW8020F)
- Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX; SW8020F)
- Methyl Tertiary-Butyl Ether (MTBE; SW8020F)
- Volatile Organic Compounds (EPA Method 8260), including lead scavengers 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC)

NSL completed all volatile organic analyses by January 26, 2005, which is in conformance with the 14-day required time limit for analysis. GGTR submitted all analytical data in electronic deliverable format in accordance with the State Water Resources Control Board Assembly Bill 2886 for submission to the State's GeoTracker database system. The analytical results for this event as well as those reported during historical monitoring events at the site are presented in Table 1. A copy of the Laboratory Certificates of Analysis, associated Chain of Custody Record, and Fluid-Level Monitoring and Well Purge/Sampling Data Sheets and Sampling Data Sheets are included in the Appendix.

## Quality Assurance / Quality Control

Quality Assurance and Quality Control details are shown on the laboratory Certificates of Analysis in the Appendix. The laboratory reported no quality assurance or quality control problems during the laboratory analysis procedures. All samples were analyzed within specified laboratory holding times.

## Groundwater Monitoring Results

The groundwater elevations measured relative to the top of well casing in MW1 through MW3 ranged between 190.00 (MW3) and 190.63 (MW2) feet above Mean Sea Level. The associated groundwater gradient calculated for the January 21, 2005 monitoring event was 1.25 foot / 100 feet (0.0125 ft/ft) directed approximately 16° west of south. The groundwater gradient and associated elevation isocontour lines are shown on Figure 3, *Groundwater Elevation Potentiometric Map*.

The table shown on the following page lists the historical data for MW1 through MW3, for mean groundwater elevation, flow direction, and groundwater slope for the site. The groundwater elevations prior to January 21, 2001 are referenced to an arbitrary site-specific datum point (MW1; north side of top of well casing) with an assumed elevation of 50 feet. This arbitrary datum point is not referenced to Mean Sea Level. Figure 4 presents a *Rose Diagram* showing the historical hydraulic gradients (magnitude and direction) to date across the site. The current gradient data is shown in bold type.

**Table - Mean Groundwater Elevation, Flow Direction, and Gradient**

Measurement Date	Mean Groundwater Elevation (feet)	Groundwater Flow Direction	Gradient (feet / 100 feet)
10/07/99	39.87	11° west of south	0.67 foot / 100 feet
01/26/00	43.1	23° west of north	9.12 feet / 100 feet
10/25/00	39.96	40° east of north	0.64 foot / 100 feet
04/25/01	188.6	55° west of north	0.69 foot / 100 feet
07/10/01	186.26	4° east of north	0.5 foot / 100 feet
10/08/01	184.99	48° east of north	1.6 feet / 100 feet
01/07/02	191.63	52° west of south	2.3 feet / 100 feet
04/08/02	188.94	43° east of south	0.6 foot / 100 feet
07/09/02	186.63	51° west of north	0.7 foot / 100 feet
10/23/02	184.50	71° east of north	3.2 foot / 100 feet
10/15/03	185.14	28° east of north	1.0 foot / 100 feet
02/02/04	188.47	18° east of south	0.5 foot / 100 feet
04/23/04	189.00	77° east of south	0.5 foot / 100 feet
07/19/04	186.97	51° west of north	0.1 foot / 100 feet
10/22/04	186.49	82° west of north	2.9 foot / 100 feet
<b>01/21/05</b>	<b>190.36</b>	<b>16° west of south</b>	<b>1.25 foot / 100 feet</b>

### Discussion of Monitoring Results

The mean groundwater elevation measured at the site during this event was approximately 3.87 feet higher than that measured during the monitoring event in October 2004 and comparable to the mean groundwater elevation reported in January 2002 (191.63 feet). Based on the relative groundwater elevation data recorded for this event, the groundwater flow direction was directed approximately 16° west of south, representing a presumed counterclockwise shift of approximately 75° toward the south, as compared to the previous monitoring event. This groundwater elevation has fluctuated significantly since the installation of the monitor wells in October 2001, from 184.50 (October 2002) to 191.63 (January 2002). The calculated gradient slope for this event (0.0125 foot/foot) has decreased significantly since the previous monitoring event (October 2004) however it is consistent with the historical fluctuations in groundwater flow direction at this site.

Shallow, unconfined groundwater in the vicinity of the former UST cavity and monitored area (January 2005) was characterized by relatively moderate dissolved oxygen concentrations ranging between 1.5 milligrams per liter, mg/L in MW1 and 0.89 mg/L in MW3, signifying that aerobic biodegradation is potentially continuing in the shallow groundwater beneath the site. The groundwater in MW1 was characterized by an average pH of 7.21, specific conductivity of 880 microhos per centimeter ( $\mu\text{mhos/cm}$ ), and a temperature of 17.21 degrees Centigrade. The groundwater in MW2 was characterized by

an average pH of 7.0, specific conductivity of 1106 microhos per centimeter ( $\mu\text{mhos/cm}$ ), and a temperature of 18.6 degrees Centigrade. The groundwater in MW3 was characterized by an average pH of 7.35, specific conductivity of 398 microhos per centimeter ( $\mu\text{mhos/cm}$ ), and a temperature of 16.7 degrees Centigrade. Neither free product nor surface sheen was present in the purge water or groundwater samples in MW1 through MW3 during the October 2004 monitoring event; however, a strong gasoline-like hydrocarbon odor was detected in the water removed from MW1 and MW2. A slight odor was detected in the water taken from MW3.. Documentation of the well purging and sampling activities is contained in the Field Data Sheets of the Appendix.

### Results of Groundwater Sampling and Laboratory Analysis

The table shown on the following page summarizes the laboratory analytical results of groundwater samples collected during the January 21, 2005 monitoring event. Documentation of the well purging and sampling activities is contained in the Field Data Sheets of the Appendix.

**January 21, 2005 Groundwater Sampling Results**

Well ID	Sample ID	TPH-G (ug/L)	BTEX (ug/L)	MTBE (ug/L)	VOC/OXY (ug/L)
MW1	7335-MW1	278,000	14,700 / 25,300 / 10,800 / 73,500	271*	271 ug/L n-Propylbenzene 525 ug/ L 1,3,5-Trimethylbenzene 662 ug/L Napthalene
MW2	7335-MW2	36,900	5,980/ 1,030 / 2,890 / 9,070	161*	239 ug/L n-Propylbenzene 1,500 ug/ L 1,3,5-Trimethylbenzene 697 ug/L Napthalene
MW3	7335-MW3	2,420	111 / 11.4 / 139 / 265	ND*	88 ug/L n-Propylbenzene 96 ug/ L 1,3,5-Trimethylbenzene 43 ug/L Napthalene

- Notes:
- TPH-G - Total Petroleum Hydrocarbons as Gasoline (EPA Methods 5030/8020F)
  - BTEX - Benzene / Toluene / Ethylbenzene / Xylenes (EPA Methods 5030/8020F)
  - MTBE - Methyl Tertiary Butyl Ether (EPA Method 5030/8020F)
  - VOC - Volatile Organic Compounds (EPA Method 8260; Total Concentration)
  - OXY - Fuel Oxygenates (EPA Method 8260)
  - ug/L - micrograms per liter (equivalent to parts per billion - ppb)
  - ND - not detected above laboratory reporting limit (See QC/QA, Lab Report)
  - NA - not analyzed during this event
  - \* - MTBE concentration as confirmed by VOC and/or Fuel Oxygenate analysis

Total Petroleum Hydrocarbons as gasoline (TPH-G) increased in monitor well MW1 from 80,700 to 278,000 micrograms per liter (ug/L) as compared to the October 2004 monitoring event. The concentration of TPH-G reported in MW2 decreased from 13,500 to 36,900 ug/L as compared to the last monitoring event, however has generally decreased as compared to the April 2001 (56,000 ug/L) and 2002 (66,700 ug/L) events. The concentration of TPH-G measured in MW3 has decreased since the October 2004 event from 7,420 to 2,420 ug/L, and continues to fluctuate between 2,320 ug/L (July 2002) and 12,000 ug/L (July 2001). The current TPH-G concentration reported in each well continues to exceed the California Regional Water Quality Control Board's (CRWQCB) July 2003 Tier 1 Environmental Screening Level (ESL) listed for this constituent, where shallow groundwater  $\leq 10$  feet below grade (fbg) beneath the site potentially is a domestic source of drinking water (100 ug/L). No CRWQCB - Municipal Supply Water Quality Objective (MSWQO) or Maximum Contaminant Level (MCL) currently exists for this constituent.

The concentration of methyl tertiary-butyl ether (MTBE) decreased in MW1 from 493 ug/L (296 ug/L, as confirmed by EPA Method 8260) to 271 ug/L (174 ug/L, EPA 8260). The concentration of MTBE in MW2 decreased from 273 ug/L (229 ug/l, EPA Method 8260) to 161 ug/L (163 ug/L, EPA Method 8260) as compared to the October 2004 event. Again, the MTBE concentrations measured in MW2 since January 2002 appear to remain relatively stable, fluctuating only slightly between 112 ug/l (April 2004) to 583 ug/l (April 2002). The highest reported concentration during this period occurred when the depth to groundwater was approximately 8.5 feet below grade. The MTBE concentration measured in MW3 has historically remained below the laboratory reporting limit ( $<0.5$  ug/L) since October 2002, except during the October 2004 event, where it increased to 96 ug/L (21 ug/L EPA 8360). The MTBE concentrations measured in MW1 and MW2 during this event, exceed the CRWQCB's July 2003 Tier 1 ESL and Secondary MCL listed for this chemical constituent (5 ug/L).

The benzene concentration measured in the groundwater sample collected in MW1 increased from 13,900 to 14,700 ug/L, and that in MW2 increased from 1,790 to 5,980 ug/L, as compared with the October 2004 event. The benzene concentration measured in MW3 decreased from 152 to 111 ug/L. The concentration of toluene in MW1 has increased significantly since the October 2004 event, from 1,670 to 25,300 ug/L. The total xylenes measured in MW1 increased from 15,200 to 73,500 ug/L. The concentration measured for total xylenes in MW1 has historically fluctuated between 9,440 ug/L (October 2002) and 32,000 ug/L (September 1998). The concentrations of toluene, ethylbenzene, and total xylenes measured in MW2 and MW3 have fluctuated since the October 2004 event. The BTEX concentrations measured in MW1 and MW2, and the benzene, ethylbenzene, and total xylenes measured in MW3 continue to exceed the CRWQCB's Tier 1 ESL established for each constituent, where groundwater is potentially a threatened drinking water resource. Also, the BTEX concentrations measured in MW1, the benzene measured in MW2, and the benzene and ethylbenzene in MW3, exceed the CRWQCB's Primary



MCL value established for these respective constituents. Respective Tier 1 ESL and MCL Values are presented in Table 1.

The total concentration of Volatile Organic Compounds (VOCs) measured in MW1 has continued to increase since the October 2004 event. The groundwater samples collected in MW1 and MW2 contained 174 and 163 ug/L MTBE (as confirmed by VOC analyses), which were lower than the MTBE concentrations reported in each respective well in October 2004. No detectable concentration of MTBE has been measured in MW3 since October 2002. The samples collected in MW1, MW2 and MW3 contained 662, 697 and 43 ug/L naphthalene (VOC) respectively, which exceeds the Tier 1 ESL listed for this constituent (21 ug/L). Concentrations of n-propylbenzene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene were also detected in each well. The concentrations of 1,2-Dichloroethane (EDC) and 1,2-dibromoethane (EDB), reported in MW1 through MW3 remained below the respective laboratory reporting limit for each VOC constituent ( $\leq 100$  ug/L for EDC and  $< 50$  ug/L for EDB) and do not appear to be constituents of concern at the site.

As requested by the ACHCSA in their letter dated June 3, 2004, groundwater monitoring should continue at the site on a quarterly basis. All quarterly groundwater samples should be analyzed for TPH-G, BTEX, and MTBE by EPA Methods 8015M/8021B, and VOCs by EPA Method 8260. Based on the non-detectable results (except MTBE) of Fuel Oxygenates analyses reported in well groundwater samples collected in October 2003, such constituents do not appear to be chemicals of concern at the site, and as suggested in the September 2003 letter, do not need to be incorporated into the current monitoring schedule. Monitoring of DO should be continued to further evaluate the biodegradation potential in the shallow groundwater beneath the site. Second Quarter 2005 joint monitoring activities are scheduled at the site on Thursday April 14<sup>th</sup>, in conjunction with Gettler-Ryan, Inc.

### **GeoTracker AB2886 EDF Upload**

In general accordance with State Assembly Bill 2886, GGTR uploaded the fluid-level monitoring data associated with the January 21, 2004 event in electronic deliverable format to the State Water Resources Control Board's GeoTracker Database System. The GeoTracker Upload Confirmation Number is **9681638956**. An AB2886 Electronic Delivery confirmation report copy (GEO\_Well) corresponding to submittal title Fluid-Level Monitoring Data (MW1-MW3) is included in the Appendix.

GGTR also uploaded all groundwater sample analytical results associated with the January 21, 2004 event in electronic deliverable format to the State GeoTracker Database System. The GeoTracker Upload Confirmation Number is **4732849597**. A confirmation report copy corresponding to Lab Number/Submittal Title 05-0120: 01/21/05 GW Analytical Data (MW1-MW3) is included in the Appendix.

## Waste Management

The well purge and equipment wash and rinse water generated during the January 2005 monitoring event (@ 29 gallons) was transferred directly to a D.O.T.-approved, 55-gallon drum, appropriately labeled and stored onsite in a secure area, to be used for future groundwater monitoring events.

## Environmental Site History & Chronology

In August 1996, GGTR removed two underground storage tanks (USTs) and associated fuel dispenser from the site at the locations shown in Figure 2. The following table presents a summary of the tank designations, size, type of construction and contents:

Designation	Construction	Diameter (Feet)	Length (Feet)	Volume (Gallons)	Contents
TANK 1	Steel	4	7	675	Gasoline
TANK 2	Steel	4	3.5	340	Waste Oil

GGTR removed the residual fuel from the subsurface product piping (left in place), thoroughly flushed and drained the piping, and capped both ends. GGTR over-excavated the gasoline-contaminated soil surrounding the former UST location. The tank removal and over-excavation activities are documented in GGTR's *Tank Removal Report*, dated October 11, 1996.

Between May 1998 and October 1999, as requested by the ACHCSA, GGTR performed a preliminary subsurface soil boring investigation at the subject property and subsequently installed three groundwater monitor wells in the vicinity of the former UST cavity. Soil borings B1 through B3 were advanced immediately south, east, and west, respectively, of the former UST cavity. Following review and interpretation of all field and soil sample analytical data collected during these activities, additional soil borings (B4 through B6) were then advanced at the site to further assess the extent of contamination in soil and the potential impact to groundwater. These borings were converted to 2-inch-diameter groundwater monitoring wells, MW1 through MW3

In collaboration with Gettler-Ryan, Inc. of Dublin, California, which is conducting a separate groundwater investigation adjacent to the subject property (5940 College Avenue; Former Chevron Station), GGTR has jointly monitored and sampled each well on a quarterly basis between January 2000 and April 2002. The locations of the subject monitor wells as well as Gettler-Ryan's monitoring wells are shown on Figure 2.

Based on the residual elevated concentrations of gasoline-range hydrocarbons measured in the groundwater samples collected during the April 2001 quarterly monitoring activities, the ACHCSA, in a letter dated July 9, 2001, requested a work plan to assess whether any additional contaminant sources may potentially exist onsite that may be contributing to the elevated hydrocarbon concentration in groundwater. GGTR submitted the work plan on

December 19, 2001, which was subsequently approved by the ACHCSA in a letter dated January 3, 2002. In August, October, and November 2002, GGTR implemented the approved work plan activities, details of which are presented in GGTR's June 10, 2003 *Report of Additional Soil and Groundwater Investigation*.

Based on review of GGTR's June 2003 report, the ACHCSA, in their letter dated September 8, 2003 requested a work plan addressing additional source and site characterization of contaminants in soil and groundwater at the subject property. GGTR submitted their Work Plan for Additional Site Characterization on December 29, 2003, which was conditionally approved by the ACHCSA in their most recent letter dated June 3, 2004. On September 30, 2004, GGTR submitted their *Additional Site Characterization Work Plan Addendum* for review. Between October 15, 2003 and October 2004, GGTR conducted quarterly groundwater monitoring and sampling activities at the site and submitted their associated Groundwater Monitoring Reports to the ACHCSA.

The following chronological list of activities shows the significant UST removal and investigative activities performed at the site to date:

08/06/96	Underground storage tanks 1 and 2 were removed and samples recovered
08/15/96	A work plan was submitted by GGTR for over excavation and disposal of gasoline-contaminated soil surrounding the UST
09/30/96	Over-excavation of gasoline-contaminated soil performed
10/01/96	Last of additional excavation soil disposed of at a Class II facility
10/11/96	TANK REMOVAL REPORT published by GGTR
12/30/96	ACHSA submitted letter requiring soil and groundwater investigation
03/10/97	GGTR authorized to prepare a work plan for additional investigation
04/01/97	GGTR submitted work plan for a Soil and Groundwater Investigation
04/21/97	ACHSA submitted letter authorizing work plan
05/06/98	GGTR drills borings B1 through B3
05/20/98	GGTR drills borings B4 (Monitoring Well MW1)
05/27/98	GGTR develops monitoring well MW1
06/01/98	GGTR measures, purges and samples monitoring well MW1
06/17/98	GGTR submitted Soil and Groundwater Investigation Report
07/21/98	GGTR submitted Work Plan Addendum for installation of two additional groundwater monitoring wells
09/10/98	GGTR measures, purges and samples monitoring well MW1 then submits a groundwater monitoring report
10/02/99	GGTR drills two borings (B5 and B6) and converts them to groundwater monitoring Wells (MW2 and MW3)
10/04/99	GGTR develops monitoring wells MW2 and MW3
10/07/99	GGTR surveys monitoring wells MW2 / MW3; measures, purges and samples monitoring wells MW1, MW2 and MW3 then submits a groundwater monitoring report
10/22/99	GGTR submitted Summary Report
11/24/99	HCS submitted letter requiring quarterly monitoring and setting parameters for January 2000 analyses

01/26/00 GGTR measures, purges and samples monitoring wells MW1, MW2 and MW3 then submits a groundwater monitoring report

10/25/00 GGTR and Gettler-Ryan, Inc. perform joint groundwater monitoring activities; GGTR measures, purges and samples monitoring wells MW1, MW2 and MW3 then submits a groundwater monitoring report

04/25/01 GGTR and Gettler-Ryan, Inc. perform joint groundwater monitoring activities; GGTR surveys, measures and samples monitoring wells MW1, MW2 and MW3 then submits a groundwater monitoring report

07/10/01 GGTR and Gettler-Ryan, Inc. perform joint groundwater monitoring activities; GGTR measures and samples monitoring wells MW1, MW2 and MW3 then submits a groundwater monitoring report

10/08/01 GGTR and Gettler-Ryan, Inc. perform joint groundwater monitoring activities; GGTR monitors and samples MW1, MW2 and MW3.

11/28/01 GGTR submits October 2001 Groundwater Monitoring Report to the ACHCSA

12/19/01 GGTR submits Work Plan for Additional Soil & Groundwater Investigation to the ACHCSA

01/03/02 ACHCSA submits work plan implementation request letter.

01/07/02 GGTR monitors and samples MW1, MW2 and MW3.

01/13/02 Gettler-Ryan, Inc. monitors and samples GR-MW1 & GR-MW2.

02/11/02 GGTR submits January 7, 2001 Groundwater Monitoring Report to the ACHCSA

04/08/02 GGTR monitors and samples MW1, MW2 and MW3.

04/08/02 Gettler-Ryan, Inc. monitors and samples GR-MW1 & GR-MW2.

05/15/02 GGTR submits April 8, 2002 Groundwater Monitoring Report to the ACHCSA

07/09/02 GGTR monitors and samples MW1, MW2 and MW3; Gettler-Ryan, Inc. currently on bi-annual sampling basis

08/19/02 GGTR submits July 9, 2002 Groundwater Monitoring Report to the ACHCSA

08/24/02-

08/30/02 GGTR conducts December 2001 work plan subsurface fuel piping removal and site restoration activities.

10/15/02 Gettler-Ryan, Inc. monitors and samples GR-MW1 & GR-MW2.

10/23/02 GGTR monitors and samples MW1, MW2 and MW3.

10/30/02 &

11/01/02 GGTR conducts December 2001 work plan additional soil boring activities

12/30/02 GGTR submits October 23, 2002 Groundwater Monitoring Report to the ACHCSA

06/10/03 GGTR submits Report of Additional Soil and Groundwater Investigation to the ACHCSA

09/08/03 ACHCSA submits Report Review Letter

10/15/03 GGTR conducts 3<sup>rd</sup> Quarter 2003 Monitoring & Sampling (MW1-MW3)

10/31/03 GGTR submits October 15, 2003 Groundwater Monitoring Report to the ACHCSA

12/29/03 GGTR submits Work Plan for Additional Site Characterization to the ACHCSA

02/02/04 GGTR conducts 1<sup>st</sup> Quarter 2004 Monitoring & Sampling (MW1-MW3)

03/29/04 GGTR submits February 2, 2004 Groundwater Monitoring Report to the ACHCSA

04/23/04 GGTR conducts 2<sup>nd</sup> Quarter 2004 Monitoring & Sampling (MW1-MW3)

08/19/04 GGTR submits April 23, 2004 Groundwater Monitoring Report to the ACHCSA

07/19/04 GGTR conducts 3<sup>rd</sup> Quarter 2004 Monitoring and Sampling (MW1-MW3)

- 09/30/04 GGTR submits Additional Site Characterization Work Plan Addendum to the ACHCSA
- 10/22/04 GGTR conducts 4<sup>th</sup> Quarter 2004 Monitoring and Sampling (MW1-MW3)
- 11/11/04 GGTR submits July 19, 2004 Groundwater Monitoring Report to the ACHCSA
- 01/20/05 GGTR submits October 22, 2004 Groundwater Monitoring Report to the ACHCSA
- 01/21/05 GGTR conducts 1<sup>st</sup> Quarter 2005 Groundwater Monitoring and Sampling (MW1-MW3)**
- 03/17/05 GGTR submits January 21 2005 Groundwater Monitoring Report to the ACHCSA**

## Report Distribution

A copy of this quarterly groundwater monitoring report be submitted to the following site representatives:

Alameda County Health Care Services Agency  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
*Attention: Mr. Don Hwang*

*(1 Copy; Unbound)*

Mr. Brian Sheaff  
William G. Sheaff Trust  
1945 Parkside Drive  
Concord, CA 94519

*(2 Copies; Bound)*

**TABLE 1**  
**Historical Results of Groundwater Sample Analysis & Fluid-Level Data**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (Feet/MSL)	DTW (Feet/TOC)	Water Elevation (Feet/MSL)	Product/Odor/Sheen	TPH-G (ug/L)	TEPH (ug/L)	Total VOCs (ug/L)	MTBE (ug/L)	B/T/E/X (ug/L)
MW1	06/01/98	50.00 <sup>1</sup>	4.81	45.19	slight sheen	160,000	ND	--	1,900	28,000 / 21,000 / 3,800 / 21,000
	09/10/98	50.00 <sup>1</sup>	7.50	42.50	odor	290,000	ND	--	440	<50 / 25,000 / 7,100 / 32,000
	10/07/99	50.00 <sup>1</sup>	10.04	39.96	odor	85,000	ND	--	1,100	20,000 / 13,000 / 3,800 / 17,000
	01/26/00	50.00 <sup>1</sup>	8.26	41.74	slight sheen	130,000	--	--	470	25,000 / 18,000 / 4,500 / 22,000
	10/25/00	50.00 <sup>1</sup>	10.10	39.90	odor	130,000	--	ND	1,300	23,000 / 12,000 / 3,900 / 18,000
	02/02/01	50.00 <sup>1</sup>	9.61	40.39	odor	128,000	--	--	780	19,000 / 11,000 / 3,800 / 18,000
	04/25/01	195.90	7.39	188.51	odor	120,000	--	--	900	21,000 / 13,000 / 390 / 18,000
	07/10/01	195.90	9.72	186.18	odor	79,000	--	--	660	15,000 / 7,800 / 3000 / 15,000
	10/08/01	195.90	10.88	185.02	sheen/odor	112,000	--	--	374	25,300 / 11,800 / 4,280 / 20,600
	01/07/02	195.90	4.34	191.56	odor	96,100	--	--	596 <sup>3</sup>	21,100 / 13,500 / 4,160 / 21,900
	04/08/02	195.90	6.84	189.06	slight odor	111,000	--	1,040 <sup>2</sup>	814 (679 <sup>3</sup> )	21,200 / 13,400 / 4,230 / 21,000
	07/09/02	195.90	9.40	186.50	slight odor	110,000	--	573 <sup>4</sup>	746 (570 <sup>3</sup> )	20,300 / 13,300 / 4,060 / 19,800
	10/23/02	195.90	11.04	184.86	none	54,100	--	41,482 <sup>5</sup>	1,010 (1,080 <sup>3</sup> )	10,800 / 3,870 / 2,320 / 9,440
	10/15/03	195.90	10.80	185.10	none	90,700	--	47,837 <sup>8</sup>	534 (724 <sup>3</sup> )	17,800 / 4,740 / 3,150 / 13,900
	02/02/04	195.90	7.35	188.55	none	108,000	--	50,118 <sup>12</sup>	216 (194 <sup>3</sup> )	14,200 / 7,420 / 3,450 / 19,800
	04/23/04	195.90	6.83	189.07	slight odor	49,200	--	28,750 <sup>15</sup>	85 (114 <sup>3</sup> )	7,910 / 1,480 / 1,810 / 10,100
07/19/04	195.90	8.95	186.95	odor	63,900	--	32,739 <sup>18</sup>	373 (303 <sup>3</sup> )	7,260 / 2,270 / 2,510 / 10,100	
10/22/04	195.90	10.15	185.75	None	80,700	--	34,550 <sup>21</sup>	493 (296 <sup>3</sup> )	13,900 / 1,670 / 3,550 / 15,200	
01/21/05	195.90	5.45	190.45	Strong odor	278,000	--	46,142 <sup>24</sup>	271 (174 <sup>3</sup> )	14,700 / 25,300 / 10,800 / 73,500	
Laboratory Reporting Limit						50	5,000	≤50	0.5 (1)	0.5 / 0.5 / 0.5 / 1.0
CRWQCB MSWQO (MCL)						NC	NC	Varies	5 <sup>11</sup>	1 / 150 / 700 / 1,750
CRWQCB July 2003 ESL						100/500	100/640	Varies	5/1,800	1.0 (46) / 40 (130) / 30 (290) / 13 (13)

Table Notes Following

**TABLE 1 (Cont'd)**  
**Historical Results of Groundwater Sample Analysis & Fluid-Level Data**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	Casing Elevation (Feet/MSL)	DTW (Feet/TOC)	Water Elevation (Feet/MSL)	Product/Odor/ Sheen	TPH-G (ug/L)	TEPH (ug/L)	Total VOCs (ug/L)	MTBE (ug/L)	B/T/E/X (ug/L)
MW2	10/07/99	51.42 <sup>1</sup>	11.49	39.93	slight/odor	18,000	ND	--	490	3,000 / 1,700 / 1,000 / 3,900
	01/26/00	51.42 <sup>1</sup>	7.85	43.57	none	42,000	--	--	560	9,300 / 2,200 / 2,300 / 7,700
	10/25/00	51.42 <sup>1</sup>	11.57	39.85	slight/odor	31,000	--	ND	500	5,500 / 370 / 1,700 / 2,600
	02/02/01	51.42 <sup>1</sup>	10.77	40.65	odor	36,000	--	--	400	4,300 / 530 / 1,800 / 4,500
	04/25/01	197.28	8.52	188.76	odor	56,000	--	--	460	6,700 / 1700 / 2,600 / 8,200
	07/10/01	197.28	11.05	186.23	odor	39,000	--	--	180	6,200 / 730 / 2,300 / 6,100
	10/08/01	197.28	12.79	184.49	sheen/odor	40,700	--	--	6,460	6,310 / 399 / 2,100 / 5,320
	01/07/02	197.28	4.92	192.36	odor	59,600	--	--	366 <sup>3</sup>	10,300 / 3,250 / 4,180 / 14,400
	04/08/02	197.28	8.40	188.88	slight odor	66,700	--	--	583 <sup>3</sup>	10,200 / 2,670 / 3,840 / 13,200
	07/09/02	197.28	10.55	186.73	slight odor	37,100	--	298 (MTBE)	303 (298 <sup>3</sup> )	5,340 / 890 / 2,110 / 6,920
	10/23/02	197.28	13.85	183.43	none	13,300	--	8,686 <sup>6</sup>	322 (360 <sup>3</sup> )	2,420 / 216 / 922 / 1,470
	10/15/03	197.28	12.38	184.90	none	11,300	--	6,642 <sup>9</sup>	264 (322 <sup>3</sup> )	2,660 / 51 / 1,180 / 1,220
	02/02/04	197.28	8.80	188.48	none	21,700	--	8,020 <sup>13</sup>	168 (200 <sup>3</sup> )	2,130 / 51 / 1,030 / 2,060
	04/23/04	197.28	8.40	188.88	Slight odor	30,400	--	13,921 <sup>16</sup>	112 (203 <sup>3</sup> )	3,570 / 322 / 1,620 / 4,140
	07/19/04	197.28	10.30	186.98	odor	28,300	--	10,284 <sup>19</sup>	283 (373 <sup>3</sup> )	2,540 / 239 / 1,320 / 2,300
10/22/04	197.28	10.25	187.03	Moderate odor	13,500	--	4,548 <sup>22</sup>	273 (229 <sup>3</sup> )	1,790 / 54 / 892 / 915	
1/21/05	197.28	5.45	190.45	Moderate odor	27,8000	--	17746 <sup>25</sup>	161 (163 <sup>3</sup> )	5980 / 1030 / 2890 / 9070	
Laboratory Reporting Limit						50	5,000	≤50	0.5 (1)	0.5 / 0.5 / 0.5 / 1.0
CRWQCB MSWQO (MCL)						NC	NC	Varies	5 <sup>11</sup>	1 / 150 / 700 / 1,750
CRWQCB July 2003 ESL						100/500	100/640	Varies	5/1,800	1.0 (46) / 40 (130) / 30 (290) / 13 (13)

Table Notes Following



**TABLE 1 (Cont'd)**  
**Historical Results of Groundwater Sample Analysis & Fluid-Level Data**  
**5930 College Avenue, Oakland, CA**

Well ID	Sample Date	TOC Elevation (Feet/MSL)	DTW (Feet/TOC)	Water Elevation (Feet/MSL)	Product/Odor/Sheen	TPH-G (ug/L)	TEPH (ug/L)	Total VOCs (ug/L)	MTBE (ug/L)	B/T/E/X (ug/L)
MW3	10/07/99	49.39 <sup>1</sup>	9.67	39.72	none	6,600	ND	--	390	310 / 110 / 430 / 1,000
	01/26/00	49.39 <sup>1</sup>	5.40	43.99	none	3,300	--	--	40	110 / 8 / 100 / 32
	10/25/00	49.39 <sup>1</sup>	9.24	40.15	slight odor	4,500	--	ND	ND	100 / 2 / 120 / 130
	02/02/01	49.39 <sup>1</sup>	8.73	40.66	slight odor	2,900	--	--	35	35 / 3 / 160 / 298
	04/25/01	195.22	6.61	188.61	slight odor	8,400	--	--	56	260 / 33 / 290 / 510
	07/10/01	195.22	8.85	186.37	slight odor	12,000	--	--	35	39 / 10 / 690 / 1600
	10/08/01	195.22	9.75	185.47	sheen/odor	4,913	--	--	52	108 / 4 / 99 / 133
	01/07/02	195.22	4.25	190.97	sheen/odor	7,260	--	--	81.7 <sup>3</sup>	723 / 138 / 492 / 887
	04/08/02	195.22	6.33	188.89	odor	11,700	--	--	ND <sup>3</sup>	540 / 108 / 706 / 1,710
	07/09/02	195.22	8.56	186.66	odor	2,320	--	20 (MTBE)	28.3 (20 <sup>3</sup> )	37.1 / 4.7 / 98.5 / 187
	10/23/02	195.22	10.02	185.20	Sheen/odor	2,830	--	865 <sup>7</sup>	ND (ND <sup>3</sup> )	46.8 / 4.7 / 43.6 / 65.5
	10/15/03	195.22	9.80	185.42	Sheen/odor	3,040	--	436 <sup>10</sup>	ND (ND <sup>3</sup> )	91.3 / 8.4 / 69.9 / 148
	02/02/04	195.22	6.85	188.37	Sheen/odor	5,140	--	769.5 <sup>14</sup>	ND (ND <sup>3</sup> )	126 / 8.7 / 134 / 238
	04/23/04	195.22	6.17	189.05	none	7,210	--	2,807.9 <sup>17</sup>	ND (ND <sup>3</sup> )	227 / 39.5 / 448 / 879
	07/19/04	195.22	8.25	186.97	Slight odor	9,860	--	568.2 <sup>20</sup>	ND (ND <sup>3</sup> )	20.4 / 3.2 / 30.6 / 117
10/22/04	195.22	9.25	185.97	None	7,420	--	1,901 <sup>23</sup>	96 (21 <sup>3</sup> )	152 / 12.8 / 267 / 480	
1/21/05	195.22	5.22	190.00	Slight odor	2,420	--	809.5 <sup>26</sup>	ND (ND <sup>3</sup> )	111 / 11.4 / 139 / 265	
TB	02/02/04	NA				--	--	--	--	ND / ND / ND / ND
	04/23/04	NA				--	--	--	--	ND / ND / ND / ND
	07/19/04	NA				--	--	--	--	ND / ND / ND / ND
	10/22/04	NA				--	--	--	--	ND / ND / ND / ND
Laboratory Reporting Limit						50	5,000	≤50	0.5 (1)	0.5 / 0.5 / 0.5 / 1.0
CRWQCB MSWQO (MCL)						NC	NC	Varies	5 <sup>11</sup>	1 / 150 / 700 / 1,750
CRWQCB July 2003 ESL						100/500	100/640	Varies	5/1,800	1.0 (46) / 40 (130) / 30 (290) / 13 (13)

TABLE NOTES ON FOLLOWING PAGE

**TABLE 1 (Cont'd)**  
**Historical Results of Groundwater Sample Analysis & Fluid-Level Data**  
**5930 College Avenue, Oakland, CA**

**TABLE 1 NOTES:** TOC - top of well casing (north side)  
 DTW - depth to water relative to TOC  
 ug/L - micrograms per liter (equivalent to parts per billion)  
 TPH-G - Total Petroleum Hydrocarbons as Gasoline (SW8020F)  
 TEPH - Total Extractable Petroleum Hydrocarbons [EPA Methods 5030/8015M & EPA 1664 (B10 Only)]  
 Total VOCs - Total Volatile Organic Compounds by EPA Method 8260  
 MTBE - Methyl Tertiary Butyl Ether (EPA Method 8260)  
 BTEX - Benzene / Toluene / Ethylbenzene / Total Xylenes (SW8020F)  
 MSL - Mean Sea Level; TB = Trip Blank (7335-TB)  
 ND - not detected above laboratory reporting limit  
 NC - no criteria established; NA - not applicable  
 -- - not analyzed for this constituent  
 fbg - feet below grade surface

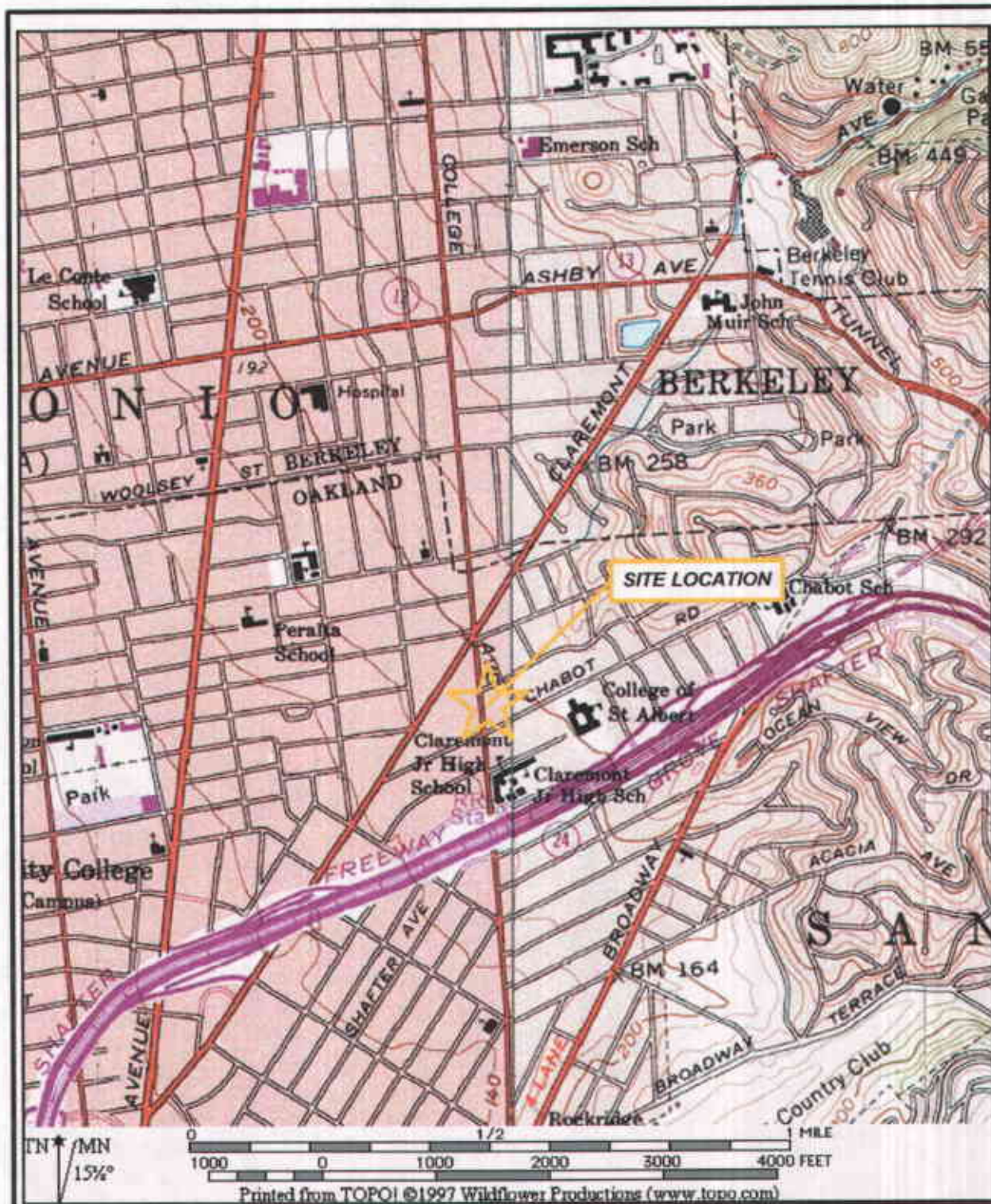
- <sup>1</sup> - Arbitrary datum point with assumed elevation of 50 feet used prior to MSL survey on April 26, 2001
- <sup>2</sup> - Fuel oxygenate concentrations reported as 1,2-Dichloroethane (361 ug/l) and MTBE (679 ug/l)
- <sup>3</sup> - Concentration confirmed by EPA Method 8260 (analysis of VOCs of Fuel Oxygenates)
- <sup>4</sup> - Fuel oxygenate concentrations reported as 1,2-Dichloroethane (3 ug/l) and MTBE (570 ug/l)
- <sup>5</sup> - VOC concentrations reported as 1,080 ug/l MTBE, 14,500 ug/l benzene, 5,370 ug/l toluene, 3,360 ug/l ethylbenzene, 13,700 ug/l total xylenes, 96 ug/l isopropylbenzene, 292 ug/l n-propylbenzene, 1,730 ug/l 1,3,5-trimethylbenzene, 500 ug/l 1,2,4-trimethylbenzene, 15 ug/l sec-butylbenzene, 61 ug/l n-butylbenzene, and 778 ug/l naphthalene
- <sup>6</sup> - VOC concentrations reported as 360 ug/l MTBE, 3,430 ug/l benzene, 319 ug/l toluene, 1,210 ug/l ethylbenzene, 1,960 ug/l total xylenes, 59 ug/l isopropylbenzene, 148 ug/l n-propylbenzene, 631 ug/l 1,3,5-trimethylbenzene, 153 ug/l 1,2,4-trimethylbenzene, 14 ug/l sec-butylbenzene, 43 ug/l n-butylbenzene, and 359 ug/l naphthalene
- <sup>7</sup> - VOC concentrations reported as 9 ug/l chloroform, 74 ug/l benzene, 9 ug/l toluene, 72 ug/l ethylbenzene, 109 ug/l total xylenes, 42 ug/l isopropylbenzene, 112 ug/l n-propylbenzene, 216 ug/l 1,3,5-trimethylbenzene, 100 ug/l 1,2,4-trimethylbenzene, 20 ug/l sec-butylbenzene, 59 ug/l n-butylbenzene, and 43 ug/l naphthalene
- <sup>8</sup> - VOC concentrations reported as 724 ug/l MTBE, 19,300 ug/l benzene, 5,070 ug/l toluene, 3,230 ug/l ethylbenzene, 15,470 ug/l total xylenes, 288 ug/l n-propylbenzene, 565 ug/l 1,3,5-trimethylbenzene, 2,150 ug/l 1,2,4-trimethylbenzene, 1,040 ug/l naphthalene, and ND<50 ug/L 1,2-dibromoethane (EDB) & ND<100 ug/L 1,2-dichloroethane (EDC)
- <sup>9</sup> - VOC concentrations reported as 322 ug/l MTBE, 2,580 ug/l benzene, 53 ug/l toluene, 1,190 ug/l ethylbenzene, 1,045 ug/l total xylenes, 75 ug/l isopropylbenzene, 210 ug/l n-propylbenzene, 140 ug/l 1,3,5-trimethylbenzene, 529 ug/l 1,2,4-trimethylbenzene, 56 ug/l n-butylbenzene, 442 ug/l naphthalene, and ND<5 ug/L 1,2-dibromoethane (EDB) & ND<10 ug/L 1,2-dichloroethane (EDC)

- <sup>10</sup> - VOC concentrations reported as 79 ug/l benzene, 8.3 ug/l toluene, 65 ug/l ethylbenzene, 118.6 ug/l total xylenes, 21 ug/l isopropylbenzene, 62 ug/l n-propylbenzene, 11 ug/l 1,3,5-trimethylbenzene, 30 ug/l 1,2,4-trimethylbenzene, 13 ug/l n-butylbenzene, 28 ug/l naphthalene, and ND<0.5 ug/L 1,2-dibromoethane (EDB) & ND<1 ug/L 1,2-dichloroethane (EDC)
- <sup>11</sup> - Secondary Maximum Contaminant Level established by CRWQCB
- <sup>12</sup> - VOC concentrations reported as 194 ug/l MTBE, 14,700 ug/l benzene, 7,620 ug/l toluene, 3,940 ug/l ethylbenzene, 18,710 ug/l total xylenes, 47 ug/l 4-methyl-2-pentanone, 116 ug/l isopropylbenzene, 342 ug/l n-propylbenzene, 701 ug/l 1,3,5-trimethylbenzene, 2,690 ug/l 1,2,4-trimethylbenzene, 66 ug/l n-butylbenzene, 992 ug/l naphthalene, and ND<50 ug/L 1,2-dibromoethane (EDB) & ND<100 ug/L 1,2-dichloroethane (EDC)
- <sup>13</sup> - VOC concentrations reported as 200 ug/l MTBE, 2,370 ug/l benzene, 92 ug/l toluene, 1,200 ug/l ethylbenzene, 2,024 ug/l total xylenes, 73 ug/l isopropylbenzene, 186 ug/l n-propylbenzene, 306 ug/l 1,3,5-trimethylbenzene, 1,090 ug/l 1,2,4-trimethylbenzene, 66 ug/l n-butylbenzene, 413 ug/l naphthalene, and ND<5 ug/L 1,2-dibromoethane (EDB) & ND<10 ug/L 1,2-dichloroethane (EDC)
- <sup>14</sup> - VOC concentrations reported as 110 ug/l benzene, 6.4 ug/l toluene, 148 ug/l ethylbenzene, 238.1 ug/l total xylenes, 23 ug/l isopropylbenzene, 83 ug/l n-propylbenzene, 22 ug/l 1,3,5-trimethylbenzene, 68 ug/l 1,2,4-trimethylbenzene, 38 ug/l n-butylbenzene, 33 ug/l naphthalene, and ND<0.5 ug/L 1,2-dibromoethane (EDB) & ND<1 ug/L 1,2-dichloroethane (EDC)
- <sup>15</sup> - VOC concentrations reported as 1,210 ug/l methylene chloride, 114 ug/l MTBE, 10,300 ug/l benzene, 1,960 ug/l toluene, 2,220 ug/l ethylbenzene, 10,230 ug/l total xylenes, 180 ug/l n-propylbenzene, 417 ug/l 1,3,5-trimethylbenzene, 1,560 ug/l 1,2,4-trimethylbenzene, 559 ug/l naphthalene, and ND<50 ug/L 1,2-dibromoethane (EDB) & ND<100 ug/L 1,2-dichloroethane (EDC)
- <sup>16</sup> - VOC concentrations reported as 203 ug/l MTBE, 4,570 ug/l benzene, 511 ug/l toluene, 1,760 ug/l ethylbenzene, 4,055 ug/l total xylenes, 215 ug/l isopropylbenzene, 469 ug/l 1,3,5-trimethylbenzene, 1,570 ug/l 1,2,4-trimethylbenzene, 568 ug/l naphthalene, and ND<5 ug/L 1,2-dibromoethane (EDB) & ND<10 ug/L 1,2-dichloroethane (EDC)
- <sup>17</sup> - VOC concentrations reported as 341 ug/l benzene, 42.9 ug/l toluene, 547 ug/l ethylbenzene, 1,185 ug/l total xylenes, 29 ug/l isopropylbenzene, 82 ug/l n-propylbenzene, 60 ug/l 1,3,5-trimethylbenzene, 337 ug/l 1,2,4-trimethylbenzene, 24 ug/l n-butylbenzene, 160 ug/l naphthalene, and ND<0.5 ug/L 1,2-dibromoethane (EDB) & ND<1 ug/L 1,2-dichloroethane (EDC)
- <sup>18</sup> - VOC concentrations reported as 303 ug/l MTBE, 11200 ug/l benzene, 2440 ug/l toluene, 2730 ug/l ethylbenzene, 12540 ug/l total xylenes, 239 ug/l n-propylbenzene, 89 ug/l isopropylbenzene, 507 ug/l 1,3,5-trimethylbenzene, 1890 ug/l 1,2,4-trimethylbenzene, and 801 ug/l naphthalene.
- <sup>19</sup> - VOC concentrations reported as 373 ug/l MTBE, 3670 ug/l benzene, 207 ug/l toluene, 1450 ug/l ethylbenzene, 2403 ug/l total xylenes, 73 ug/l isopropylbenzene, 316 ug/l 1,3,5-trimethylbenzene, 1070 ug/l 1,2,4-trimethylbenzene, 475 ug/l naphthalene, 173 ug/l n-propylbenzene, 475 ug/l naphthalene, and 72 ug/l n-butylbenzene.
- <sup>20</sup> - VOC concentrations reported as 39.3 ug/l benzene, 3.6 ug/l toluene, 31 ug/l ethylbenzene, 59.3ug/l total xylenes, 27 ug/l isopropylbenzene, 2 ug/l 1,1,2,2-tetrachloroethane, 105 ug/l n-propylbenzene, 48 ug/l 1,3,5-trimethylbenzene, 204 ug/l 1,2,4-trimethylbenzene, 34 ug/l n-butylbenzene, 16 ug/l naphthalene, and ND<0.5 ug/L 1,2-dibromoethane (EDB) & ND<1 ug/L 1,2-dichloroethane (EDC)
- <sup>21</sup> - VOC concentrations reported as 296 ug/l MTBE, 15600 ug/l benzene, 1440 ug/l toluene, 3020 ug/l ethylbenzene, 12020 ug/l total xylenes, 264 ug/l n-propylbenzene, 520 ug/l 1,3,5-trimethylbenzene, 1990 ug/l 1,2,4-trimethylbenzene, and 700 ug/l naphthalene.
- <sup>22</sup> - VOC concentrations reported as 229 ug/l MTBE, 2010 ug/l benzene, 54 ug/l toluene, 799 ug/l ethylbenzene, 667 ug/l total xylenes, 49 ug/l isopropylbenzene, 80 ug/l 1,3,5-trimethylbenzene, 257 ug/l 1,2,4-trimethylbenzene, 227 ug/l naphthalene, 132 ug/l n-propylbenzene, and 44 ug/l n-butylbenzene.
- <sup>23</sup> - VOC concentrations reported as 21 ug/l MTBE, 128 ug/l benzene, 12 ug/l toluene, 225 ug/l ethylbenzene, 394 ug/l total xylenes, 55 ug/l isopropylbenzene, 182 ug/l n-propylbenzene, 192 ug/l 1,3,5-trimethylbenzene, 574 ug/l 1,2,4-trimethylbenzene, 42 ug/l n-butylbenzene, and 76 ug/l naphthalene

- <sup>24</sup> VOC concentrations reported as 174 ug/l MTBE, 16600 ug/l benzene, 7130 ug/l toluene, 3580 ug/l ethylbenzene, 17200 ug/l total xylenes, 271 ug/l n-propylbenzene, 525 ug/l 1,3,5-trimethylbenzene, 2080 ug/l 1,2,4-trimethylbenzene, and 662 ug/l naphthalene
- <sup>25</sup> VOC concentrations reported as 163 ug/l MTBE, 5710 ug/l benzene, 936 ug/l toluene, 2380 ug/l ethylbenzene, 5750 ug/l total xylenes, 239 ug/l n-propylbenzene, 371 ug/l 1,3,5-trimethylbenzene, 1500 ug/l 1,2,4-trimethylbenzene, and 697 ug/l naphthalene
- <sup>26</sup> VOC concentrations reported as 9.8 ug/l toluene, 150 ug/l ethylbenzene, 241.7 ug/l total xylenes, 25 ug/l isopropylbenzene, 88 ug/l n-propylbenzene, 23 ug/l 1,3,5-trimethylbenzene, 96 ug/l 1,2,4-trimethylbenzene, 15 ug/l n-butylbenzene, and 43 ug/l naphthalene

CRWQCB MSWQO (Primary MCL) = California Regional Water Quality Control Board, Municipal Supply Water Quality Objective;  
Primary Maximum Contaminant Level

CRWQCB/ESL = California Regional Water Quality Control Board's Tier 1 Environmental (Risk-Based) Screening Level; Levels shown are for **Groundwater < 10 fbg (3 meters)**, which IS / IS NOT a threatened drinking water resource.



**GOLDEN GATE TANK REMOVAL, INC.**  
 255 Shipley Street  
 San Francisco, California 94107  
 Ph (415) 512-1555 Fx (415) 512-0984

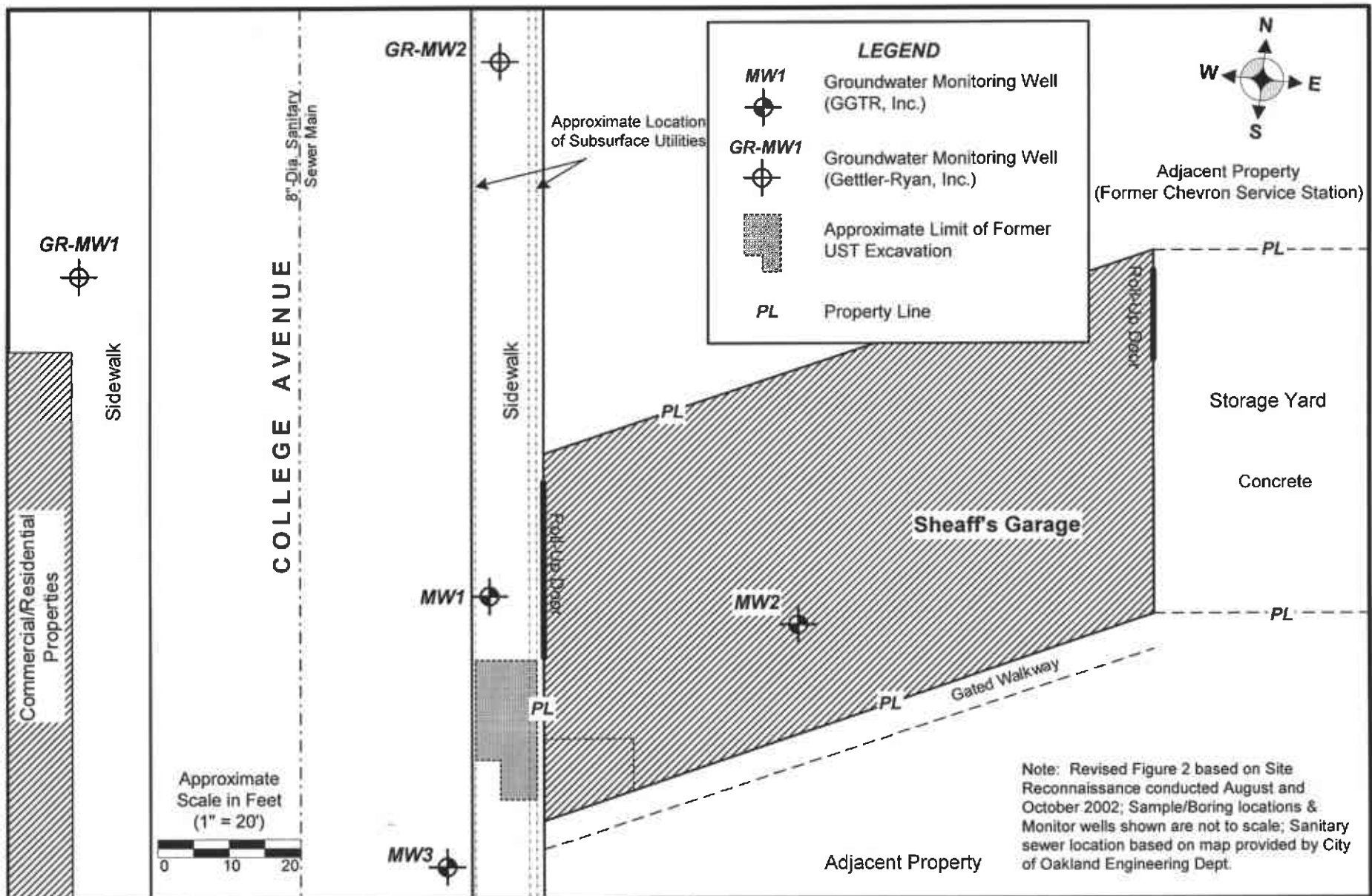
**SITE LOCATION MAP**  
 Sheaff's Garage  
 5930 College Avenue  
 Oakland, California

GGTR Project No. 7335

Fn: 7335.sc.wp.F1

Revision By: baw/12.03

Figure 1



**GOLDEN GATE TANK REMOVAL**

255 Shipley Street  
 San Francisco, California 94107  
 Phone (415) 512-1555 Fax (415) 512-1555

GGTR Project No. 7335

Fn: 7335.GWM.F2.10.03

**SITE PLAN**

Sheaff's Garage  
 5930 College Avenue, Oakland, California

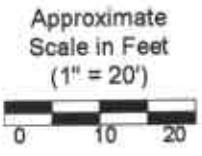
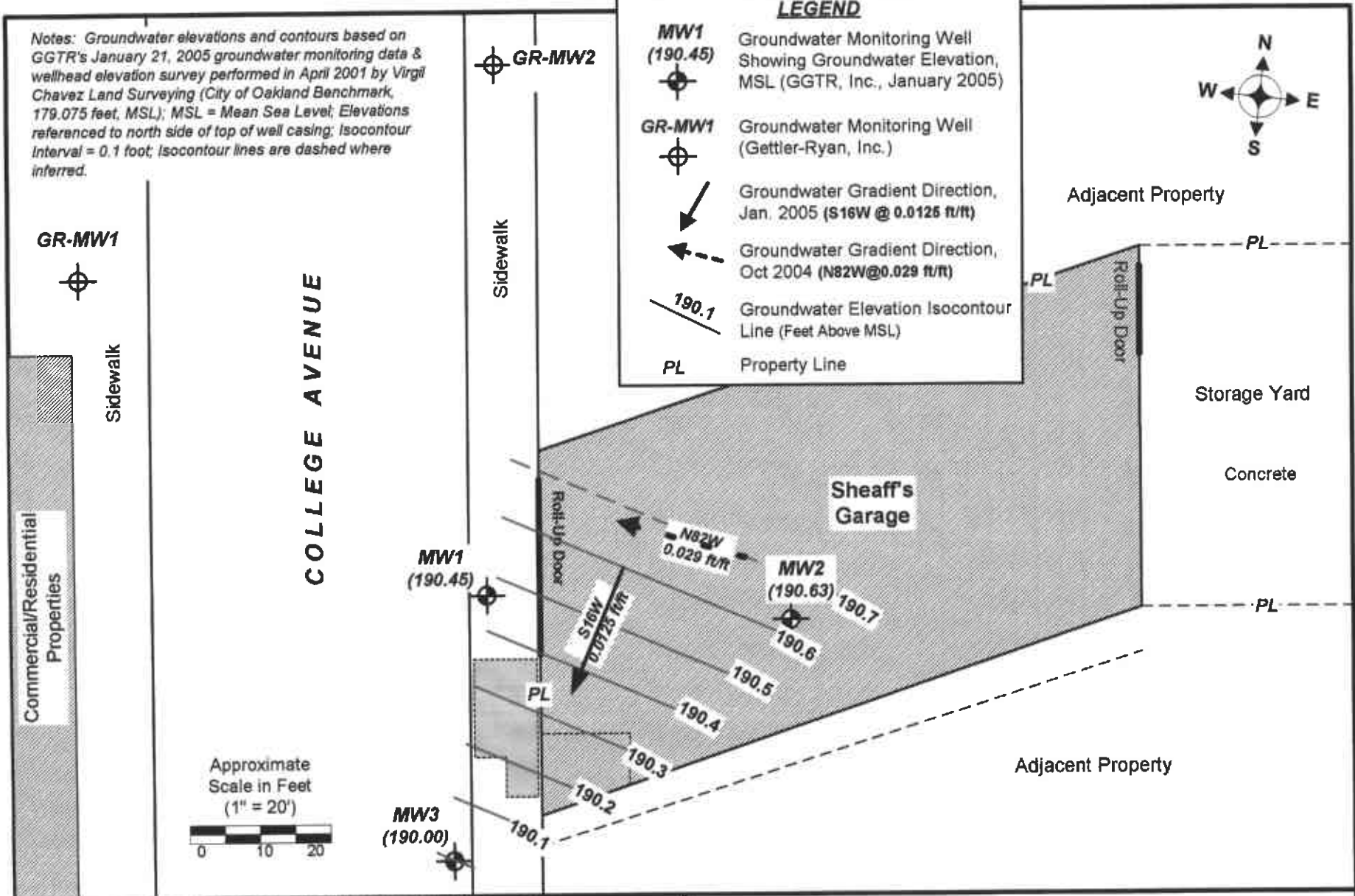
Revision By: baw/10.03

**FIGURE 2**

Notes: Groundwater elevations and contours based on GGTR's January 21, 2005 groundwater monitoring data & wellhead elevation survey performed in April 2001 by Virgil Chavez Land Surveying (City of Oakland Benchmark, 179.075 feet, MSL); MSL = Mean Sea Level; Elevations referenced to north side of top of well casing; Isocontour Interval = 0.1 foot; Isocontour lines are dashed where inferred.

**LEGEND**

- MW1 (190.45)** Groundwater Monitoring Well Showing Groundwater Elevation, MSL (GGTR, Inc., January 2005)
- GR-MW1** Groundwater Monitoring Well (Gettler-Ryan, Inc.)
- Groundwater Gradient Direction, Jan. 2005 (S16W @ 0.0125 ft/ft)
- Groundwater Gradient Direction, Oct 2004 (N82W @ 0.029 ft/ft)
- Groundwater Elevation Isocontour Line (Feet Above MSL)
- PL** Property Line



**GOLDEN GATE TANK REMOVAL, INC.**  
 255 Shipley Street  
 San Francisco, California 94107  
 Phone (415) 512-1555 Fax (415) 512-0964

**GROUNDWATER ELEVATION POTENTIOMETRIC MAP**  
 Sheaff's Garage  
 5930 College Avenue, Oakland, California

GGTR Project No. 7335

Fn: 7335.GWM.F3.01.05

Revision By: gw/03.05

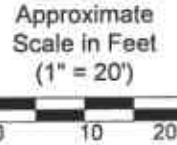
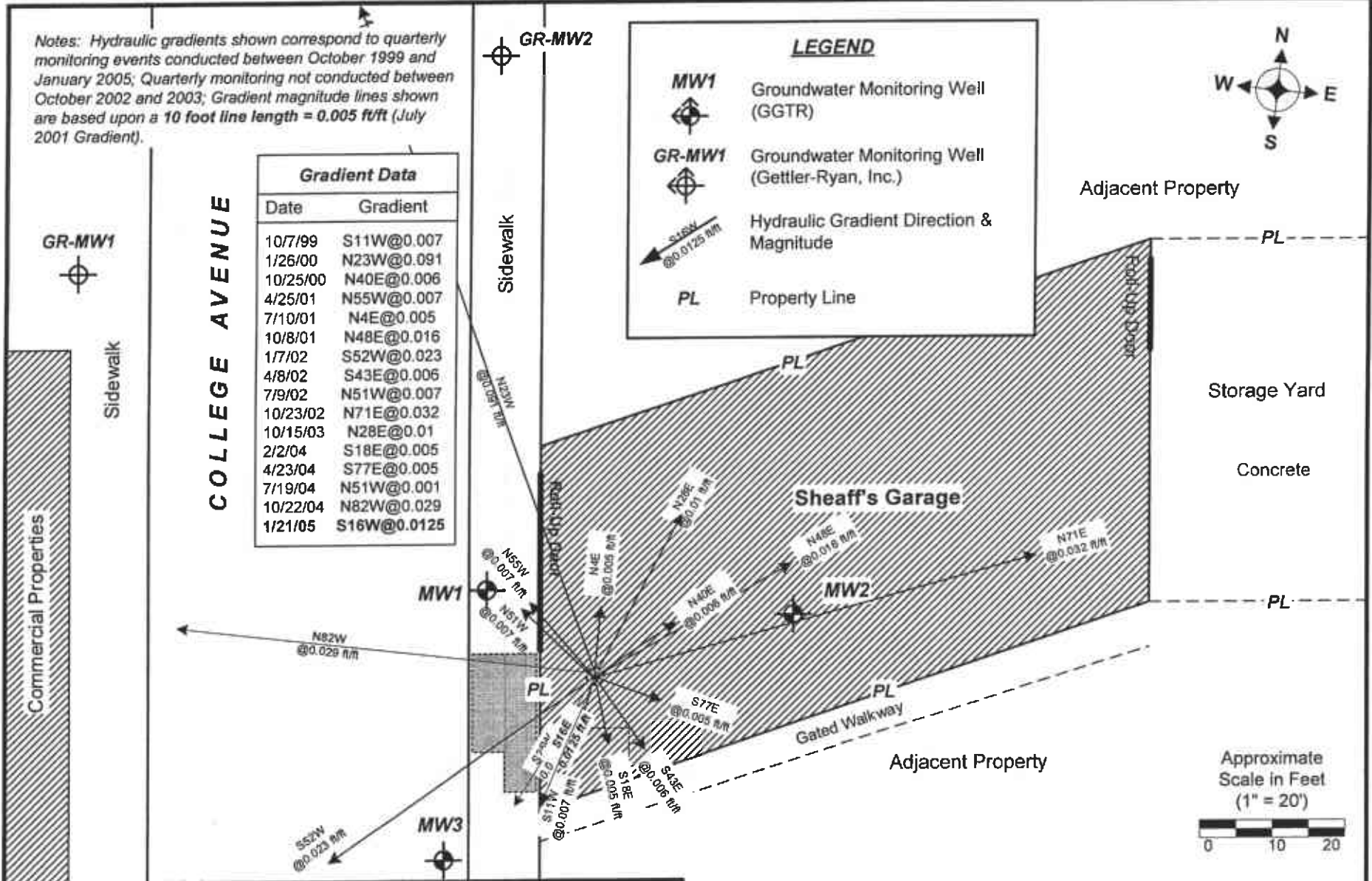
**FIGURE 3**

Notes: Hydraulic gradients shown correspond to quarterly monitoring events conducted between October 1999 and January 2005; Quarterly monitoring not conducted between October 2002 and 2003; Gradient magnitude lines shown are based upon a 10 foot line length = 0.005 ft/ft (July 2001 Gradient).

Gradient Data	
Date	Gradient
10/7/99	S11W@0.007
1/26/00	N23W@0.091
10/25/00	N40E@0.006
4/25/01	N55W@0.007
7/10/01	N4E@0.005
10/8/01	N48E@0.016
1/7/02	S52W@0.023
4/8/02	S43E@0.006
7/9/02	N51W@0.007
10/23/02	N71E@0.032
10/15/03	N28E@0.01
2/2/04	S18E@0.005
4/23/04	S77E@0.005
7/19/04	N51W@0.001
10/22/04	N82W@0.029
1/21/05	S16W@0.0125

**LEGEND**

- MW1 Groundwater Monitoring Well (GGTR)
- GR-MW1 Groundwater Monitoring Well (Gettler-Ryan, Inc.)
- Hydraulic Gradient Direction & Magnitude
- PL Property Line



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**ROSE DIAGRAM: HISTORICAL HYDRAULIC GRADIENT**  
 Sheaff's Garage  
 5930 College Avenue, Oakland, California



## **APPENDIX**

**LABORATORY CERTIFICATES OF ANALYSIS  
CHAIN OF CUSTODY FORM  
FLUID-LEVEL MONITORING DATA SHEET  
WELL PURGING/SAMPLING DATA SHEETS  
GEOTRACKER AB2886 UPLOAD CONFIRMATION FORMS**

**QUARTERLY GROUNDWATER MONITORING REPORT  
January 21, 2005**

Sheaff's Garage  
5930 College Avenue  
Oakland, California  
ACHCSA Fuel Leak Case No. RO0000377

GGTR Project No. 7335  
17 March 2005

## Electronic Submittal Information

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### UPLOADING A GEO\_WELL FILE

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**Submittal Title:** Fluid-Level Monitoring Data; MW1-MW3  
(1/21/2005)

**Submittal Date/Time:** 1/25/2005 1:59:13 PM

**Confirmation**  
**Number:** 9681638956

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**Confirmation Number:** 4732849597

**Date/Time of Submittal:** 3/1/2005 10:55:20 AM

**Facility Global ID:** T0600102112

**Facility Name:** SHEAFFS SERVICE GARAGE

**Submittal Title:** 05-0120: 01/21/05 GW Analytical Data (MW1-MW3)

**Submittal Type:** GW Monitoring Report

Click [here](#) to view the detections report for this upload.

<p><b>SHEAFFS SERVICE GARAGE</b> 5930 COLLEGE AVE OAKLAND, CA 94618</p>	<p><b>Regional Board - Case #: 01-2296</b> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <b>Local Agency (lead agency) - Case #: 514</b> ALAMEDA COUNTY LOP - (AG)</p>
---	--

<b>CONF #</b>	<b>TITLE</b>	<b>QUARTER</b>
4732849597	05-0120: 01/21/05 GW Analytical Data (MW1-MW3)	Q1 2005
<b>SUBMITTED BY</b>	<b>SUBMIT DATE</b>	<b>STATUS</b>
Tracy Wallace	3/1/2005	PENDING REVIEW

**SAMPLE DETECTIONS REPORT**

# FIELD POINTS SAMPLED	3
# FIELD POINTS WITH DETECTIONS	3
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	3
SAMPLE MATRIX TYPES	WATER

**METHOD QA/QC REPORT**

METHODS USED	SW8020F, SW8260B
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- SW8020F REQUIRES ETBE TO BE TESTED	
- SW8020F REQUIRES TAME TO BE TESTED	
- SW8020F REQUIRES DIPE TO BE TESTED	
- SW8020F REQUIRES TBA TO BE TESTED	
- SW8260B REQUIRES ETBE TO BE TESTED	
- SW8260B REQUIRES TAME TO BE TESTED	
- SW8260B REQUIRES DIPE TO BE TESTED	
- SW8260B REQUIRES TBA TO BE TESTED	
LAB NOTE DATA QUALIFIERS	Y

**QA/QC FOR 8021/8260 SERIES SAMPLES**

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	N

- SURROGATE SPIKE - NON-STANDARD SURROGATE USED N

**WATER SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% Y  
 MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% Y  
 SURROGATE SPIKES % RECOVERY BETWEEN 85-115% Y  
 BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% n/a

**SOIL SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% n/a  
 MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% n/a  
 SURROGATE SPIKES % RECOVERY BETWEEN 70-125% n/a  
 BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% n/a

**FIELD QC SAMPLES**

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPD.</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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CONTACT SITE ADMINISTRATOR.



### North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080

Phone: (650) 266-4563 Fax: (650) 266-4560

05-0120

Chain of Custody / Request for Analysis

Lab Job No.: \_\_\_\_\_ Page 1 of 1

Client: <b>GOLDEN GATE TRAIL REMOVAL</b>	Report to: <b>BRENT WHEELER</b>	Phone: <b>415 512 1555</b>	Turnaround Time
Mailing Address:	Billing to:	Fax: <b>415-512-0964</b>	<b>24 HR</b>
<b>255 SHIPLEY ST SF CA 94107</b>	<b>JAME</b>	email: <b>data@gsnr.com</b>	Date: <b>01-21-05</b>
		PO# <b>7335</b>	Sampler: <b>WOLF</b>

Project / Site Address / Global ID: <b>TG 600102112</b>					Analysis Requested			EDF <input checked="" type="checkbox"/>	PDF <input checked="" type="checkbox"/>
<b>5930 COLLEGE AVE, OAKLAND</b>					<b>TH-6</b>	<b>BTX</b>	<b>MTBE</b> <small>(20:20)</small>	<b>VOCs</b> <small>(see 8260)</small>	Field Point ID
Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time					
1 <b>7335-MW-1</b>	<b>GW</b>	<b>5 Vials</b>	<b>HCl</b>	<b>1/21/05 / 1105</b>	/	/	/	<b>7335-MW-1</b>	
2 <b>7335-MW-2</b>	↓	↓	↓	↓ <b>1220</b>	/	/	/	<b>7335-MW-2</b>	
3 <b>7335-MW-3</b>	↓	↓	↓	↓ <b>1200</b>	/	/	/	<b>7335-MW-3</b>	

Relinquished by:	Date: <b>1/21/05</b> Time: <b>10:45 A</b>	Received by:	Lab Comments/ Hazards
Relinquished by:	Date:          Time:          Received by:		
Relinquished by:	Date:          Time:          Received by:		

TERMS: NET 30 OAC

Sent By: North State Environmental; 6505881950; Feb-14-05 4:09PM; Page 2



North State Labs

CA ELAP # 1753

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## Case Narrative

Client: Golden Gate Tank Removal

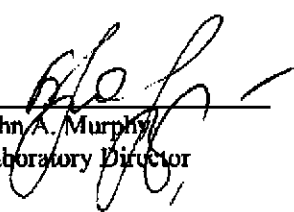
Project: 5930 COLLEGE AVE., OAKLAND

Lab No: 05-0120

Date Received: 01/24/04

Date reported: 02/12/05

Three water samples were analyzed for gasoline by method 8015B, BTEX and MTBE by method 8021B and VOCs by GC/MS method 8260B. No errors occurred. Results for QC/QA samples met all required criteria.

  
\_\_\_\_\_  
John A. Murphy  
Laboratory Director



# North State Labs

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CA ELAP#1753

## C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 05-0120  
 Client: Golden Gate Tank  
 Project: 5930 COLLEGE AVE OAKLAND

Date Reported: 02/12/2005

Gasoline, BTEX and MTBE by Methods 8015B/8021B

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 05-0120-01	Client ID: 7335-MW-1			01/21/2005	W
Benzene	SW8020F	14700	UG/L		01/25/2005
Ethylbenzene	SW8020F	10800	UG/L		01/25/2005
Gasoline Range Organics	SW8020F	278000	UG/L		01/25/2005
Methyl-tert-butyl ether	SW8020F	*271	UG/L		01/25/2005
Toluene	SW8020F	25300	UG/L		01/25/2005
Xylenes	SW8020F	73500	UG/L		01/25/2005
Sample: 05-0120-02	Client ID: 7335-MW-2			01/21/2005	W
Benzene	SW8020F	5980	UG/L		01/25/2005
Ethylbenzene	SW8020F	2890	UG/L		01/25/2005
Gasoline Range Organics	SW8020F	36900	UG/L		01/25/2005
Methyl-tert-butyl ether	SW8020F	*161	UG/L		01/25/2005
Toluene	SW8020F	1030	UG/L		01/25/2005
Xylenes	SW8020F	9070	UG/L		01/25/2005
Sample: 05-0120-03	Client ID: 7335-MW-3			01/21/2005	W
Benzene	SW8020F	111	UG/L		01/25/2005
Ethylbenzene	SW8020F	139	UG/L		01/25/2005
Gasoline Range Organics	SW8020F	2420	UG/L		01/25/2005
Methyl-tert-butyl ether	SW8020F	*ND<0.5	UG/L		01/25/2005
Toluene	SW8020F	11.4	UG/L		01/25/2005
Xylenes	SW8020F	265	UG/L		01/25/2005

\*Confirmed by GC/MS method 8260B.



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CA ELAP#1753

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## C E R T I F I C A T E O F A N A L Y S I S

### Quality Control/Quality Assurance

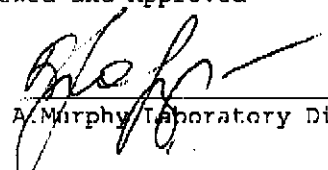
Lab Number: 05-0120  
 Client: Golden Gate Tank  
 Project: 5930 COLLEGE AVE OAKLAND

Date Reported: 02/12/2005  
 Gasoline, BTEX and MTBE by Methods 8015B/8021B

Analyte	Method	Reporting Unit Limit	Blank	Avg MS/MSD Recovery	RPD
Gasoline Range Organics	SW8020F	50 UG/L	ND	104/107	3
Benzene	SW8020F	0.5 UG/L	ND	90/97	7
Toluene	SW8020F	0.5 UG/L	ND	102/107	5
Ethylbenzene	SW8020F	0.5 UG/L	ND	107/110	3
Xylenes	SW8020F	1.0 UG/L	ND	120/122	2
Methyl-tert-butyl ether	SW8020F	0.5 UG/L	ND	96/100	4

ELAP Certificate NO:1753

Reviewed and Approved


  
 John A. Murphy, Laboratory Director

Page 2 of 2





# North State Labs

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CA HLAB# 1753

## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 05-0120  
 Client : Golden Gate Tank  
 Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 01/21/2005  
 Date Analyzed: 01/26/2005  
 Date Reported: 02/12/2005

### Volatile Organics by GC/MS Method 8260B

Laboratory Number	05-0120-01	05-0120-02	05-0120-03
Client ID	7335-MW-1	7335-MW-2	7335-MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Bromochloromethane	ND<200	ND<100	ND<1
Dichlorodifluoromethane	ND<200	ND<100	ND<1
Chloromethane	ND<200	ND<100	ND<1
vinyl chloride	ND<100	ND<50	ND<0.5
Bromomethane	ND<200	ND<100	ND<1
Chloroethane	ND<200	ND<100	ND<1
Trichlorofluoromethane	ND<200	ND<100	ND<1
1,1-Dichloroethane	ND<100	ND<50	ND<0.5
Acetone	ND<2000	ND<1000	ND<10
Methylene chloride	ND<5000	ND<2500	ND<25
trans-1,2-Dichloroethene	ND<200	ND<100	ND<1
Methyl-tert-butyl ether	174	163	ND<0.5
1,1-Dichloroethane	ND<100	ND<50	ND<0.5
2,2-Dichloropropane	ND<200	ND<100	ND<1
cis-1,2-Dichloroethane	ND<200	ND<100	ND<1
2-Butanone	ND<1000	ND<500	ND<5
Chloroform	ND<100	ND<50	ND<0.5
Carbon tetrachloride	ND<100	ND<50	ND<0.5
1,1-Dichloropropene	ND<100	ND<100	ND<1
Benzene	16600	5710	118
1,2-Dichloroethane	ND<200	ND<100	ND<1
Trichloroethene	ND<100	ND<50	ND<0.5
1,2-Dichloropropane	ND<200	ND<100	ND<1
Dibromomethane	ND<200	ND<100	ND<1
Bromodichloromethane	ND<200	ND<100	ND<1
trans-1,3-Dichloropropene	ND<200	ND<100	ND<1
4-Methyl-2-pentanone	ND<200	ND<100	ND<1
Toluene	7130	936	9.8
cis-1,3-Dichloropropene	ND<200	ND<100	ND<1
1,1,2-Trichloroethane	ND<200	ND<100	ND<1
Tetrachloroethene	ND<100	ND<50	ND<0.5
1,3-Dichloropropane	ND<200	ND<100	ND<1
2-Hexanone	ND<200	ND<100	ND<1
Dibromochloromethane	ND<200	ND<100	ND<1
1,2-Dibromoethane	ND<100	ND<50	ND<0.5

Comments:



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CA ELAP# 1753

## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 05-0120  
 Client : Golden Gate Tank  
 Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 01/21/2005  
 Date Analyzed: 01/26/2005  
 Date Reported: 02/12/2005

## Volatile Organics by GC/MS Method 8260B

Laboratory Number	05-0120-01	05-0120-02	05-0120-03
Client ID	7335-MW-1	7335-MW-2	7335-MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Chlorobenzene	ND<200	ND<100	ND<1
1,1,1,2-Tetrachloroethane	ND<200	ND<100	ND<1
Methylbenzene	3580	2380	150
Xylene, Isomers m & p	11700	4670	233
o-Xylene	5500	1080	8.7
Styrene	ND<200	ND<100	ND<1
Bromoform	ND<200	ND<100	ND<1
Isopropylbenzene	ND<200	ND<100	25
Bromobenzene	ND<200	ND<100	ND<1
1,1,2,2-Tetrachloroethane	ND<200	ND<100	ND<1
n-Propylbenzene	271	239	88
2-Chlorotoluene	ND<200	ND<100	ND<1
4-Chlorotoluene	ND<200	ND<100	ND<1
1,3,5-Trimethylbenzene	525	371	23
tert-Butylbenzene	ND<200	ND<100	ND<1
1,2,4-Trimethylbenzene	2080	1500	96
1,3-Dichlorobenzene	ND<200	ND<100	ND<1
1,4-Dichlorobenzene	ND<200	ND<100	ND<1
sec-Butylbenzene	ND<200	ND<100	ND<1
1,2-Dichlorobenzene	ND<200	ND<100	ND<1
n-Butylbenzene	ND<200	ND<100	15
Naphthalene	662	697	43
1,2,4-Trichlorobenzene	ND<200	ND<100	ND<1
Hexachlorobutadiene	ND<200	ND<100	ND<1
1,2,3-Trichlorobenzene	ND<200	ND<100	ND<1
1,2,3-Trichloropropane	ND<200	ND<100	ND<1
Acetonitrile	ND<1000	ND<500	ND<5
Acrylonitrile	ND<200	ND<100	ND<1
Isobutanol	ND<1000	ND<500	ND<5
1,1,1-Trichloroethane	ND<200	ND<100	ND<1
SUR-Dibromofluoromethane	109	103	112
SUR-Toluene-d8	100	103	100
SUR-4-Bromofluorobenzene	95	97	100
SUR-1,2-Dichloroethane-d4	114	111	105

Comments:



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CA EJP# 1753

## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 05-0120  
 Client : Golden Gate Tank  
 Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 01/21/2005  
 Date Analyzed: 01/26/2005  
 Date Reported: 02/12/2005

### Volatile Organics by GC/MS Method 8260B Quality Control/Quality Assurance Summary

Laboratory Number	05-0120	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Bromochloromethane	ND<1				
Dichlorodifluoromethane	ND<1				
Chloromethane	ND<1				
Vinyl chloride	ND<0.5				
Bromomethane	ND<1				
Chloroethane	ND<1				
Trichlorofluoromethane	ND<1				
1,1-Dichloroethane	ND<0.5	117/92	24	70-130	30
Acetone	ND<10				
Methylene chloride	ND<25				
trans-1,2-Dichloroethene	ND<1				
Methyl-tert-butyl ether	ND<0.5				
1,1-Dichloroethane	ND<0.5				
2,2-Dichloropropane	ND<1				
cis-1,2-Dichloroethene	ND<1				
2-Butanone	ND<5				
Chloroform	ND<0.5				
Carbon tetrachloride	ND<0.5				
1,1-Dichloropropene	ND<1				
Benzene	ND<0.5	118/113	4	70-130	30
1,2-Dichloroethane	ND<1				
Trichloroethane	ND<0.5	122/105	15	70-130	30
1,2-Dichloropropane	ND<1				
Dibromomethane	ND<1				
Bromodichloromethane	ND<1				
trans-1,3-Dichloropropene	ND<1				
4-Methyl-2-pentanone	ND<1				
Toluene	ND<0.5	123/113	8	70-130	30
cis-1,3-Dichloropropene	ND<1				
1,1,2-Trichloroethane	ND<1				
Tetrachloroethene	ND<0.5				
1,3-Dichloropropane	ND<1				
2-Hexanone	ND<1				
Dibromochloromethane	ND<1				
1,2-Dibromoethane	ND<0.5				
Chlorobenzene	ND<1	120/110	9	70-130	30
1,1,1,2-Tetrachloroethane	ND<1				
Ethylbenzene	ND<0.5				
Xylene, Isomers m & p	ND<1				
o-Xylene	ND<0.5				
Styrene	ND<1				



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CA ELAP#1753

## C E R T I F I C A T E O F A N A L Y S I S

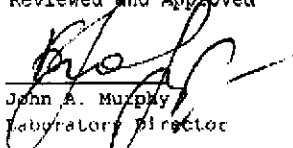
Job Number: 05-0120  
 Client : Golden Gate Tank  
 Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 01/21/2005  
 Date Analyzed: 01/26/2005  
 Date Reported: 02/12/2005

### Volatile Organics by GC/MS Method 8260B Quality Control/Quality Assurance Summary

Laboratory Number	05-0120	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results	Recoveries			
	UG/L				
Bromoform	ND<1				
Isopropylbenzene	ND<1				
Bromobenzene	ND<1				
1,1,2,2-Tetrachloroethane	ND<1				
n-Propylbenzene	ND<1				
2-Chlorotoluene	ND<1				
4-Chlorotoluene	ND<1				
1,3,5-Trimethylbenzene	ND<1				
tert-Butylbenzene	ND<1				
1,2,4-Trimethylbenzene	ND<1				
1,3-Dichlorobenzene	ND<1				
1,4-Dichlorobenzene	ND<1				
sec-Butylbenzene	ND<1				
1,2-Dichlorobenzene	ND<1				
n-Butylbenzene	ND<1				
Naphthalene	ND<1				
1,2,4-Trichlorobenzene	ND<1				
Hexachlorobutadiene	ND<1				
1,2,3-Trichlorobenzene	ND<1				
1,2,3-Trichloropropane	ND<1				
Acetonitrile	ND<5				
Acrylonitrile	ND<1				
Isobutanol	ND<5				
1,1,1-Trichloroethane	ND<1				
SUR-Dibromofluoromethane	109	109/104	5	85-115	30
SUR-Toluene-d8	97	101/101	0	85-115	30
SUR-4-Bromofluorobenzene	99	95/95	0	85-115	30
SUR-1,2-Dichloroethane-d4	102	114/114	0	85-115	30

Reviewed and Approved

  
 John A. Murphy  
 Laboratory Director



# Golden Gate Tank Removal, Inc.

## WELL PURGING/SAMPLING DATA

Project Number: 7335 Date: 21 JANUARY 2005

Project / Site Location: 5930 COLLEGE AVENUE, OAKLAND, CA

Sampler/Technician: WOLF

Casing/Borehole Diameter (Inches)	0.75/1.75	<u>2/8</u>	4/8	4/10	6/10	6/12
Casing/Borehole Volumes (gallons/foot)	0.02/0.13	<u>0.2/0.9</u>	0.7/1.2	0.7/1.6	1.5/2.2	1.5/3.1

<p>Well No. <u>MW-1</u></p> <p>A. Total Well Depth <u>14.6</u> Ft.(toc)          B. Depth To Water <u>5.45</u> Ft.          C. Water Height (A-B) <u>9.15</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>5.49</u> Gals.          G. 80% Recharge Level [B+(ExC)] <u>7.28</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>1040</u>          Finish Time: <u>1050</u>          Purge Volume: <u>5.5</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>7.25</u>          Time Measured: <u>1100</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p>Well Fluid Parameters:          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2.5</td> <td style="text-align: center;">3</td> </tr> <tr> <td>pH</td> <td>7.17</td> <td>7.25</td> <td>7.26</td> <td>7.20</td> <td>7.25</td> <td>7.15</td> </tr> <tr> <td>T (°F)</td> <td>17.</td> <td>17.1</td> <td>17.1</td> <td>17.8</td> <td>17.7</td> <td>18</td> </tr> <tr> <td>Cond.</td> <td>893</td> <td>862</td> <td>880</td> <td>868</td> <td>876</td> <td>886</td> </tr> </table> <p>DO <u>1.50</u> mg/L      <u>12.9%</u>          Turbidity          ORP</p> <p>Summary Data:          Total Gallons Purged: <u>5.5</u>          Purge device: <u>DC 40/60</u>          Sampling Device: <u>DISPOSABLE BAILER</u>          Sample Collection Time: <u>1105</u>          Sample Appearance: <u>STRONG ODOR/ NO SHEEN</u></p>		0	1	1.5	2	2.5	3	pH	7.17	7.25	7.26	7.20	7.25	7.15	T (°F)	17.	17.1	17.1	17.8	17.7	18	Cond.	893	862	880	868	876	886	<p>Well No. <u>MW-2</u></p> <p>A. Total Well Depth <u>19.5</u> Ft.(toc)          B. Depth To Water <u>6.65</u> Ft.          C. Water Height (A-B) <u>12.85</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>7.71</u> Gals.          G. 80% Recharge Level [B+(ExC)] <u>9.22</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>1140</u>          Finish Time: <u>1145</u>          Purge Volume: <u>7.8</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>7.8</u>          Time Measured: <u>1215</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p>Well Fluid Parameters:          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2.5</td> <td style="text-align: center;">3</td> </tr> <tr> <td>pH</td> <td>7.10</td> <td>6.99</td> <td>7.11</td> <td>7.00</td> <td>7.03</td> <td>6.98</td> </tr> <tr> <td>T (°F)</td> <td>18.1</td> <td>18.1</td> <td>18.2</td> <td>18.5</td> <td>18.7</td> <td>18.7</td> </tr> <tr> <td>Cond.</td> <td>1088</td> <td>1106</td> <td>1110</td> <td>1088</td> <td>1119</td> <td>1126</td> </tr> </table> <p>DO <u>0.98</u> mg/L      <u>10.8%</u>          Turbidity          ORP</p> <p>Summary Data:          Total Gallons Purged: <u>7.8</u>          Purge device: <u>DC 40/60</u>          Sampling Device: <u>DISPOSABLE BAILER</u>          Sample Collection Time: <u>1220</u>          Sample Appearance: <u>STRONG ODOR/ CLEAR NO SHEEN</u></p>		0	1	1.5	2	2.5	3	pH	7.10	6.99	7.11	7.00	7.03	6.98	T (°F)	18.1	18.1	18.2	18.5	18.7	18.7	Cond.	1088	1106	1110	1088	1119	1126
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Drums Remaining Onsite: 1 Total Volume: 29.8 Gals. (Show Location on Site Plan) SHEEN

# Golden Gate Tank Removal, Inc.

## WELL PURGING/SAMPLING DATA

Project Number: 7335 Date: 21 JANUARY 2005

Project / Site Location: 5930 COLLEGE AVENUE, OAKLAND, CA

Sampler/Technician: G WOLF

Casing/Borehole Diameter (inches)	0.75/1.75	<u>2 7/8</u>	4/8	4/10	6/10	6/12
Casing/Borehole Volumes (gallons/foot)	0.02/0.13	<u>0.2/0.9</u>	0.7/1.2	0.7/1.6	1.5/2.2	1.5/3.1

<p>Well No. <u>MW3</u></p> <p>A. Total Well Depth <u>19.00</u> Ft.(toc)          B. Depth To Water <u>5.22</u> Ft.          C. Water Height (A-B) <u>13.78</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>8.26</u> Gals.          G. 80% Recharge Level [B+(ExC)] <u>7.98</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>1115</u>          Finish Time: <u>1125</u>          Purge Volume: <u>8</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>8.5</u>          Time Measured: <u>1145</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p>Well Fluid Parameters:          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2.5</td> <td style="text-align: center;">3</td> </tr> <tr> <td>pH</td> <td style="text-align: center;"><u>7.34</u></td> <td style="text-align: center;"><u>7.22</u></td> <td style="text-align: center;"><u>7.31</u></td> <td style="text-align: center;"><u>7.30</u></td> <td style="text-align: center;"><u>7.57</u></td> <td style="text-align: center;"><u>7.36</u></td> </tr> <tr> <td>T (°F)</td> <td style="text-align: center;"><u>16.9</u></td> <td style="text-align: center;"><u>16.4</u></td> <td style="text-align: center;"><u>15.6</u></td> <td style="text-align: center;"><u>16.5</u></td> <td style="text-align: center;"><u>17.3</u></td> <td style="text-align: center;"><u>17.4</u></td> </tr> <tr> <td>Cond.</td> <td style="text-align: center;"><u>395</u></td> <td style="text-align: center;"><u>390</u></td> <td style="text-align: center;"><u>404</u></td> <td style="text-align: center;"><u>395</u></td> <td style="text-align: center;"><u>397</u></td> <td style="text-align: center;"><u>406</u></td> </tr> </table> <p>DO <u>0.89</u> mg/L <u>9.4%</u>          Turbidity          ORP</p> <p>Summary Data:          Total Gallons Purged: <u>8.5</u>          Purge device: <u>DC 40/60</u>          Sampling Device: <u>DISP. BAILER</u>          Sample Collection Time: <u>1200</u>          Sample Appearance: <u>SLIGHT ODOR/NO SHEEN</u></p>		0	1	1.5	2	2.5	3	pH	<u>7.34</u>	<u>7.22</u>	<u>7.31</u>	<u>7.30</u>	<u>7.57</u>	<u>7.36</u>	T (°F)	<u>16.9</u>	<u>16.4</u>	<u>15.6</u>	<u>16.5</u>	<u>17.3</u>	<u>17.4</u>	Cond.	<u>395</u>	<u>390</u>	<u>404</u>	<u>395</u>	<u>397</u>	<u>406</u>	<p>Well No. _____</p> <p>A. Total Well Depth _____ Ft.(toc)          B. Depth To Water _____ Ft.          C. Water Height (A-B) _____ Ft.          D. Well Casing Diameter _____ In.          E. Casing Volume Constant (from above table) _____          F. Three (3) Casing or Borehole Volumes (CxEx3) _____ Gals.          G. 80% Recharge Level [B+(ExC)] _____ Ft.</p> <p><u>Purge Event #1</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #1</u>          Depth to Water:          Time Measured:</p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p>Well Fluid Parameters:          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2.5</td> <td style="text-align: center;">3</td> </tr> <tr> <td>pH</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>T (°F)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cond.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>DO          Turbidity          ORP</p> <p>Summary Data:          Total Gallons Purged:          Purge device:          Sampling Device:          Sample Collection Time:          Sample Appearance:</p>		0	1	1.5	2	2.5	3	pH							T (°F)							Cond.						
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