Alameda County

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Environmental Health

REPORT OF ADDITIONAL SOIL AND GROUNDWATER INVESTIGATION

5930 College Avenue
Oakland, California
ACHCSA Site #RO0000377

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GGTR Project No. 7335
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TABLE OF CONTENTS

SOIL AND GROUNDWATER INVESTIGATION REPORT

5930 College Avenue, Oakland, California

INTRODUCTION

Purpose

Golden Gate Tank Removal, Inc. (GGTR) is pleased to submit this report, which discusses the activities and findings of the additional soil and groundwater investigation activities, conducted in August and October 2002 at Sheaff's Garage located at 5930 College Avenue in Oakland, California. The report was prepared in response to a July 9, 2001 letter issued by the Alameda County Health Care Services Agency (ACHCSA; Site #RO0000377), which requested both excavation and removal of all subsurface fuel product piping associated with the former underground storage tank (UST) system, and additional assessment to determine the extent of hydrocarbons in soil in the direct vicinity of the piping and former fuel dispenser at the subject property.

The purpose of this report is to present the activities and findings of the subsurface investigation performed at the site, and based on evaluation and interpretation of the data obtained, provide conclusions and recommendations for additionally required investigation or site closure review. The additional excavation work will help evaluate whether the subsurface piping was a potential source of contamination contributing to the elevated concentrations of residual gasoline-range hydrocarbons in groundwater reported during continued quarterly groundwater monitoring activities at the site. Also, the soil boring activities on the west side of the property were performed to determine whether the existing subsurface utilities running parallel along College Avenue may potentially be acting as a preferential migratory pathway for dissolved-phase hydrocarbons flowing from a presumed up-gradient (north-northeast), off-site source.

The investigation activities were conducted in general accordance with our work plan dated December 19, 2001, which was approved by the ACHCSA in their letter dated January 3, 2002. The general scope of work proposed in the work plan included excavation and removal of the subsurface product piping and underlying hydrocarbon-effected soil (if any), and drilling five additional percussion subsurface soil borings and collecting representative soil and grab groundwater samples for laboratory analysis. The investigation activities were performed in general accordance with the State Water Resources Control Board's Leaking Underground Fuel Tank (LUFT) manual and the TRI-Regional Board Staff Recommendation for Preliminary Evaluation and Investigation of Underground Tank Sites.

Scope of Work

The general scope of work conducted at the site included the following:

- Pre-field work activities and permitting
- Excavation and removal of subsurface fuel product piping and underlying fuel-effected soil
- Hand auger / percussion soil boring activities
- Soil and grab groundwater sampling activities
- Sample handling and transportation
- Backfilling activities
- Sample analysis and reporting
- Waste Management
- Data interpretation, report preparation and submittal.

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. Figure 3, *Detail Area Map* (referenced in Figure 2), shows the location of the former subsurface product piping and the locations of the excavation samples and vicinity subsurface soil borings.

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 was 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 throughout 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 October 2002) ranged between approximately 5.5 and 13 fbg. The associated groundwater gradient across the site 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 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.

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.

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. Analytical results of soil samples collected during the UST removal and over-excavation activities at the site are

summarized in the attached Table 1. 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 at the locations shown in Figures 2 & 3. 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. The locations of the soil borings/monitor wells are shown in Figure 2. Table 2, attached, summarizes the laboratory analytical results of soil samples collected from B1 through B6.

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 October 2002. The locations of the subject monitor wells as well as Gettler-Ryan's monitoring wells are shown on Figure 2. The attached Table 4 presents the historical boring/monitor well data & groundwater analytical results for samples collected from B1 through B3 and B4/MW1 through B6/MW3.

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. Implementation of the approved work plan activities are discussed in the following sections.

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	ACHCSA 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	ACHCSA 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	ACHCSA 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 approval 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**

INVESTIGATION ACTIVITIES

Sequence

The following is GGTR's sequence of additional investigation activities performed at the subject property in August, October, and November 2002.

- Notify all representative parties of scheduled field activities
- Obtain a Drilling Permit from the Alameda County Public Works Agency
- Obtain an Excavation Permit from City of Oakland Department of Public Works
- Conduct site markout and notify Underground Service Alert for utility clearance
- Locate subsurface product piping and sawcut/remove concrete sidewalk above proposed trench excavation area
- Excavate all clean overburden soil and stockpile on plastic sheeting
- Expose and remove product piping leading from former UST excavation to the former fuel dispenser, including the dispenser island (Figure 3)
- If warranted, remove underlying fuel-effected soil and separately stockpile on plastic sheeting
- Collect confirmation soil samples directly beneath product piping
- Perform hand auger soil boring and sampling activities in trench excavations to assess vertical extent of fuel-effected soil and its potential impact to groundwater (if encountered)
- Backfill trench excavation with overburden soil/clean import soil and compact; replace concrete pavement
- Conduct percussion soil boring and sampling activities
- Submit soil and grab groundwater samples to State-licensed environmental laboratory for analysis
- Profile, transport, and dispose of all fuel-effected solid/liquid waste (if warranted)
- Interpret all field and analytical data and prepare summary report; upload all analytical data to State GeoTracker Database System

Pre-Field Activities

Prior to commencing all fieldwork, GGTR scheduled Gregg Drilling & Testing, Inc. (Gregg) of Martinez, California for the proposed percussion drilling activities at the subject property. GGTR prepared a Community Site Health and Safety Plan (HASP) for all field activities performed at the subject property, and obtained Drilling Permit No. W02-0977 from the Alameda County Public Works Agency (Water Resources Section) and Excavation Permit No. X0201015 from the City of Oakland Public Works Department (Civil Engineering

Section). GGTR than notified all property representatives and regulatory personnel of all scheduled field work dates. As required by law, GGTR than marked the general work area and proposed boring locations in white surface paint and notified Underground Service Alert approximately 72 hours prior to commencement of drilling activities, so that any subsurface utilities extending through the work area are located. A copy of the drilling and excavation permits is included in Appendix A.

Proposed boring locations were chosen in areas free of conflict with overhead utility lines and marked subsurface utilities, and in areas accessible for a limited access, truck-mounted GeoProbe® drill rig. Actual boring locations were determined by on-site field personnel during drilling activities, and are shown in Figure 3.

Subsurface Product Piping Removal & Sampling Activities

Between August 24 and 30, 2002, GGTR implemented the subsurface product piping excavation and sampling activities in general accordance with our December 2001 work plan. The location of the product piping, extending between the former fuel dispenser and UST cavity, is shown in Figure 3.

GTTR initially sawcut and removed the existing concrete pavement above the product piping and placed the concrete waste in a covered stockpile in the east parking lane of College Avenue. GGTR also removed the existing concrete pad (42-inch by 42-inch) previously used to support the former product fuel dispenser located adjacent to the north interior wall of the building structure (Figure 3). GGTR then excavated a 16-inch wide trench (extending the entire length of the piping @ 30 feet) to approximately 2 fbg, exposing the entire surface of the product piping. GGTR placed the excavated overburden soil in a separate stockpile.

Immediately following excavation activities, under the direction of Ms. Eva Chu of the ACHCSA, GGTR collected a soil sample beneath the south (Sample ID: 7335-EX1[3.5]) and north (Sample ID: 7335-EX3[2.5]) ends of the product piping as well as beneath the piping joint (Sample ID: 7335-EX2[3.5]) located approximately 20 feet north-northeast of the elbow joint connecting to the former UST. The sample locations are shown in Figure 3.

GGTR initially hand augered each sample location up to approximately 3.5 fbg and then collected each soil sample using a brass tube-lined, remote core sampler driven approximately 3 inches into relatively undisturbed soil. GGTR monitored the organic vapor concentrations of each soil sample using a Thermo® 580B Organic Vapor Analyzer (OVA). GGTR sealed the ends of each sample tube with Teflon® tape and plastic caps, appropriately labeled each tube and transferred the samples to a cooler chilled to approximately 4° Centigrade.

The core sampler was washed between each sample interval using an Alconox® solution and double rinsed with clean, potable water. Equipment wash and rinse water was subsequently transferred to a 55-gallon D.O.T.-approved steel drum and temporarily stored onsite.

Following soil sampling activities, the entire length of piping was removed and disposed as scrap metal. GGTR then backfilled the trench excavation with the stockpiled overburden soil, compacted the backfilled soil, and replaced the concrete pavement to restore original site conditions. The excavation area beneath the former fuel dispenser was not repaved and temporarily covered with plywood and a folding barricade, to facilitate the additional soil boring activities (B7) proposed at this location.

Soil Boring and Sampling Activities

On October 30, 2002, GGTR contracted Gregg (State Contractors C-57 License #485165) to perform the additional soil boring and sampling activities at the site. GGTR initially conducted a safety tailgate meeting with all pertinent site personnel to discuss all information provided in the project HASP. GGTR inspected the percussion drill tubes for cleanliness to avoid cross contamination between differing sites.

Prior to drilling, GGTR directed Gregg to hand auger the proposed soil boring (B8 through B11) up to approximately 4 fbg to clear for any unmarked utilities. Gregg drilled B7 through B11 up to approximately 20 fbg using 2-inch diameter, percussion drill tubing (Direct Push Technology). The locations of each soil boring are shown in Figure 3. Borings B7 and B10 were drilled in the direct vicinity of the former dispenser island and UST cavity, respectively, to assess the extent of previously reported hydrocarbons in soil at these locations. Continuous soil samples were collected in each boring at 4-feet intervals, between 5 and 20 fbg, by hydraulically driving a 1- to 2-inch-diameter, butyrate plastic tube-lined, core sampler into relatively undisturbed soil.

At the bottom section of each sample interval, GGTR monitored and recorded the organic vapor concentrations of each soil sample using a Thermo® 580B Organic Vapor Analyzer and classified and logged all samples and hand auger soil cuttings using the Unified Soil Classification System and Munsell Rock Color Chart. Soil boring logs of B7 through B11 are presented in Appendix B.

Immediately following sample collection, GGTR chose a representative portion of the sample tube (1-foot-length) from each sample interval, sealed the ends of each sample tube with Teflon® tape and plastic caps, appropriately labeled each tube and transferred the samples to a cooler chilled to approximately 4° Centigrade. The core sampler was washed between each sample interval using an Alconox® solution and double rinsed with clean, potable water. Equipment wash and rinse water was subsequently transferred to a 55-gallon D.O.T.-approved steel drum and temporarily stored onsite.

Grab Groundwater Sampling & Backfilling Activities

Following soil sampling activities in each soil boring, Gregg temporarily placed 0.75-inch-diameter, factory-sealed, screened piezometer casing to the approximate total depth of each borehole. GGTR monitored and recorded the depth to groundwater (DTW) in each borehole (relative to grade surface) using an electronic water level indicator. Groundwater was not

observed in B9 through B11, most likely due to the compacted borehole sidewalls and the relatively impermeable silty clay / clayey silt soil observed in each boring between 5 and 20 fbg (presumed saturated zone soil). Gregg then collected a grab groundwater sample in B7 and B8 using a clean, stainless steel, 0.5-inch-diameter bailer. GGTR carefully drained the groundwater sample from the bottom of the bailer directly into laboratory-cleaned, 40-milliliter volatile organic analysis (VOA) vials. A specialized drainage tip was used to prevent loss of any volatile constituents during sample transfer. GGTR sealed each sample container with a threaded cap and inverted the VOA vials to insure no headspaces or entrapped air bubbles were present. GGTR appropriately labeled each sample container and immediately placed the samples in a cooler chilled to approximately 4° Centigrade.

The downhole monitoring equipment was washed between each boring location using an Alconox® solution and double rinsed with clean, potable water. Equipment wash and rinse water was subsequently transferred to a 55-gallon D.O.T.-approved steel drum.

Following grab groundwater sampling, GGTR removed the temporary well casing from B7 and B8 and backfilled each borehole with neat Portland cement (0.5-20 fbg) and asphalt patch (B8 only). GGTR then secured the well casing in B9 through B11 at grade surface and placed a steel cover and hydrated bentonite paste above each borehole location to inhibit any potential surface water infiltration.

On November 1, 2002, GGTR and Gregg returned to the site to complete groundwater sampling activities. GGTR initially monitored and recorded the DTW in each borehole. Gregg collected a grab groundwater sample in B9 and B10 in similar accordance with the sampling procedures discussed above. Groundwater was not measured in B11 and no groundwater sample was collected at this time. Sampled groundwater was also poured into a 1-liter amber bottle for additional metals analysis. Gregg subsequently extracted the temporary well casing and backfilled each open borehole with neat Portland cement (0.5-20 fbg) and either asphalt patch or surface concrete.

Soil Sample Analysis

On August 28 and October 31, 2002, GGTR submitted the product pipeline excavation soil samples and the soil samples collected during the additional soil boring activities under respective formal chain-of-custody command to North State Laboratory (NSL; CA ELAP 31753) for analysis. Each pipeline excavation sample, the composite sample of the soil cuttings, and selected samples from each boring were analyzed by the following California Department of Health Services approved methods.

- TPH-G (SW8020F)
- BTEX (SW8020F)
- MTBE (SW8020F); confirmed by EPA Method 8260B

GGTR directed NSL to additionally analyze each pipeline excavation soil sample for Total Lead (EPA Method 6010B ICAP). GGTR also directed NSL to additionally analyze the soil

samples collected in B10 for Total Oil & Grease (Silica Gel Treated Hexane; EPA Method 1664) and the soil sample collected in B10 at 11 fbg for LUFT 5 Metals (cadmium, chromium, lead, nickel, and zinc; EPA 6010B ICAP) and Volatile Organic Compounds (VOCs; EPA Method 8260) to further assess the extent of elevated total recoverable petroleum hydrocarbons reported in the soil samples collected during the August and October 1996 tank removal/over-excavation activities. For waste characterization, the composite soil sample was additionally analyzed for Total Lead and Halogenated VOCs (HVOCs; EPA 8010). NSL performed all sample extraction and analysis in conformance with the maximum 14-day hold time for the volatile analyses.

GGTR submitted the vadose zone sample collected in B9 at 7 fbg and the saturated zone samples collected in B8 and B11 at 17 and 19 fbg, respectively, to Cooper Testing Laboratory, Inc. in Mountain View, California, for Moisture Density and Sieve & Hydrometer analysis. A copy of each associated Moisture-Density-Porosity and Particle Size Distribution Reports is in Appendix C.

Figures 5 and 6 present a cross section (A-A' and B-B'; locations referenced in Figure 3) through B8/B9/B10 and B7/B11, respectively, showing soil lithology, sample depth intervals, and laboratory analytical results of soil samples collected in these borings. Table 2, attached, summarizes the historical laboratory results of soil boring samples collected during the additional soil boring activities performed in October 2002. The laboratory analytical results of the pipeline excavation soil samples (August 2002) are presented in Table 3. A copy of the respective laboratory analytical report and chain of custody record as well as associated Quality Assurance and Quality Control (QA/QC) details is included in Appendix C.

Grab Groundwater Sample Analysis

On October 31 and November 1, 2002, GGTR submitted the grab groundwater sample under respective formal chain-of-custody command to NSL for analysis. The grab groundwater sample collected in B7 through B10 was analyzed for the following Department of Health Services approved methods.

- TPH-G (EPA Methods 5030B/8015M)
- BTEX (EPA Methods 5030B/8020F)
- MTBE (EPA Methods 5030B/8020)

The grab groundwater sample collected in B10 was additionally analyzed for Total Extractable Petroleum Hydrocarbons (n-Hexane Extractable; EPA 1664), LUFT 5 Metals, and VOCs to evaluate the dissolved-phase hydrocarbons in the vicinity of the former UST cavity. GGTR directed NSL to filter the sample container used for the LUFT 5 analysis prior to acidification. NSL performed all groundwater extraction and analysis procedures in conformance with the maximum 14 day hold time for the volatile analyses.

The attached Table 4 includes the historical laboratory analytical results of the grab groundwater samples collected in B7 through B10 and fluid-level monitoring data measured

during the additional soil and groundwater investigation activities. A copy of the respective laboratory analytical report, QA/QC details, and chain of custody record is included in Appendix C.

GGTR uploaded all soil and grab groundwater sample analysis in electronic deliverable format (EDF) to the State Water Resources Control Board's GeoTracker Database System pursuant to State Assembly Bill 2886. The GeoTracker Upload Confirmation Numbers are 7359880208, 4849205434, and 8513630270. A copy of each EDF confirmation report corresponding to Lab Number/Submittal Titles 02-1210, 02-1559, and 02-1566 is included in Appendix C.

Waste Management

GGTR transferred all drill cuttings and excess soil sample waste not utilized for laboratory analysis as well as drilling and sampling equipment wash and rinse water to a D.O.T.-approved steel drums and temporarily stored the drum in a secure area onsite. The drums remains onsite for future monitoring and/or investigation use.

Findings of Investigation

Summary / General Site Conditions

- Between August 24 and 30, 2002, GGTR excavated and removed approximately 30 feet of subsurface pipeline extending between the former fuel dispenser and gasoline and waste oil UST cavity (Figure 3). Three soil samples were collected at each end and at the middle of the piping run, between approximately 0.5 and 1.5 feet below the invert of the piping in relatively undisturbed soil. The entire length of piping was found in good condition with no visible holes or cracks. No soil discoloration or staining was observed below the piping joints or elbow connections (@ sample locations). The trench excavation was subsequently backfilled with the overburden soil, compacted, and resurfaced with concrete.

- On October 30 and November 1, 2002, GGTR percussion-drilled five (5) additional subsurface investigative soil borings, B7 through B11, up to approximately 30 fbg along the north and west sides of the subject property to evaluate the extent of gasoline- and waste oil-range, hydrocarbon-effected soil and groundwater in the vicinity of the former UST and associated fuel dispenser. Soil samples were collected continuously in each boring between 5 and 20 fbg. GGTR collected grab groundwater samples from B7 through B10. No groundwater was encountered in B11. Each borehole was subsequently backfilled with neat Portland cement and either asphalt patch or surface concrete.

- 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).

- 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 sandy silt / silty sand 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 throughout B10 and B11 was predominantly clayey, sandy silt grading to clayey sand. Soil discoloration and slight to moderate hydrocarbon odor were detected in soil samples collected in B7 through B10 between approximately 11 and 15 fbg.

- As described in the appended Particle Size Distribution and Moisture-Density-porosity Reports, soil in B8 at 17 fbg was olive gray clay (57.9 % silt & 27.3% clay) with sand (14.8%) with a porosity of 38.6% and a moisture content and associated density of 22.8% and 106 pounds per cubic foot (pcf), respectively. Soil in B9 at 7 fbg was described as a brown, clayey sand (47.3%) with trace gravel, with 39.5% porosity, 19% moisture, and approximately a 102 pcf density. The soil sample collected in B11 (north side of site) at 19 fbg was described as brown clayey (25.5% silt and 22.9% clay) sand (34.8%) with 43% porosity, 21.9% moisture content, and an approximate density of 97 pcf.

- 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.

- The static groundwater level measured in MW2 on August 27 and November 1, 2002, was 12.10 and 13.32 fbg, respectively. The depth to groundwater measured in B7 through B10 in October and November 2002 was 16.4, 11.5, 16.95, and 13.85 fbg, respectively. Depth to groundwater, as measured on a quarterly basis in the three onsite monitoring wells (October 1999 through October 2002) ranged between approximately 5.5 and 13 fbg. The associated groundwater gradient across the site 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). Groundwater was *not* encountered in B11.

- Groundwater at the site (October 23, 2002 quarterly monitoring) was characterized by a relatively low dissolved oxygen concentration ranging between 2.3% (0.20 milligrams per liter, mg/L) in MW1 and 4.6% (0.41 mg/L) in MW3, signifying that biodegradation is

potentially occurring in the shallow groundwater. The dissolved oxygen in groundwater at the site was not measured during the additional investigation activities.

- Soil cuttings and/or excess sample waste not utilized for laboratory analysis as well as the monitoring and drilling equipment wash and rinse water (@ 15 gallons) were placed in separate 55-gallon drums and stored onsite for future monitoring and/or investigation use.

Soil Analytical Data (Refer To Attached Tables 2 & 3)

- The soil samples collected in the pipeline excavation sample location EX1 (south end of pipe run beneath elbow) contained insignificant, detectable concentrations of TPH-G (5.510 milligrams per kilogram (mg/kg)), toluene (0.006 mg/kg), and total xylenes (0.040 mg/kg). The TPH-G, BTEX, and MTBE concentrations measured in the soil samples collected in EX2 and EX3 (Figure 3) were below the respective laboratory reporting limit (0.500 mg/kg for TPH-G, ≤0.010 mg/kg for BTEX, and 0.005 mg/kg for MTBE), except in EX3, which contained an insignificant concentration of TPH-G (0.967 mg/kg). The pipeline excavation soil samples collected in EX1 through EX3 contained 3.6, 3.3, and 18.8 mg/kg total lead, respectively.

- The soil samples collected in B7 (located beneath former fuel dispenser) between 8 and 20 fbg contained insignificant concentrations of TPH-G (≤61.8 mg/kg), ≤0.762 mg/kg benzene, ≤2.37 mg/kg toluene, ≤1.4 mg/kg ethylbenzene, and ≤6.34 mg/kg total xylenes.

- The soil samples collected in B8 and B9 (in parking lane adjacent to northwest corner of garage structure) between 12 and 20 fbg contained insignificant concentrations of TPH-G (≤47.5 mg/kg), ≤1.12 mg/kg benzene, and 9.46 mg/kg total xylenes (B9 @ 15 fbg). The samples also contained insignificant concentrations of toluene (≤1.96 mg/kg) and ethylbenzene (≤2.09 mg/kg).

- The soil samples collected in B10 (in parking lane adjacent to west side of former UST cavity) between 11 and 17 fbg contained ≤479 mg/kg TPH-G, ≤4.16 mg/kg benzene, ≤15.9 mg/kg ethylbenzene, ≤9.21 mg/kg ethylbenzene, ≤44.6 mg/kg total xylenes (@ 15 fbg), and non detectable concentrations <50 mg/kg of TEPH. The sample collected at 11 fbg contained 0.183 mg/kg MTBE (0.599 mg/kg, as confirmed by EPA 8260). This soil sample also contained the following insignificant concentrations of VOCs, in mg/kg: isopropylbenzene (0.100), n-propylbenzene (0.453), 1,3,5-trimethylbenzene (2.63), 1,2,4-trimethylbenzene (0.832), n-butylbenzene (0.313), and naphthalene (0.715).

- The soil sample collected in B10 at 11 fbg contained <2.0 mg/kg cadmium (ND), 38.2 mg/kg chromium, 19.6 mg/kg total lead, 51.5 mg/kg nickel, and 47.7 mg/kg zinc.

- The TPH-G, BTEX, and MTBE concentrations reported in the soil samples collected in B11 at 8 and 13 fbg were each below the respective laboratory reporting limit (0.500 milligrams per kilogram (mg/kg) for TPH-G, ≤0.010 mg/kg for BTEX, and 0.005

mg/kg for MTBE), except for a detectable total xylenes concentration of 0.014 mg/kg at 8 fbg.

- The MTBE concentrations reported in the soil samples collected in B7 through B11 were below the respective laboratory reporting limit (0.005 mg/kg), except in B10 @ 11 fbg (0.183 mg/kg), as stated above.

- The composite sample of the containerized sample waste (Sample ID 7335-SC1), contained 0.943 mg/kg TPH-G, non detectable or insignificant concentrations of BTEX, 24.9 mg/kg total lead, and non detectable concentrations ≤0.25 mg/kg of HVOCs.

- The detectable, insignificant concentrations of TPH-G reported in the soil samples collected in B7 through B10 do not exceed the respective California Regional Water Quality Control Board's (CRWQCB) Tier 1 Risk-Based Screening Level (RBSL; December 2001) for surface (<10 fbg) and subsurface soil (>10 fbg). The benzene concentrations (≤4.16 mg/kg) measured in B7 at 13 and 16 fbg, B8 at 16 fbg, B9 at 12 and 15 fbg, and B10 at 15 fbg, slightly exceed the Tier 1 RBSL listed for this constituent (0.045 mg/kg). The concentrations of total xylenes (≤44.6 mg/kg) measured in B7 at 13 and 16 fbg, B9 at 15 fbg, and in B10 at 11 and 15 fbg, slightly exceed the Tier 1 RBSL listed for this constituent (1.0 mg/kg). Also, the toluene (15.9 mg/kg) and ethylbenzene (9.21 mg/kg) concentrations measured in B10 at 15 fbg and the MTBE concentration at 11 fbg slightly exceed the respective Tier 1 RBSLs listed for these constituents (2.6, 2.5, and 0.028 mg/kg, respectively). These comparative levels are for sites with residential permitted land usage in which the associated groundwater *is* considered a potential source of drinking water.

- The detectable concentration of total chromium measured in B10 at 11 fbg (38.2 mg/kg) exceeds the Tier 1 RBSL reported for this constituent (13 mg/kg; residential land use).

Grab Groundwater Analytical Data (Refer To Attached Table 4)

- The grab groundwater sample collected in B7 @ 16.4 fbg (beneath former fuel dispenser) contained 296,000 micrograms per liter (ug/l) TPH-G, 18,400 ug/l benzene, 21,900 ug/l toluene, 8,310 ug/l ethylbenzene, 33,800 ug/l total xylenes, and 1,360 ug/l MTBE (confirmed by EPA 8260).

- The grab groundwater sample collected in B8 @ 11.5 fbg contained 1,480 ug/l TPH-G, 386 ug/l benzene, 9 ug/l toluene, 74 ug/l ethylbenzene, 81 ug/l total xylenes, and 35 ug/l MTBE. The grab groundwater sample collected in B9 @ 16.95 fbg contained 16,100 ug/l TPH-G, 1,250 ug/l benzene, 1,380 ug/l toluene, 820 ug/l ethylbenzene, 3,480 ug/l total xylenes, and 879 ug/l MTB.

- The grab groundwater sample collected in B10 @ 13.85 fbg (west side of former UST cavity) contained 49, 400 ug/l TPH-G, 6,600 ug/l benzene, 9,940 ug/l toluene, 1,610 ug/l

ethylbenzene, 7,600 ug/l total xylenes, and 2,040 ug/l MTBE. BTEX concentrations were confirmed by EPA Method 8260 as 8,470, 11,700, 2,280, and 10,480 ug/l, respectively. The grab groundwater sample in B10 also contained the following additional VOC concentrations, in ug/l: 74 isopropylbenzene, 230 n-propylbenzene, 1,610 1,3,5-trimethylbenzene, 441 1,2,4-trimethylbenzene, and 765 naphthalene.

- The grab groundwater sample in B10 also contained elevated concentrations of dissolved-phase total chromium (280 ug/l), lead (260 ug/l), nickel (330 ug/l), and zinc (410 ug/l).

- The detectable dissolved-phase BTEX concentrations measured in the grab groundwater samples collected in B7 through B10 exceed the respective CRWQCB Municipal Supply Water Quality Objectives (Maximum Contaminant Level, MCL) listed for these constituents (1 ug/l for benzene, 150 ug/l for toluene, 700 ug/l for ethylbenzene, and 1,750 ug/l for total xylenes), except for the toluene (9 ug/l), ethylbenzene (74 ug/l), and total xylenes (81 ug/l) concentrations in B8. The elevated MTBE concentrations measured in each sample exceed the Secondary MCL established for this constituent (5 ug/l). No MCL currently exists for TPH-G.

- The elevated TPH-G, BTEX, and MTBE concentrations (listed above) measured in the grab groundwater samples collected in B7 through B10 exceed the respective CRWQCB's December 2001 Tier 1 RBSL for groundwater >10 fbg, which is a threatened drinking water resource (100 ug/l for TPH-G, 1.0, 40, 30, and 13 ug/l for BTEX, and 5 ug/l for MTBE).

- The elevated, dissolved-phase chromium, lead, nickel, and zinc measured in the grab groundwater sample in B10 (listed above) exceed the respective Tier 1 RBSL listed for each constituent (11 ug/l for chromium, 3.2 ug/l for lead, 8.2 ug/l for nickel, and 23 ug/l for zinc).

Conclusions

- Based on the findings of the subsurface product pipeline removal and sampling activities, shallow surface soil (up to approximately 3.5 fbg) directly beneath the piping run, between the former UST cavity and associated fuel dispenser, has not been affected by gasoline-range hydrocarbons. The piping was found in good condition and subsequently removed, and does not likely appear to be a potential or contributing source of the elevated gasoline hydrocarbons present in the groundwater at the site.

- Based on the laboratory analytical results of soil samples collected in the soil borings B7 through B11 between 8 and 20 fbg, it appears that only low level, gasoline-range hydrocarbons (i.e., TPH-G, benzene, and total xylenes), generally at or below the respective Tier 1 RBSL, are present in the soil at this depth interval (assumed saturated zone soil only). Historical soil samples collected in B1 through B6 between 5 and 20 fbg also contained low-level, detectable concentrations up to approximately 15 fbg. The

lateral extent of soil hydrocarbons to the north and west of the site has not been adequately assessed.

- Elevated concentrations of gasoline-range hydrocarbons were detected in the groundwater at the northwest corner of the subject property and directly beneath the east parking lane of College Avenue. Concentrations of dissolved-phase TPH-G (≤296,000 ug/l), benzene (≤18,400 ug/l), toluene (≤21,900 ug/l), ethylbenzene (≤8,310 ug/l), total xylenes (≤33,800 ug/l; B7), and MTBE (≤2,680 ug/l; B10) appear to extend laterally to the north and west (general lateral- and up- gradient directions reported in October of 2000 though 2002) up to at least 12 feet as measured from the center of the former subject UST cavity.

- The extent of groundwater contamination was not assessed east and southeast of the former UST cavity and fuel dispenser during this phase of investigation. Due to the absence of groundwater reported in soil boring B11, groundwater was not assessed northeast of the former UST cavity.

- Based on the insignificant, low-level concentrations of gasoline hydrocarbons in soil beneath the former fuel dispenser (B7) up to approximately 16 fbg (assumed capillary fringe zone) and the elevated dissolved-phase gasoline hydrocarbons measured in the associated grab groundwater sample, it is unlikely that a historical release from the former fuel dispenser had occurred and potentially migrated vertically to cause the current groundwater contamination. Furthermore, it appears that a potential offsite source in the general north-northwest direction may be contributing to the elevated gasoline concentrations historically reported in both MW1 and MW2 (apparent down-gradient wells, respectively, during October 1999 and January & April 2002).

- The predominant direction of groundwater flow measured during the quarterly events in the months of October (2000 and 2001) was generally northeast. The groundwater flow measured on October 23, 2002, just prior to implementation of the additional soil boring activities, was directed east-northeast (71° east of north), generally toward the subject property from College Avenue. The detectable and/or elevated concentrations of TPH-G, BTEX, and MTBE reported in the grab groundwater samples collected in B8 through B10, located in the general up-gradient direction, signify that a potential off-site source or sources may be contributing to the groundwater contamination onsite. Based on the location of each soil boring situated within the east parking lane of College Avenue and their close proximity to subsurface utilities paralleling College Avenue (Figure 3), it appears that onsite contaminant migration in groundwater via these subsurface utility corridors may potentially be occurring from an offsite source.

- Historical fluctuation in groundwater flow direction has been somewhat inconsistent during the quarterly monitoring events performed at the site since October 1999. Groundwater flow measured in October 2000, July & October 2001, and October 2002 was directed generally northeast, fluctuating between 4° and 71° east of north. Groundwater flow measured in April 2002 was directed 43° east of south, and those

measured in October 1999 and January 2002 were directed southwest between 11° and 52°. The groundwater flow directions measured in January 2000, April 2001, and July 2002 were generally northwest, at 23°, 55°, and 51°, respectively. Such inconsistent fluctuation along with rather slow groundwater equilibration rates historically observed in MW2 (during initial monitoring) suggests that the monitoring data from this particular well may potentially be erroneous, causing inconsistent groundwater elevations in the direct vicinity of this well.

Recommendations

Based on the findings and conclusion presented above, GGTR recommends the following additional investigation activities to further assess the lateral extent of groundwater contamination at the site and confirm whether potential offsite source(s) exist that may be contributing to the residual onsite groundwater contamination.

GGTR initially recommends drilling additional percussion/hollow stem auger soil borings to assess the lateral extent of groundwater contamination. Referring to Figure 2, two additional percussion borings should be placed adjacent to the north and east sides of the office to assess soil, shallow soil vapor, and groundwater at these locations, as well as confirm the elevated TPH-G, BTEX, and MTBE concentrations measured in the grab groundwater sample collected in B3 (May 1998). Five additional soil borings should be placed within the interior of the garage; four along both the north and south boundary walls and one centralized in the eastern half of the garage. The boring located in the direct vicinity of B11 (October 2002) will be drilled and sampled using a Hydropunch®, to assess groundwater contamination only. If accessible, the borings along the south boundary wall should be placed within the limits of the adjacent gated walkway (Figure 2). Two additional borings should be placed in the rear yard of the property, along both the north and south boundary lines; the boring to the north should be converted to a 2-inch-diameter groundwater monitoring well (MW-4). One additional boring should be placed approximately halfway between MW-1 and GR-MW2 (Offsite Well) and converted to a 2-inch-diameter groundwater monitoring well (MW-5) to assess representative groundwater contamination northwest of the former fuel dispenser area. The additional wells will be used to minimize the potential discrepancies in the fluctuating groundwater flow direction.

To assess the extent of the dissolved-phase gasoline-range hydrocarbons in the north direction (off site) of the former fuel dispenser, as measured in the grab groundwater sample collected in B7 (October 2002), GGTR recommends one additional soil boring north-northeast of the subject property line within 15 feet of the former fuel dispenser location.

Immediately following the additional soil boring and well installation activities, GGTR recommends reinstituting the quarterly monitoring at the site and incorporating the newly-installed wells into the existing quarterly monitoring schedule, throughout at least one additional hydrologic year. The next scheduled quarterly monitoring event at the site should be conducted in July 2003.

Limitations and Certification

This report has been prepared in accordance with generally accepted environmental practices exercised by professional geologists, scientists, and engineers. No warranty, either expressed or implied, is made as to the professional advice presented herein. The findings conclusions, and recommendations 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 conclusions presented in this report are professional opinions based solely upon visual observations of the subject property and vicinity, and interpretation of available information as described in this report. The scope of services conducted in execution of this 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 sole risk of said user.

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Attachments

Fn: 7335.sc.rpt

Report Distribution

All reports that are prepared during the continuing work on this project will be submitted to:

Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
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c/o Mr. Brian Sheaff
1945 Parkside Drive
Concord, California 94519 *(1 Copy Bound; 1 Copy, Unbound)*

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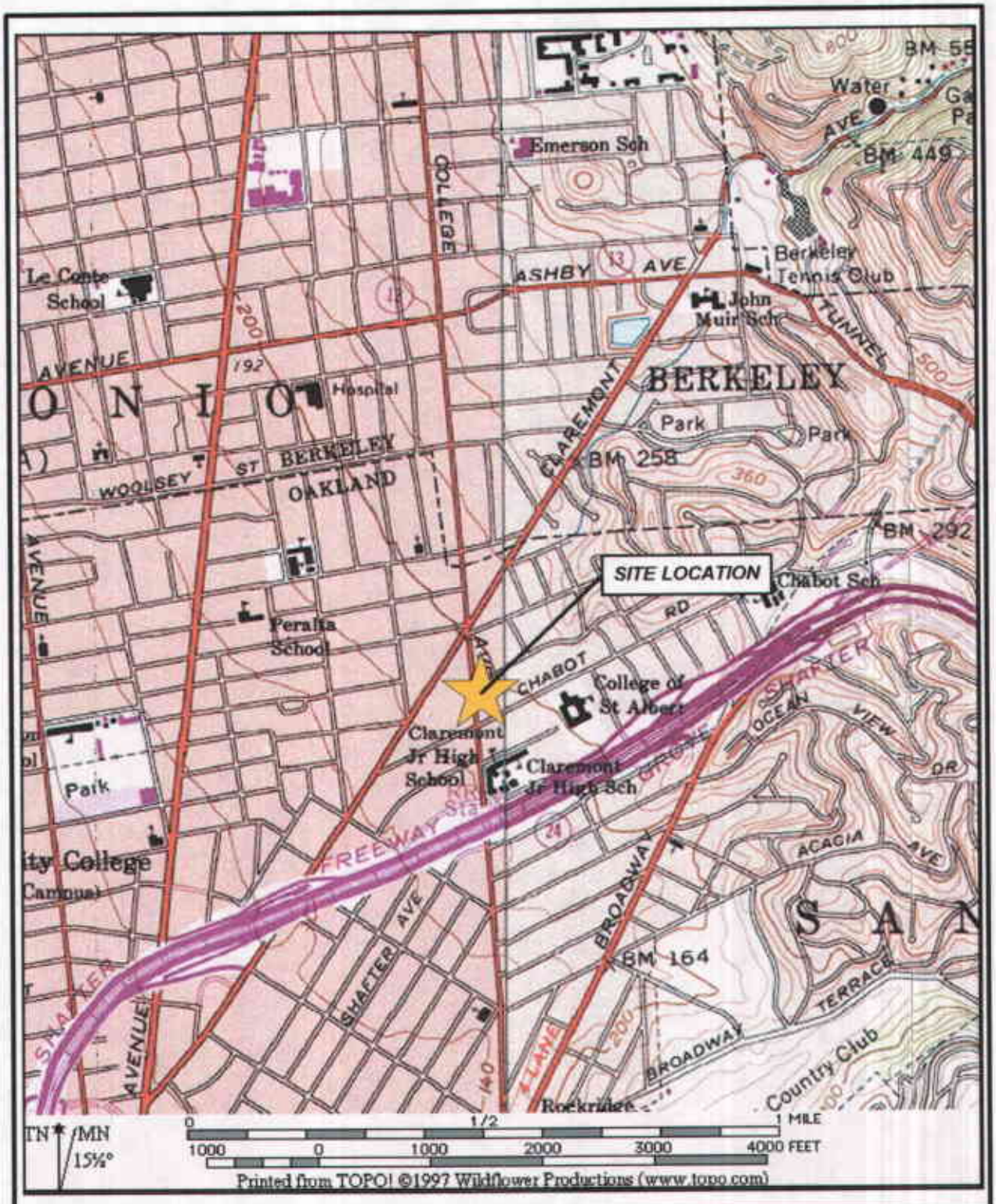
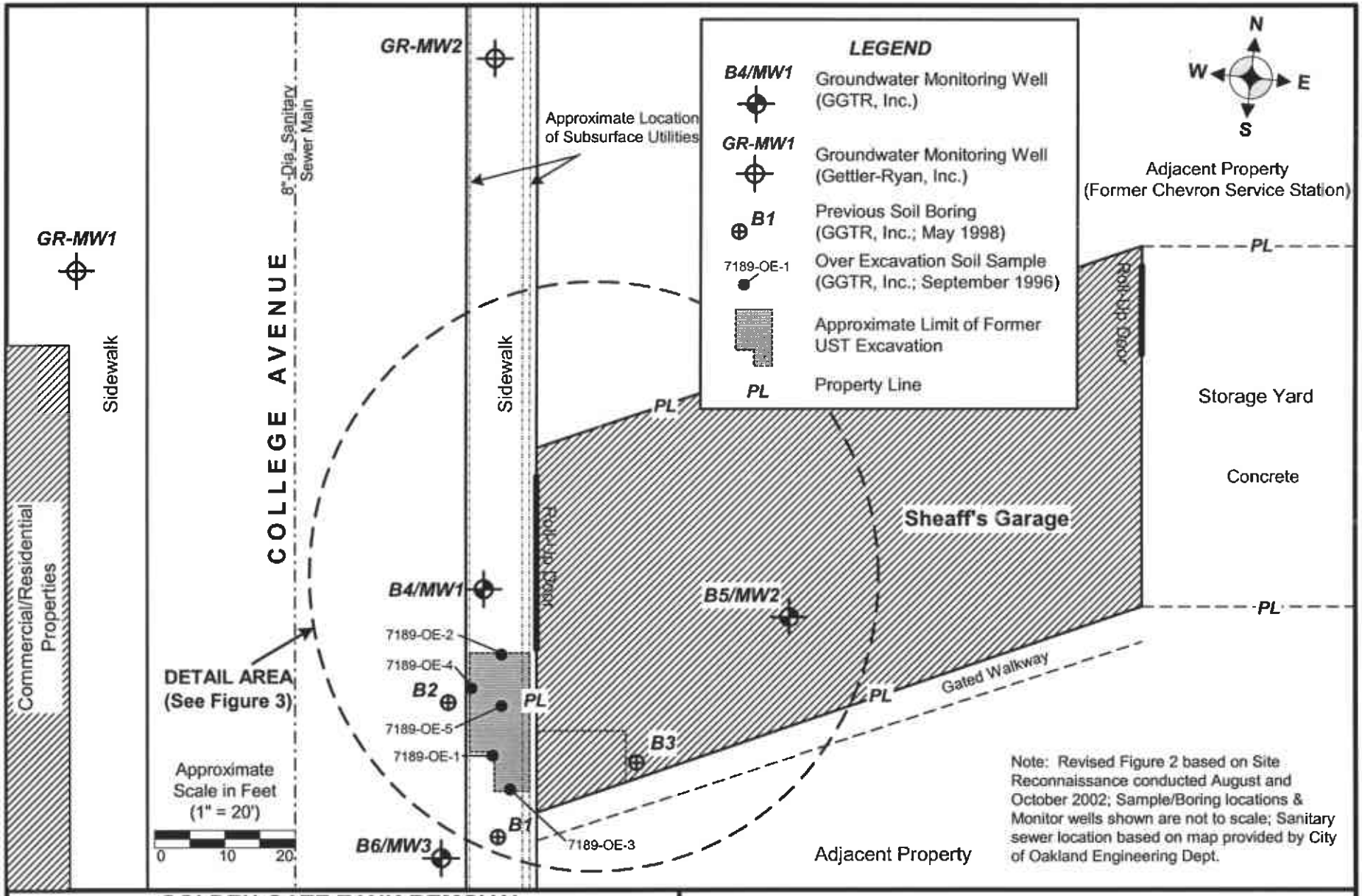


GOLDEN GATE TANK REMOVAL, INC. 255 Shipley Street San Francisco, California 94107 Ph (415) 512-1555 Fx (415) 512-0964	**SITE LOCATION MAP** Sheaff's Garage 5930 College Avenue Oakland, California

GGTR Project No. 7335	*Dwg: baw/11.01*	*December 2001*	***Figure 1***



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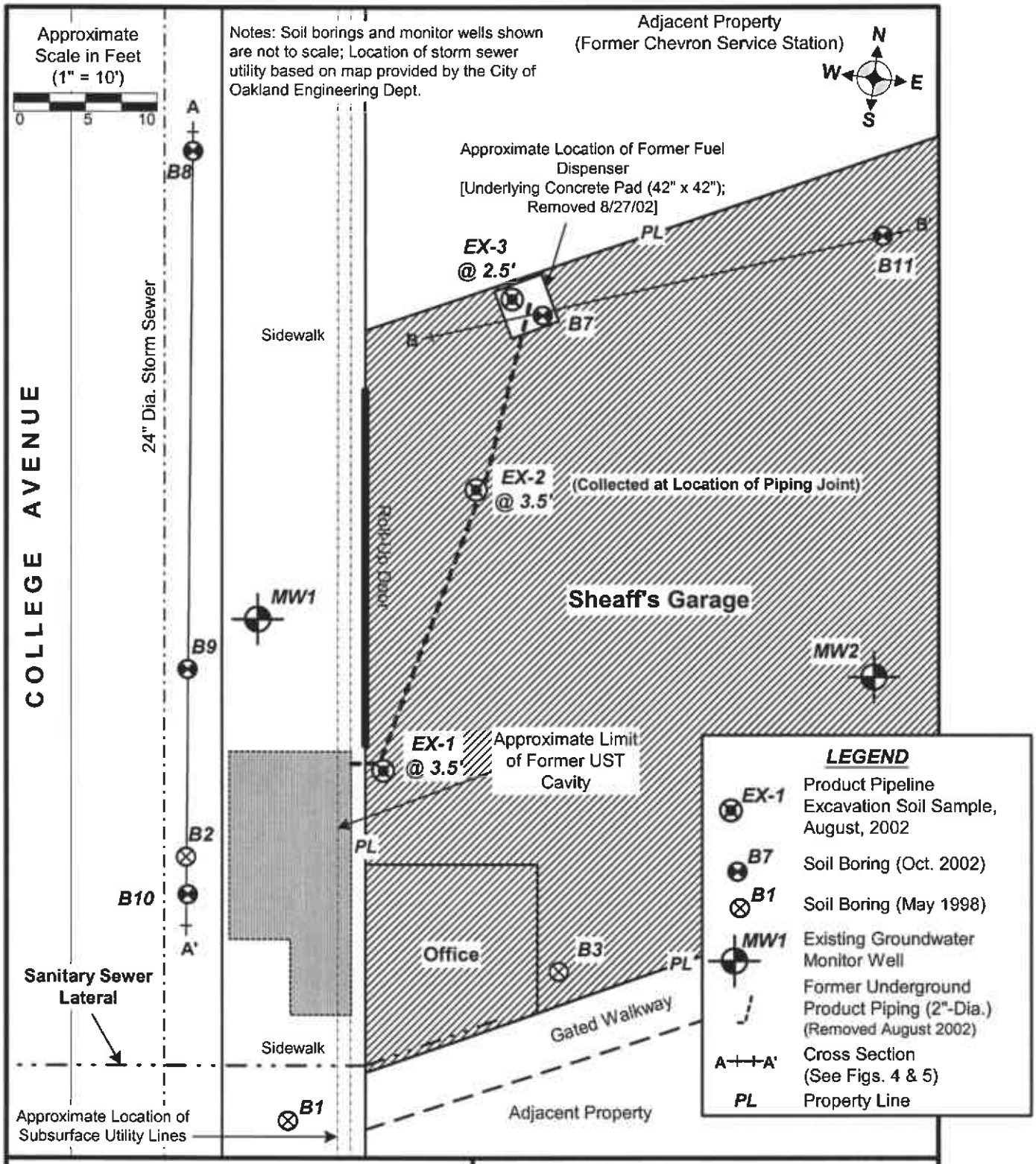
SITE PLAN
Sheaff's Garage
5930 College Avenue, Oakland, California

GGTR Project No. 7335	Fn: 7335.sc.F3	Revision By: baw/06.03	**FIGURE 2**



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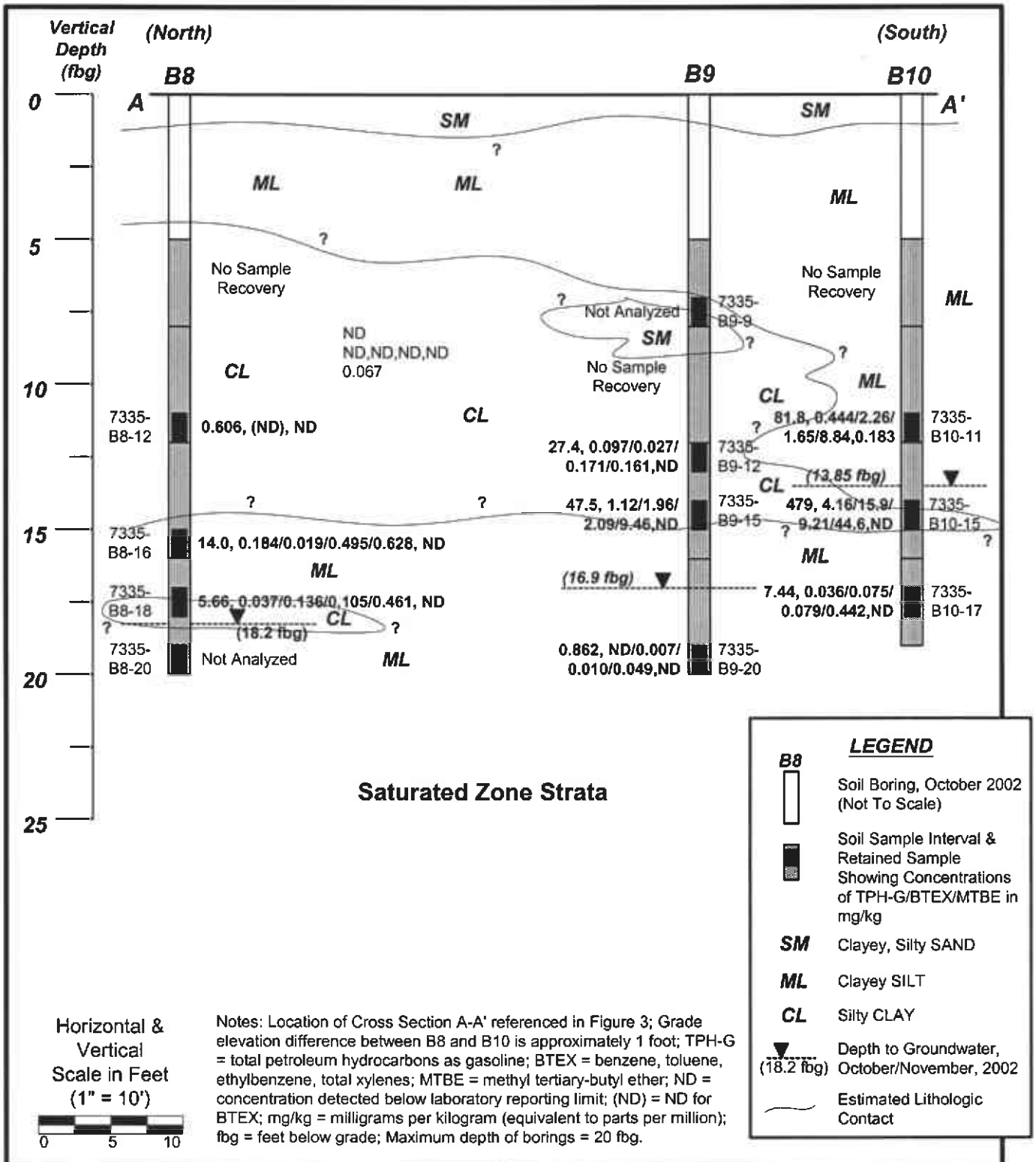
DETAIL AREA MAP
Sheaff's Garage
5930 College Avenue
Oakland, California

GGTR Project No. 7335	Fn:7335.sc.F3	Figure By: baw/06.03	**Figure 3**



Saturated Zone Strata

LEGEND

B8	Soil Boring, October 2002 (Not To Scale)
	Soil Sample Interval & Retained Sample Showing Concentrations of TPH-G/BTEX/MTBE in mg/kg
SM	Clayey, Silty SAND
ML	Clayey SILT
CL	Silty CLAY
(18.2 fbg)	Depth to Groundwater, October/November, 2002
	Estimated Lithologic Contact

Horizontal & Vertical Scale in Feet (1" = 10')

0 5 10

Notes: Location of Cross Section A-A' referenced in Figure 3; Grade elevation difference between B8 and B10 is approximately 1 foot; TPH-G = total petroleum hydrocarbons as gasoline; BTEX = benzene, toluene, ethylbenzene, total xylenes; MTBE = methyl tertiary-butyl ether; ND = concentration detected below laboratory reporting limit; (ND) = ND for BTEX; mg/kg = milligrams per kilogram (equivalent to parts per million); fbg = feet below grade; Maximum depth of borings = 20 fbg.

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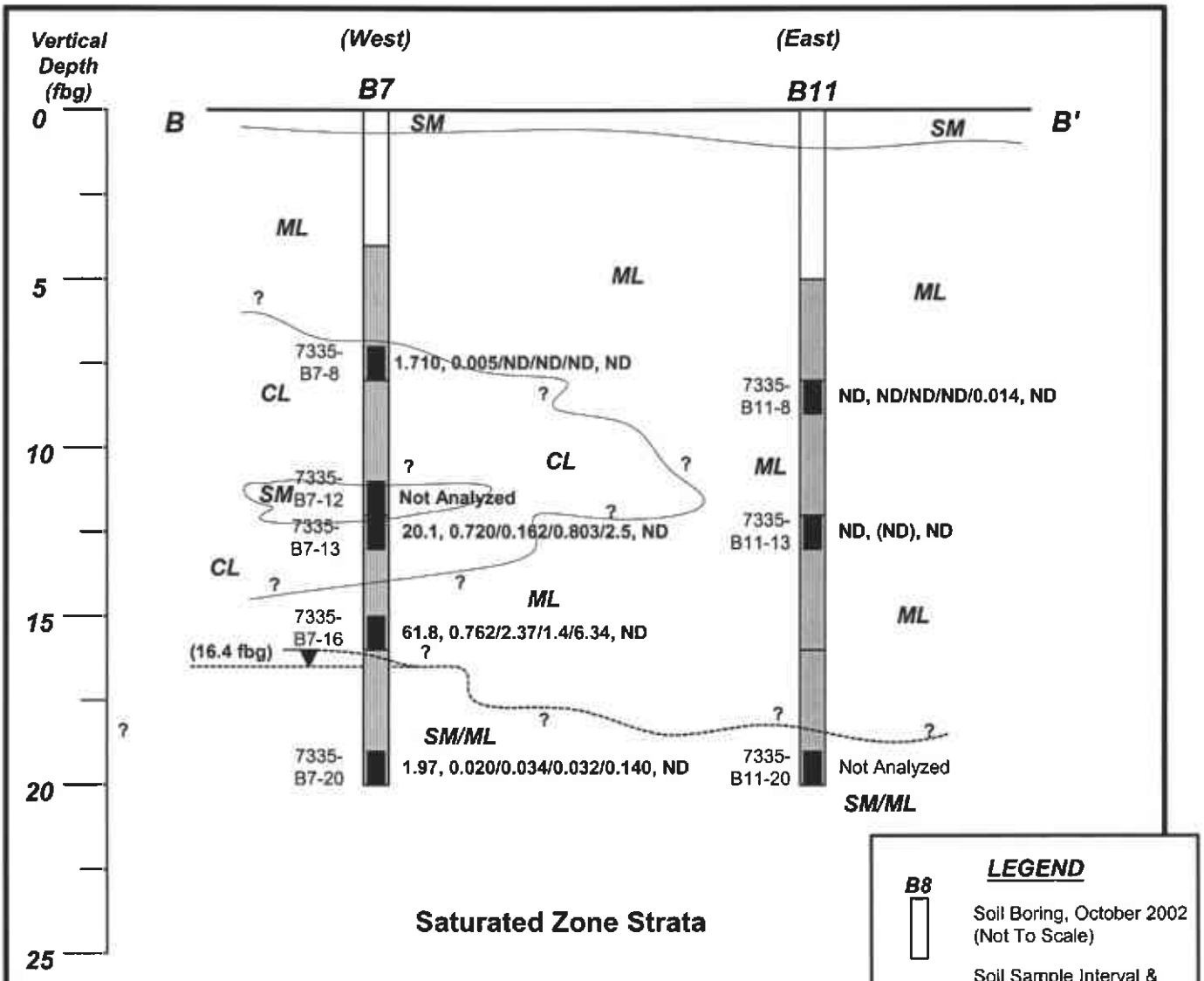
CROSS SECTION A-A'
Sheaff's Garage
5930 College Avenue,Oakland, California

GGTR Project No. 7335	FN:7335.sc.F4	Drawing By: baw/06.03	Figure 4



Saturated Zone Strata

LEGEND

- B8 — Soil Boring, October 2002 (Not To Scale)
- Soil Sample Interval & Retained Sample Showing Concentrations of TPH-G/BTEX/MTBE in mg/kg
- SM — Clayey, Silty SAND
- ML — Clayey SILT
- SM/ML — Silty SAND / sandy SILT
- CL — Silty CLAY
- (16.4 fbg) — Depth to Groundwater, October 2002
- Estimated Lithologic Contact

Horizontal & Vertical Scale in Feet (1" = 10')

0 5 10

Notes: Location of Cross Section A-A' referenced in Figure 3; Grade elevation difference between B7 and B11 is approximately equal; TPH-G = total petroleum hydrocarbons as gasoline; BTEX = benzene, toluene, ethylbenzene, total xylenes; MTBE = methyl tertiary-butyl ether; ND = concentration detected below laboratory reporting limit; (ND) = ND for BTEX; mg/kg = milligrams per kilogram (equivalent to parts per million); fbg = feet below grade; Maximum depth of borings = 20 fbg; No groundwater encountered in B11.

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CROSS SECTION B-B'
Sheaff's Garage
5930 College Avenue,Oakland, California

GGTR Project No. 7335	FN:7335.sc.F5	Drawing By: baw/06.03	Figure 5

TABLE 1

Results of Tank Removal and Over-Excavation Soil Sample Analysis

5930 College Avenue, Oakland, CA

Sample ID	Sample Depth (fbg)	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	TRPH (mg/kg)	BTEX (mg/kg)	Total VOCs (mg/kg)	Cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Ni (mg/kg)	Zn (mg/kg)
7189-T1-N	8	8/6/96	6,000	--	--	19/240/76/470	--	--	--	--	--	--
7189-T1-S	8	8/6/96	8,100	--	--	16/240/72/530	--	--	--	--	--	--
7189-T1-C-10'	10	8/6/96	1,200	--	--	9.1/68/10/79	--	--	--	--	--	--
7189-T2-C	8	8/6/96	560	ND	16,000	2.7/16/3.3/33	38.984[2]	ND	49	48	68	210
7189-SP1	NA	8/6/96	ND	ND	--	ND/ND/ND/ND	--	--	--	--	--	--
7189-SP2	NA	8/6/96	1.3	ND	14,000	ND/ND/ND/0.020	1.384[3]	ND	34	79	32	130
7189-OE-1	10.5	10/2/96	1,400[1]	ND	1,700	9.8/81/14/110[1]	--	--	--	--	--	--
7189-OE-2	10.5	10/2/96	840[1]	ND	320	3.3/51/12/91[1]	--	--	--	--	--	--
7189-OE-3	10.5	10/2/96	ND	ND	21	ND/0.01/ND/0.027	--	--	--	--	--	--
7189-OE-4	10.5	10/2/96	430[1]	ND	240	0.93/18/4.6/41[1]	--	--	--	--	--	--
7189-OE-5	10.5	10/2/96	1,400[1]	ND	1,100	2.2/40/14/120[1]	--	--	--	--	--	--
Laboratory Detection Limit			1	10	10	<0.015	<250	2.0	5.0	2.0	5.0	1.0

Notes: 7189-T1-N, -S, -C-10', -C = tank removal soil samples collected from north and south ends and center of UST cavity
7189-SP1, -SP2 = tank removal stockpile composite soil samples
7189-OE-(1-5) = over-excavation soil samples collected from sidewalls and center (-OE-5) of cavity
TPH-G = total petroleum hydrocarbons (TPH) as gasoline (CA DHS); TPH-D = TPH as diesel (CA DHS)
TRPH = total recoverable petroleum hydrocarbons (CA DHS)
BTEX = benzene, toluene, ethylbenzene, total xylenes (EPA Method 8020)
Total VOCs = total (summation of) of volatile organic compounds (EPA Method 8260)
Cd, Cr, Pb, Ni, Zn = cadmium, chromium, lead, nickel, and zinc (TTLC Metals by EPA Method 3050/7000 Series)
fbg = feet below grade; mg/kg = milligrams per kilogram (parts per million); -- = not analyzed for this constituent
NA = not applicable; ND = concentration below associated laboratory reporting limit
[1] = sample dilution required by laboratory; detection limits were adjusted accordingly
[2] = 2.3 mg/kg benzene, 0.360 mg/kg 4-methyl-2-pentanone, 6.6 mg/kg toluene, 0.024 mg/kg tetrachloroethene, 2.7 mg/kg ethylbenzene, 15 mg/kg total xylenes, 0.260 mg/kg isopropyl benzene, 1.1 mg/kg n-propyl benzene, 2.8 mg/kg 1,3,5-trimethylbenzene, 7.5 mg/kg 1,2,4-trimethylbenzene, 0.200 mg/kg sec-butylbenzene, and 0.140 mg/kg p-isopropylbenzene
[3] = 0.042 mg/kg 4-methyl-2-pentanone, 0.005 mg/kg toluene, 0.031 mg/kg tetrachloroethene, 0.010 mg/kg ethylbenzene, 0.322 mg/kg total xylenes, 0.017 mg/kg n-propyl benzene, 0.920 mg/kg 1,3,5-trimethylbenzene, 0.037 mg/kg 1,2,4-trimethylbenzene

TABLE 2

Historical Results of Subsurface Boring Soil Sample Analysis

5930 College Avenue, Oakland, CA

Boring Location	Sample ID	Sample Depth (fbg)	TPH-G (mg/kg)	TEPH (mg/kg)	BTEX (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
B1	7335-B1-5	5	ND	ND	ND/ND/ND/ND	ND	--
	7335-B1-9	9	75	53	0.07/0.04/0.53/1	0.06	--
B2	7335-B2-5	5	0.6	60	ND/ND/ND/ND	0.03	--
	7335-B2-9	9	2,800	ND	13/78/38/160	ND	--
B3	7335-B3-6	6	ND	ND	ND/ND/ND/ND	ND	--
	7335-B3-10	10	48	ND	0.5/0.6/0.5/2	ND	--
B4 (MW1)	7335-B4-5	5	ND	ND	ND/ND/ND/0.02	ND	8
	7335-B4-9	9	280	ND	4/8/6/27	1	11
B5 (MW2)	7335-B5-3.0	3	ND	ND	ND/ND/ND/ND	ND	--
	7335-B5-5.0	5	ND	ND	ND/ND/ND/ND	ND	--
	7335-B5-9.0	9	ND	ND	ND/ND/ND/ND	ND	--
	7335-B5-15.5	15.5	2.8	ND	0.69/0.092/0.066/0.22	ND	--
	7335-B5-20.0	20	ND	ND	0.028/0.021/0.007/0.029	ND	--
B6 (MW3)	7335-B6-5.0	5	ND	200	ND/ND/ND/ND	ND	--
	7335-B6-10.0	10	1.5	ND	ND/ND/0.005/0.013	ND	--
	7335-B6-15.0	15	ND	ND	ND/ND/ND/ND	0.031	--
	7335-B6-19.0	19	ND	ND	ND/ND/ND/ND	0.043	--
B7	7335-B7-8	8	1.710	--	0.005/ND/ND/ND	ND	--
	7335-B7-13	13	20.1	--	0.720/0.162/0.803/2.5	ND	--
	7335-B7-16	16	61.8	--	0.762/2.37/1.4/6.34	ND	--
	7335-B7-20	20	1.97	--	0.020/0.034/0.032/0.140	ND	--
B8	7335-B8-12	12	0.606	--	ND/ND/ND/ND	ND	--
	7335-B8-16	16	14.0	--	0.184/0.019/0.495/0.628	ND	--
	7335-B8-20	20	5.660	--	0.037/0.136/0.105/0.461	ND	--
B9	7335-B9-12	12	27.4	--	0.097/0.027/0.171/0.161	ND	--
	7335-B9-15	15	47.5	--	1.12/1.96/2.09/9.46	ND [1]	--
	7335-B9-20	20	0.862	--	ND/0.007/0.010/0.049	ND	--
B10	7335-B10-11 [2,3]	11	81.8	ND	0.444/2.26/1.65/8.84	0.183 [1]	19.6
	7335-B10-15	15	479	ND	4.16/15.9/9.21	ND	--
	7335-B10-17	17	7.44	ND	0.036/0.075/0.079/0.442	ND	--
B11	7335-B11-8	8	ND	--	ND/ND/ND/0.014	ND	--
	7335-B11-13	13	ND	--	ND/ND/ND/ND	ND	--
Drill Cuttings	7335-SC1 [4]	NA	0.943	--	ND/0.010/0.014/0.059	ND	24.9
Laboratory Reporting Limit			0.5	50	≤0.010	0.005	1.0
CRWQCB December 2001 RBSL			100 (400)	1,000 (1,000)	0.045 (0.18) / 2.6 (8.4) / 2.5 (24) / 1.0 (1.0)	0.028 (1.0)	200 (750)

TABLE 2 (Cont'd)
Historical Results of Subsurface Boring Soil Sample Analysis
5930 College Avenue, Oakland, CA

Notes: 7335-B1-5 through 7335-B4-9 = soil boring samples collected during preliminary soil and groundwater investigation (May 1998)
7335-B5-3.0 through 7335-B6-19.0 = soil boring samples collected during additional soil and groundwater investigation (October 1999)
TPH-G = total petroleum hydrocarbons (TPH) as gasoline (EPA Method 8015M)
TEPH = total extractable petroleum hydrocarbons [SM 5520 E&F + EPA 1664 (Silica Gel Treated Hexane; B10 only)]
BTEX = benzene, toluene, ethylbenzene, total xylenes (EPA Method 8020)
MTBE = methyl tertiary-butyl ether (EPA Method 8020)
Total Lead by EPA Method 7420/AA Spectroscopy
fbg = feet below grade
mg/kg = milligrams per kilogram (parts per million)
-- = not analyzed for this constituent; ND = concentration below associated laboratory reporting limit
[1] = confirmed by EPA Method 8260
[2] = sample also analyzed (EPA 6010B ICAP) for cadmium (ND<2.0 mg/kg), chromium (38.2 mg/kg), nickel (51.5 mg/kg), and zinc (47.7 mg/kg); respective Tier 1 RBSLs, in mg/kg = 33/33 (Cd), 1.8/18 (Cr), 750/750 (Pb), 1,000/1,000 (Ni), 2,500/2,500 (Zn)
[3] = sample also analyzed for VOCs (EPA 8260) in mg/kg: MTBE (0.599), benzene (0.397), toluene (1.81), ethylbenzene (1.05), total xylenes (5.37), isopropylbenzene (0.100), n-propylbenzene (0.453), 1,3,5-trimethylbenzene (2.63), 1,2,4-trimethylbenzene (0.832), n-butylbenzene (0.313), and naphthalene (0.715; Tier 1 RBSL = 4.3/4.9 mg/kg for silty clay soil)
[4] = sample also analyzed for HVOCs (EPA 8010): All concentrations ND
CRWQCB/RBSL = California Regional Water Quality Control Board's Interim Final - December 2001, Tier 1 Risk-Based Screening Level for soil at a residential land use permitted site with groundwater that **is (is not)** a potential source of drinking water

TABLE 3

Results of UST Piping Removal Excavation Sample Analysis

5930 College Avenue, Oakland, CA

Sample ID	Sample Date	Sample Depth (fbg)	TPH-G (mg/kg)	BTEX (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
7335-EX1[3.5]	08/27/02	3.5	5.510	ND/0.006/ND/0.040	ND	3.6
7335-EX2[3.5]	08/27/02	3.5	ND	ND/ND/ND/ND	ND	3.3
7335-EX3[3.5]	08/27/02	3.5	0.967	ND/ND/ND/ND	ND	18.8
Laboratory Reporting Limit			0.500	0.005/0.005/0.005/0.010	0.005	1.0
CRWQCB December 2001 RBSL			100 (400)	0.045 (0.18) / 2.6 (8.4) / 2.5 (24) / 1.0 (1.0)	0.028 (1.0)	200 (200)

Notes: 7335-EX1 through -EX3 = Fuel piping excavation soil samples collected during additional soil and groundwater investigation (August 2002)
TPH-G = total petroleum hydrocarbons (TPH) as gasoline (SW8020F)
BTEX = benzene, toluene, ethylbenzene, total xylenes (SW8020F)
MTBE = methyl tertiary-butyl ether (SW8020F)
Total Lead by SW6010B ICAP
fbg = feet below grade
mg/kg = milligrams per kilogram (parts per million)
ND = concentration below associated laboratory reporting limit
CRWQCB/RBSL = California Regional Water Quality Control Board's Interim Final - December 2001, Tier 1 Risk-Based Screening Level for soil <10 fbg at a residential land use permitted site with groundwater that **is (is not)** a potential source of drinking water

TABLE 4

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 [1]	4.81	45.19	slight sheen	160,000	ND	--	1,900	28,000 / 21,000 / 3,800 / 21,000
	09/10/98	50.00 [1]	7.50	42.50	odor	290,000	ND	--	440	<50 / 25,000 / 7,100 / 32,000
	10/07/99	50.00 [1]	10.04	39.96	odor	85,000	ND	--	1,100	20,000 / 13,000 / 3,800 / 17,000
	01/26/00	50.00 [1]	8.26	41.74	slight sheen	130,000	--	--	470	25,000 / 18,000 / 4,500 / 22,000
	10/25/00	50.00 [1]	10.10	39.90	odor	130,000	--	ND	1,300	23,000 / 12,000 / 3,900 / 18,000
	02/02/01	50.00 [1]	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 [3]	21,100 / 13,500 / 4,160 / 21,900
	04/08/02	195.90	6.84	189.06	slight odor	111,000	--	1,040 [2]	814 (679[3])	21,200 / 13,400 / 4,230 / 21,000
	07/09/02	195.90	9.40	186.50	slight odor	110,000	--	573 [4]	746 (570[3])	20,300 / 13,300 / 4,060 / 19,800
	10/23/02	195.90	11.04	184.86	none	54,100	--	41,482 [5]	1,010 (1,080[3])	10,800 / 3,870 / 2,320 / 9,440
MW2	10/07/99	51.42 [1]	11.49	39.93	slight/odor	18,000	ND	--	490	3,000 / 1,700 / 1,000 / 3,900
	01/26/00	51.42 [1]	7.85	43.57	none	42,000	--	--	560	9,300 / 2,200 / 2,300 / 7,700
	10/25/00	51.42 [1]	11.57	39.85	slight/odor	31,000	--	ND	500	5,500 / 370 / 1,700 / 2,600
	02/02/01	51.42 [1]	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 [3]	10,300 / 3,250 / 4,180 / 14,400
	04/08/02	197.28	8.40	188.88	slight odor	66,700	--	--	583 [3]	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[3])	5,340 / 890 / 2,110 / 6,920
	10/23/02	197.28	13.85	183.43	none	13,300	--	8,686 [6]	322 (360[3])	2,420 / 216 / 922 / 1,470
Laboratory Reporting Limit										
CRWQCB MSWQO (MCL)										
CRWQCB December 2001 RBSL										

Table Notes Following

TABLE 4 (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 [1]	9.67	39.72	none	6,600	ND	--	390	310 / 110 / 430 / 1,000
	01/26/00	49.39 [1]	5.40	43.99	none	3,300	--	--	40	110 / 8 / 100 / 32
	10/25/00	49.39 [1]	9.24	40.15	slight odor	4,500	--	ND	ND	100 / 2 / 120 / 130
	02/02/01	49.39 [1]	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 [3]	723 / 138 / 492 / 887
	04/08/02	195.22	6.33	188.89	odor	11,700	--	--	ND [3]	540 / 108 / 706 / 1,710
	07/09/02	195.22	8.56	186.66	odor	2,320	--	20 (MTBE)	28.3 (20 [3])	37.1 / 4.7 / 98.5 / 187
	10/23/02	195.22	10.02	185.20	Sheen/odor	2,830	--	865 [7]	ND (ND [3])	46.8 / 4.7 / 43.6 / 65.5
B1	5/6/98	NA	8.5 fbg	NA		31,000	6,000	--	ND	2,600 / 390 / 1,600 / 4,200
B2		NA	6.5 fbg	NA		200,000	ND	--	2,500	30,000 / 49,000 / 45,000 / 21,000
B3		NA	6.5 fbg	NA		$1x10^6$	7,000	--	18,000	17,000 / 24,000 / 20,000 / 80,000
B7	10/30/02	NA	16.4 fbg	NA	slight odor	296,000	--	--	1,360 [3]	18,400 / 21,900 / 8,310 / 33,800
B8	10/30/02	NA	11.5 fbg	NA	none	1,480	--	--	35	386 / 9 / 74 / 81
B9	11/01/02	NA	16.95 fbg	NA	none	16,100	--	--	879	1,250 / 1,380 / 820 / 3,480
B10 [8]	11/01/02	NA	13.85 fbg	NA	slight odor	49,400	ND	38,730 [9]	2,040 (2,680 [3])	6,600 / 9,940 / 1,610 / 7,600
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 [10]	1 / 150 / 700 / 1,750
CRWQCB December 2001 RBSL						100/500	100/640	Varies	5/1,800	1.0 (46) / 40 (130) / 30 (290) / 13 (13)

Table Notes Following

TABLE 4 (Cont'd)
Historical Results of Groundwater Sample Analysis & Fluid-Level Data
5930 College Avenue, Oakland, CA

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
ND - not detected above laboratory reporting limit
NC - no criteria established
-- - not analyzed for this constituent
fbg - feet below grade surface

[1] - Arbitrary datum point with assumed elevation of 50 feet used prior to MSL survey on April 26, 2001
[2] - Fuel oxygenate concentrations reported as 1,2-Dichloroethane (361 ug/l) and MTBE (679 ug/l)
[3] - Concentration confirmed by EPA Method 8260
[4] - Fuel oxygenate concentrations reported as 1,2-Dichloroethane (3 ug/l) and MTBE (570 ug/l)
[5] - 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
[6] - 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
[7] - 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
[8] - sample also analyzed for cadmium (ND<0.05), chromium (280 ug/l; RBSL = 11), lead (260 ug/l; RBSL = 3.2), nickel (330 ug/l; RBSL = 8.2), and zinc (410 ug/l; RBSL = 23)
[9] - VOC concentrations reported as 2,680 ug/l MTBE, 8,470 ug/l benzene, 11,700 ug/l toluene, 2,280 ug/l ethylbenzene, 10,480 ug/l total xylenes, 74 ug/l isopropylbenzene, 230 ug/l n-propylbenzene, 1,610 ug/l 1,3,5-trimethylbenzene, 441 ug/l 1,2,4-trimethylbenzene, and 765 ug/l naphthalene (RBSL = 21/24)
[10] - Secondary Maximum Contaminant Level established by CRWQCB

CRWQCB MSWQO (Primary MCL) = California Regional Water Quality Control Board, Municipal Supply Water Quality Objective; Primary Maximum Contaminant Level
CRWQCB/RBSL = California Regional Water Quality Control Board's Tier 1Risk-Based Screening Level; Levels shown are for **Groundwater < 10 fbg (3 meters)**, which IS / IS NOT a threatened drinking water resource.

APPENDIX A

REGULATORY CORRESPONDENCE
PERMITS

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

RO0000377

January 3, 2002

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

RE: Work Plan Approval for 5930 College Ave., Oakland, CA

Dear Mr. Sheaff:

I have completed review of Golden Gate Tank Removal's December 2001 *Work Plan for Additional Soil & Groundwater Investigation* report prepared for the above referenced site. The proposal to excavate and remove all subsurface fuel product piping associated with the former USTs and asses the extent of hydrocarbon contamination in soil beneath the piping and former fuel dispenser is acceptable. Also, soil borings will be advanced along College Avenue to determine if the existing subsurface utilities running along the street are preferential migratory pathways for dissolved hydrocarbons flowing from a presumed upgradient, off-site source.

The work plan should be implemented within 60 days of the date of this letter. Please provide 72 hours advance notice of field activities, so I can be present to witness soil and groundwater sampling. If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

c: Tracy Wallace, GGTR, 255 Shipley St., San Francisco, CA 94107

sheaff7

JAN-16-02 MON 04:55 ALAMEDA COUNTY PWA RM239 FAX NO. 5107821939 P. 03/03

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
5730 College Ave
Oakland, CA

CLIENT
Name Brian Sheaf
Address 627 Overton Ct. Phone (925) 828-7441
City San Ramon Zip 94583

APPLICANT
Name Golden Gate Tank Removal, Inc.
Fax (415) 512-0964
Address 255 Shipley St Phone (415) 512-1555
City San Francisco Zip 94107

TYPE OF PROJECT
Well Construction
Cathodic Protection [ ]
Water Supply [ ]
Monitoring [ ]
Geotechnical Investigation
General [ ]
Contamination [X]
Well Destruction [ ]

PROPOSED WATER SUPPLY WELL USE
New Domestic [ ] Replacement Domestic [ ]
Municipal [ ] Irrigation [ ]
Industrial [ ] Other [ ]

DRILLING METHOD:
Mud Rotary [ ] Air Rotary [ ] Auger [ ]
Cable [ ] Other [ ]

DRILLER'S NAME Gregg Drilling + Testing

DRILLER'S LICENSE NO (C-57) # 485165

WELL PROJECTS
Drill Hole Diameter ______ in.
Casing Diameter ______ in
Surface Seal Depth ______ ft
Maximum Depth ______ ft.
Owner's Well Number ______

GEOTECHNICAL PROJECTS
Number of Borings 5
Hole Diameter 2 in.
Maximum Depth 15 ft.

ESTIMATED STARTING DATE October 8, 2002
ESTIMATED COMPLETION DATE October 9, 2002

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 9/27/02

PLEASE PRINT NAME Brent A. Wheeler Rev 3-04-02

FOR OFFICE USE

PERMIT NUMBER W02-0977
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 10-1-02

CITY OF OAKLAND
Office of Planning and Building

COPY

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PERMIT NUMBER X020 1015		SITE ADDRESS/LOCATION 5930 COLLEGE AV
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number)
CONTRACTOR'S LICENSE # AND CLASS 485165		CITY BUSINESS TAX #

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Signature of Permittee ☐ Agent for ☐ Contractor ☐ Owner — Date 10-2-02

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☐ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☐ NO
ISSUED BY		DATE ISSUED 10-2-02	

forms/ops/excavate.pg2 (04/98)

APPENDIX B

SOIL BORING LOGS

LOG OF BORING B7

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Concrete (6 Inches)	Concrete (0'-0.5')
1	Hand Auger			ML	Moist, dusky yellowish brown (10YR 2/2), *clayey SILT* with trace sand	
5	7335-B7-8		13	CL	Moist, dark yellowish brown (10YR 4/2) striated with dark greenish gray (5GY 4/1), silty *CLAY* with trace sand	Portland Cement (0.5'-20')
10	7335-B7-12		8	SM	Moist, dark yellowish brown (10YR 4/2) with dark greenish gray (5GY 4/1), clayey, silty *SAND* with moderate gravel	
	7335-B7-13		22	CL	Same; silty *CLAY*	
15	7335-B7-16		55	ML	Moist to wet, dark greenish gray (5GY 4/1), clayey, sandy *SILT* with slight hydrocarbon odor	
▼ (16.4)						
				SM/ ML	Wet, moderate yellowish brown (10YR 5/ 4), clayey, silty *SAND* / sandy *SILT*	
20	7335-B7-20		19			
					Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc.B7

BORING NUMBER: *B7*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (16.4) = Depth to groundwater measured from grade surface on October 30, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B8

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
1	Hand Auger			SM	Road Base (Silty, gravelly SAND)	
				ML	Moist, dark yellowish brown (10YR 4/2), *clayey SILT* with trace sand	
5	NR No Sample			CL	Moist, dark yellowish brown (10YR 4/2) mottled with moderate yellowish (10YR 5/4), silty *CLAY*	Portland Cement (0.5'-20')
10	7335-B8-12		0			
15	7335-B8-16		33	ML	Moist, dark yellowish brown (10YR 4/2) with dark greenish gray (5GY 4/1), clayey, *SILT* with trace fine-grained sand	
	7335-B8-18			CL	Moist to wet, dark greenish gray (5GY 4/1), silty *CLAY* with trace rock fragments (slight to moderate hydrocarbon odor)	
	▼ (18.2)			ML	Wet, moderate yellowish brown (10YR 5/4), clayey, sandy *SILT*	
20	7335-B8-20		15		Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc:B8

BORING NUMBER: *B8*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (18.2) = Depth to groundwater measured from grade surface on October 30, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B9

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
1	Hand Auger				Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
				SM	Road Base (Silty, gravelly SAND)	
5				SM/ ML	Moist, dusky yellowish brown (10YR 2/2), slightly clayey, silty *SAND* / Sandy *SILT* with gravel (≤0.25")	
	7335-B9-9			SM	Moist, dark yellowish brown (10YR 4/2), slightly clayey *SAND* with trace rock fragments	Portland Cement (0.5'-20')
10	NR		0	Not Logged		
	7335-B9-12			CL	Moist, dark yellowish brown (10YR 4/2); silty *CLAY*; moderate hydrocarbon odor; gardes to dark greenish gray (5GY 4/1) at 14 fbg	
15	7335-B9-15		33			
	▼ (16.9)				Moist, moderate to dark yellowish brown (10YR 5/4,4/2), clayey *SILT* with rock fragments	
				ML	Moist, moderate yellowish brown (10YR 5/4) with greenish gray (5GY 4/1), clayey, sandy *SILT* with rock fragments	
20	7335-B9-20		15			
					Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335 sc B9

BORING NUMBER: *B9*
LOCATION: 5930 College Avenue
Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (16.9) = Depth to groundwater measured from grade surface on November 1, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B10

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
1	Hand Auger				Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
				SM	Road Base (Silty, gravelly SAND)	
				ML	Moist, dusky yellowish brown (10YR 2/2), slightly clayey *SILT* with sand	
5	NR			Not Logged	Moist, dark yellowish brown (10YR 4/2) silty *CLAY* with trace sand and rock fragments	
			0		Moist, dark yellowish brown (10YR 4/2), clayey *SILT*	Portland Cement (0.5'-19')
10	7335-B10-11		206	ML	Same: dark greenish gray (5GY 4/1) with trace sand, moderate hydrocarbon odor	
▼ (13.85)	7335-B10-15		208		Moist to wet, moderate yellowish brown (10YR 5/4), clayey *SILT* with trace fine- to coarse-grained sand	
15	7335-B10-17		59	CL	Moist, dark yellowish brown (10YR 4/2) silty *CLAY* with rock fragments	
				ML	Wet, moderate yellowish brown (10YR 5/4) with greenish gray (5GY 4/1), sandy *SILT* with rock fragments	2 Inches
20			18		Total Boring Depth @ 19 fbg	
25						

Fn:7335.sc.B10

BORING NUMBER: *B10*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (13.85) = Depth to groundwater measured from grade surface on November 1, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B11

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Concrete (3 inches)	Concrete (0'-0.5')
	Hand Auger			SM	Base (Silty, gravelly SAND)	
1					Moist, dusky yellowish brown (10YR 2/2), slightly clayey *SILT* with sand	
5	NR				Moist, dark yellowish brown (10YR 4/2) *clayey SILT* with fine- to coarse-grained sand	
	7335-B11-8		0	ML		Portland Cement (0.5'-20')
10					Moist to wet, moderate to dark yellowish brown (10YR 4/2) *clayey SILT*	
	7335-B11-13		0			
15					Moist to wet, moderate yellowish brown (10YR 5/4), clayey *SILT* with trace fine- to coarse-grained sand	
	7335-B11-20		0	SM/ ML	Same; grades to a slightly clayey, silty *SAND* / sandy *SILT*	
20					Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc.B11

BORING NUMBER: *B11*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery
Groundwater not encountered in borehole

Golden Gate Tank Removal, Inc.

APPENDIX C

MOISTURE-DENSITY-POROSITY REPORT
PARTICLE SIZE DISTRIBUTION REPORT
LABORATORY ANALYTICAL REPORTS,
CHAIN OF CUSTODY RECORDS,
GEOTRACKER EDD UPLOAD CONFIRMATION FORMS

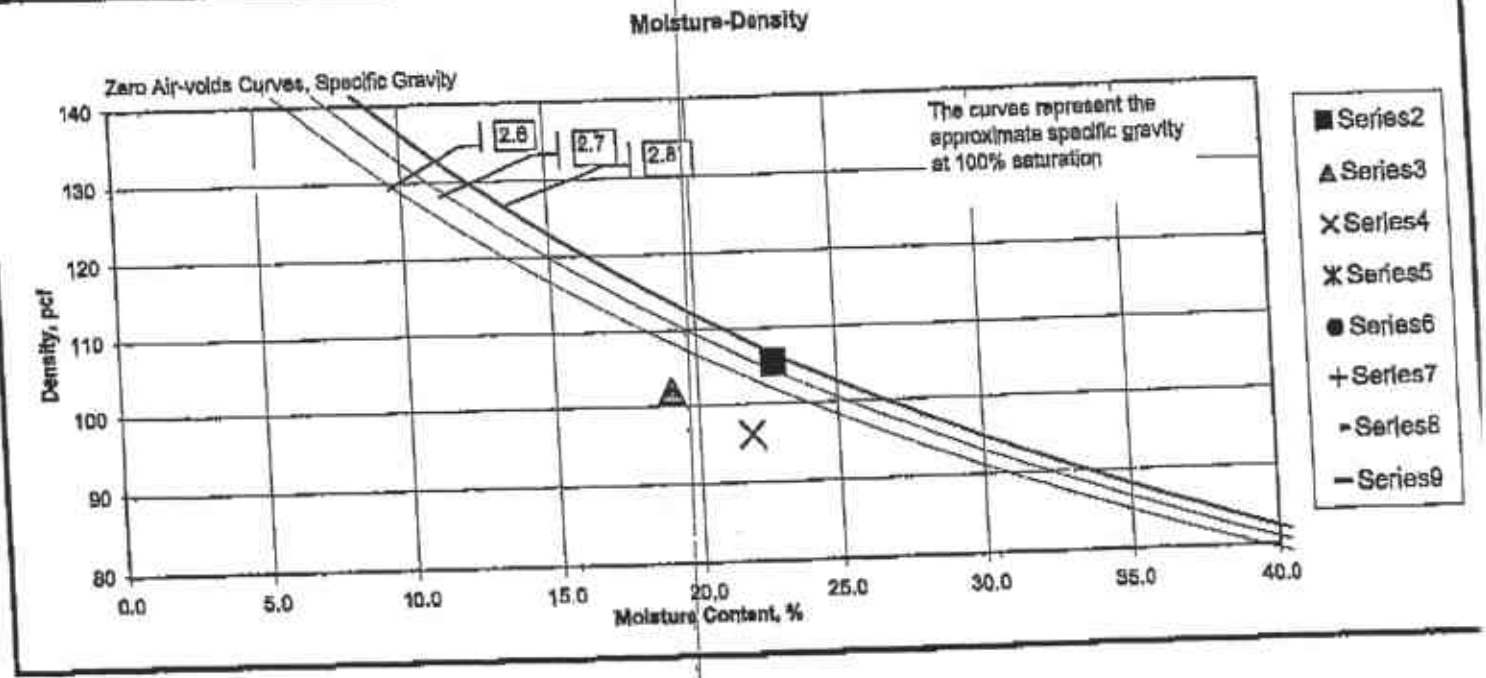
COOPER

Moisture-Density-Porosity Report

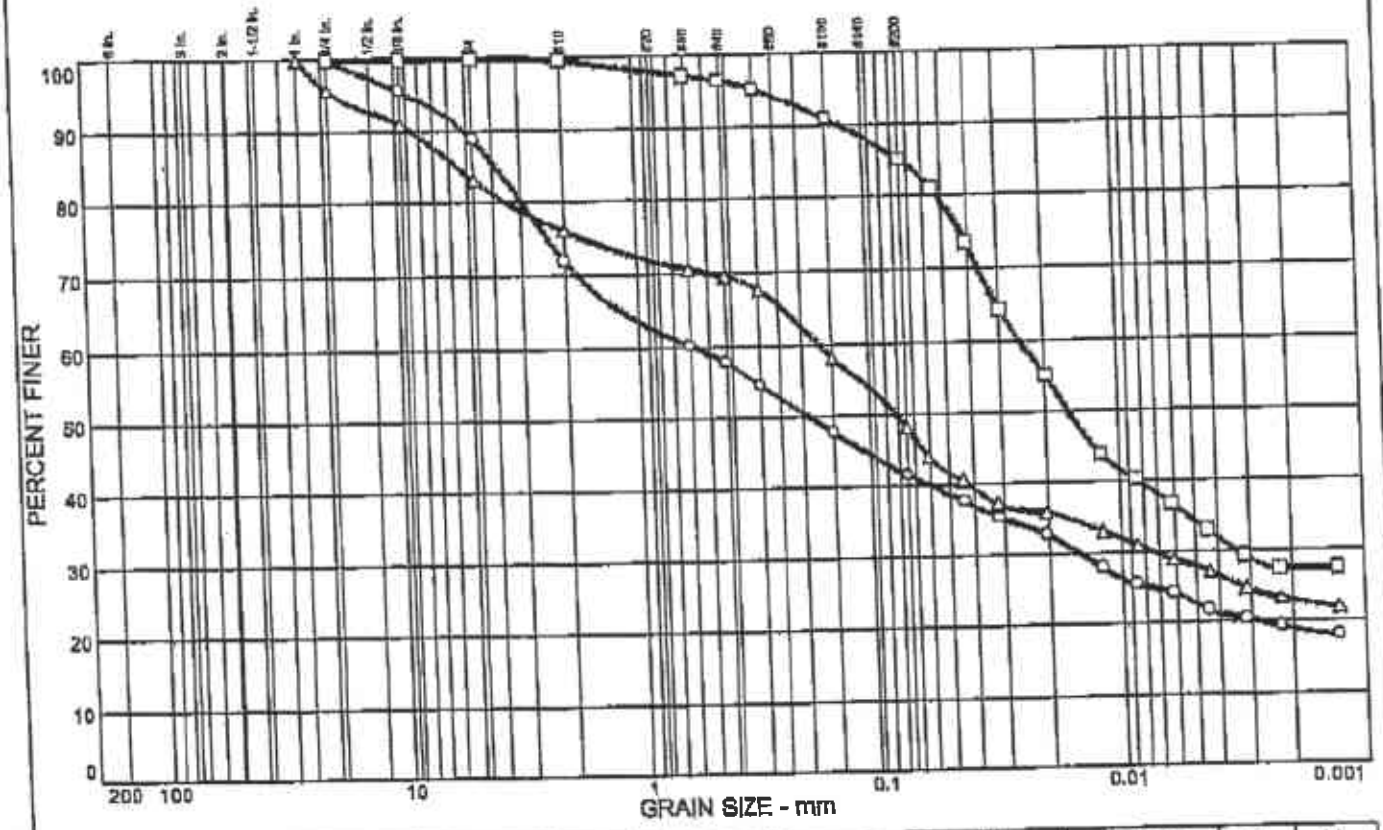
Cooper Testing Labs, Inc.

Job No: 453-003 Date: 06/04/03
Client: Golden Gate Tank By: DC
Project: 7335 Remarks:

Boring:	B8	B9	B11					
Sample:								
Depth:	17	7	19					
Description	olive gray CLAY w/sand	brown clayey SAND w/trace gravel	brown clayey SAND w/gravel					
Actual G_s								
Assumed G_s	2.75	2.70	2.70					
Total Vol cc	103.17	56.32	155.35					
Vol Solids,cc	63.35	34.07	88.52					
Vol Voids,cc	39.82	22.25	66.82					
Moisture, %	22.8	19.0	21.9					
Wet Unit, pcf	129.5	121.5	117.2					
Dry Unit, pcf	105.5	102.1	96.1					
Saturation, %	99.6	78.7	78.4					
Porosity, %	38.6	39.5	43.0					
Void Ratio	0.628	0.653	0.755					
Series	2	3	4	5	6	7	8	9



PARTICLE SIZE DISTRIBUTION TEST REPORT



	% + 3"	% GRAVEL	% SAND	% SILT	% CLAY	% FINES	USCS	AASHTO	PL	LL
○		11.1	47.3	22.6	19.0	41.6				
□			14.8	57.9	27.3	85.2				
△		16.8	34.8	25.5	22.9	48.4				

SIEVE inches size	PERCENT FINER ○	□	△
1			100.0
3/4	100.0	100.0	95.8
3/8	95.6	100.0	91.0
	GRAIN SIZE		
D_{60}	0.581	0.0250	0.170
D_{30}	0.0150	0.0034	0.0074
D_{10}			
	COEFFICIENTS		
C_C			
C_U			

SIZE	PERCENT FINER ○	□	△
#4	88.9	100.0	83.2
#10	72.0	99.2	78.1
#30	60.8	99.3	73.7
#40	57.9	98.6	69.7
#50	54.2	95.5	67.6
#100	47.8	91.0	58.5
#200	41.6	85.2	48.4
0.0616 mm.			44.1
0.0553 mm.		81.1	
0.0444 mm.			40.6
0.0439 mm.	37.6	73.7	
0.0406 mm.			37.1
0.0320 mm.	35.2	64.4	
0.0315 mm.			35.7
0.0300 mm.			
0.0204 mm.	32.7	58.1	
0.0202 mm.			
0.0148 mm.	27.8		33.0
0.0120 mm.		44.0	
0.0119 mm.	25.4	40.3	
0.0096 mm.			30.9
0.0095 mm.	24.2	36.6	28.8
0.0061 mm.	21.7	32.9	
0.0046 mm.			27.1
0.0043 mm.			25.6
0.0031 mm.	20.5	29.2	23.2
0.0022 mm.	19.3	27.3	21.9
0.0015 mm.	18.0	27.3	

SOIL DESCRIPTION

○ brown clayey SAND w/trace gravel

□ olive gray CLAY w/sand

△ brown clayey SAND w/gravel

REMARKS:

○

□

△

○ Source: B9

□ Source: ~~B9~~ B8

△ Source: B11

Elev./Depth: 7'

Elev./Depth: 17'

Elev./Depth: 19'

COOPER TESTING LABORATORY

Project: 7335

Feature:

Project No.: 453-003

10/1/02

GOLDEN GATE TANK REMOVAL, INC (415) 512-1555

1951-X Colony St.
Mt. View, CA 94043
TEL 650-968-8472
FAX 650-968-4226

Cooper Testing Laboratory
Test Request Sheet

1360-D Industrial Ave.
Petaluma, CA 94952
TEL 707-765-2588
FAX 707-765-1227

Please check appropriate box for billing purposes: Mountain View Lab ☒ Petaluma Lab ☐

(email: cooper@coopertestinglabs.com) (home page: www.coopertestinglabs.com)

CTL# 453-603 | P.O. #: | Your Client:

Our Client: GGTR | Date In: 11/1/02 | Project Name: 5930 COLLEGE AVE, OAK.

Results To: B. WHEELER | Due Date: | Project No.: 7335

Boring	Depth ft	Test	Instructions
BB	17	[illegible]	Test No.: 1
B9	7	[illegible]	RUN MD IF 2
B11	19	[illegible]	* POSSIBLE 3
			4
			5
			6
			7
			8
			9
			10
			11
			STRONG 12
			13
			14
			15
			16
			17
			18
			19
			20
			21
			22
			23
			24
			25
			26
			27
			28
			29
			30
			31
			32
			33
			34
			35
			36
			37
			38
			39
			Discount % 40
			41

Test	Price	Quantity
Moisture (MC)	$11	~~8~~
MD, 2-2.5" diameter	15	3
MD 3" diameter	20	
PI A/B	105/150	
Sieve (SA)	75	
Sieve + Hydrometer	135	3
-#200Wash	50	
Specific Gravity	60	
% Organics	60	
Total Porosity	75	
UC	55	
Direct Shear - UU *	50/point	
DS-CU	65/point	
DS-CD	140/point	
DS-Residual-Quick *	100/point	
DS-CD-Residual *	250/point	
TX-UU	85	
TX-ICU	155/point	
TX-ICU- Staged	300 3point	
TX-ICU-PP	350/point	
TX-ICU-PP- Staged	700 3point	
Torsional pk. & Resid.	300/point	
Torsional resid Staged	200/point	
Torsional Peak	180/point	
Incremental - Consol	245	
CRS - Consol	900	
Sample Pick-up	40	
Durability Index	175	
Collapse	110	
Permeability 2-3" dia.	210	
PERM on drain rock	300	
Logging per hour	90	
Modified Proctor 4"	170	
Modified Proctor 6"	210	
Remolding	40	
R-value/batch	155/180	
Sand Equivalent (SE)	50	
SS+Expansion-Pressure	175/190	
Shrink Swell (SS)	100	
Class 2 Spec	460	

N:\My Documents\Request Sheet

* Residual values are best achieved by the torsional shear rather than direct shear.

*DS-UU is tested quickly at field moisture. DS-CU is inundated and consolidated under the normal stress.

North State Labs
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

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

Lab Number: 02-1210
Client: Golden Gate Tank
Project: 7335/5930 COLLEGE AVE

Date Reported: 09/03/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Lead by Method 6010B ICAP

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1210-01 Client ID: 7335-EX1[3.5]				08/27/2002	SO
Benzene	SW8020F	ND<5	UG/KG		08/28/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		08/28/2002
Gasoline Range Organics	SW8020F	5510	UG/KG		08/28/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		08/28/2002
Toluene	SW8020F	6	UG/KG		08/28/2002
Xylenes	SW8020F	40	UG/KG		08/28/2002
Lead	SW6010B	3.6	MG/KG		08/30/2002
Sample: 02-1210-02 Client ID: 7335-EX2[3.5]				08/27/2002	SO
Benzene	SW8020F	ND<5	UG/KG		08/30/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		08/30/2002
Gasoline Range Organics	SW8020F	ND<500	UG/KG		08/30/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		08/30/2002
Toluene	SW8020F	ND<5	UG/KG		08/30/2002
Xylenes	SW8020F	ND<10	UG/KG		08/30/2002
Lead	SW6010B	3.3	MG/KG		08/30/2002
Sample: 02-1210-03 Client ID: 7335-EX3[2.5]				08/27/2002	SO
Benzene	SW8020F	ND<5	UG/KG		08/30/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		08/30/2002
Gasoline Range Organics	SW8020F	967	UG/KG		08/30/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		08/30/2002
Toluene	SW8020F	ND<5	UG/KG		08/30/2002

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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

Lab Number: 02-1210
Client: Golden Gate Tank
Project: 7335/5930 COLLEGE AVE

Date Reported: 09/03/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Lead by Method 6010B ICAP

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1210-03 Client ID: 7335-EX3[2.5]				08/27/2002	SO
Xylenes	SW8020F	ND<10	UG/KG		08/30/2002
Lead	SW6010B	18.8	MG/KG		08/30/2002

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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: 02-1210
Client: Golden Gate Tank
Project: 7335/5930 COLLEGE AVE

Date Reported: 09/03/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Lead by Method 6010B ICAP

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Gasoline Range	SW8020F	500	UG/KG	ND	104/103	1
Benzene	SW8020F	5	UG/KG	ND	90/87	3
Toluene	SW8020F	5	UG/KG	ND	99/96	3
Ethylbenzene	SW8020F	5	UG/KG	ND	100/97	3
Xylenes	SW8020F	10	UG/KG	ND	99/97	2
Methyl-tert-butyl	SW8020F	5	UG/KG	ND	99/96	3
Lead	SW6010B	1.0	MG/KG	ND<1.0	81/78	4

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

02-1210

North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis
Lab Job No.:_____ Page___of___

Client: GGTR	Report to: B. WHEELER	Phone: 415-512-1555	Turnaround Time: A.S.A.P.
Mailing Address: 255 SHIPLEY ST SF. CA 94107	Billing to: GGTR	Fax: 415-512-0964	Date: 8/27/02
		email: GGTRDATA@AOL	Sampler: BAW
		PO# 7335	

Project / Site Address / Global ID: OAKLAND CA 7335 / 5930 COLLEGE AVE

Analysis Requested

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-G	BTEX	MTBE	TOTAL LEAD				
7335-EX1[3.5]	SOIL	1 BT	4°C	08-27-02/11:05	X	X	X	X				
7335-EX2[3.5]	SOIL	1 BT	4°C	08-27-02/11:35	X	X	X	X				
7335-EX3[3.5]	SOIL	1 BT	4°C	08-27-02/11:55	X	X	X	X				

EDF ☒

Field Point ID

Relinquished by:	Date: 8/28/2	Time: 9:45	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Lab Comments/ Hazards

North State Labs
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-01 Client ID: 7335-B7-8				10/30/2002	SO
Benzene	SW8020F	5	UG/KG		11/04/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	1710	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	ND<5	UG/KG		11/04/2002
Xylenes	SW8020F	ND<10	UG/KG		11/04/2002
Sample: 02-1559-02 Client ID: 7335-B7-13				10/30/2002	SO
Benzene	SW8020F	720	UG/KG		11/04/2002
Ethylbenzene	SW8020F	803	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	20100	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	162	UG/KG		11/04/2002
Xylenes	SW8020F	2500	UG/KG		11/04/2002
Sample: 02-1559-03 Client ID: 7335-B7-16				10/30/2002	SO
Benzene	SW8020F	762	UG/KG		11/05/2002
Ethylbenzene	SW8020F	1400	UG/KG		11/05/2002
Gasoline Range Organics	SW8020F	61800	UG/KG		11/05/2002
Methyl-tert-butyl ether	SW8020F	ND<20	UG/KG		11/05/2002
Toluene	SW8020F	2370	UG/KG		11/05/2002
Xylenes	SW8020F	6340	UG/KG		11/05/2002

*Confirmed by GC/MS method 8260.

North State Labs
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/06/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-04 Client ID: 7335-B7-20				10/30/2002	SO
Benzene	SW8020F	20	UG/KG		11/04/2002
Ethylbenzene	SW8020F	32	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	1970	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	34	UG/KG		11/04/2002
Xylenes	SW8020F	140	UG/KG		11/04/2002
Sample: 02-1559-05 Client ID: 7335-B8-12				10/30/2002	SO
Benzene	SW8020F	ND<5	UG/KG		11/04/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	606	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	ND<5	UG/KG		11/04/2002
Xylenes	SW8020F	ND<10	UG/KG		11/04/2002
Sample: 02-1559-06 Client ID: 7335-B8-16				10/30/2002	SO
Benzene	SW8020F	184	UG/KG		11/04/2002
Ethylbenzene	SW8020F	495	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	14000	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	19	UG/KG		11/04/2002
Xylenes	SW8020F	628	UG/KG		11/04/2002

*Confirmed by GC/MS method 8260.

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CERTIFICATE OF ANALYSIS

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-07 Client ID: 7335-B8-20				10/30/2002	SO
Benzene	SW8020F	37	UG/KG		11/04/2002
Ethylbenzene	SW8020F	105	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	5660	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	136	UG/KG		11/04/2002
Xylenes	SW8020F	461	UG/KG		11/04/2002
Sample: 02-1559-08 Client ID: 7335-B9-12				10/30/2002	SO
Benzene	SW8020F	97	UG/KG		11/04/2002
Ethylbenzene	SW8020F	171	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	27400	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	27	UG/KG		11/04/2002
Xylenes	SW8020F	161	UG/KG		11/04/2002
Sample: 02-1559-09 Client ID: 7335-B9-15				10/30/2002	SO
Benzene	SW8020F	1120	UG/KG		11/04/2002
Ethylbenzene	SW8020F	2090	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	47500	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	*ND<5	UG/KG		11/04/2002
Toluene	SW8020F	1960	UG/KG		11/04/2002
Xylenes	SW8020F	9460	UG/KG		11/04/2002

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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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-10 Client ID: 7335-B9-20				10/30/2002	SO
Benzene	SW8020F	ND<5	UG/KG		11/04/2002
Ethylbenzene	SW8020F	10	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	862	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	7	UG/KG		11/04/2002
Xylenes	SW8020F	49	UG/KG		11/04/2002
Sample: 02-1559-11 Client ID: 7335-B10-11				10/30/2002	SO
Cadmium	SW6010B	ND<2.0	MG/KG		11/04/2002
Chromium	SW6010B	38.2	MG/KG		11/04/2002
Lead	SW6010B	19.6	MG/KG		11/04/2002
Nickel	SW6010B	51.5	MG/KG		11/04/2002
Zinc	SW6010B	47.7	MG/KG		11/04/2002
Benzene	SW8020F	444	UG/KG		11/06/2002
Ethylbenzene	SW8020F	1650	UG/KG		11/06/2002
Gasoline Range Organics	SW8020F	81800	UG/KG		11/06/2002
Methyl-tert-butyl ether	SW8020F	*183	UG/KG		11/06/2002
Toluene	SW8020F	2260	UG/KG		11/06/2002
Xylenes	SW8020F	8840	UG/KG		11/06/2002
Silica Gel Treated Hexane	E1664	ND<50	MG/KG		11/05/2002

*Confirmed by GC/MS method 8260.

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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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-12 Client ID: 7335-B10-15				10/30/2002	SO
Benzene	SW8020F	4160	UG/KG		11/05/2002
Ethylbenzene	SW8020F	9210	UG/KG		11/05/2002
Gasoline Range Organics	SW8020F	479000	UG/KG		11/05/2002
Methyl-tert-butyl ether	SW8020F	*ND<250	UG/KG		11/05/2002
Toluene	SW8020F	15900	UG/KG		11/05/2002
Xylenes	SW8020F	44600	UG/KG		11/05/2002
Silica Gel Treated Hexane	E1664	ND<50	MG/KG		11/05/2002
Sample: 02-1559-13 Client ID: 7335-B10-17				10/30/2002	SO
Benzene	SW8020F	36	UG/KG		11/04/2002
Ethylbenzene	SW8020F	79	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	7440	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	75	UG/KG		11/04/2002
Xylenes	SW8020F	442	UG/KG		11/04/2002
Silica Gel Treated Hexane	E1664	ND<50	MG/KG		11/05/2002
Sample: 02-1559-14 Client ID: 7335-B11-8				10/30/2002	SO
Benzene	SW8020F	ND<5	UG/KG		11/04/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	ND<500	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	ND<5	UG/KG		11/04/2002

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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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-14 Client ID: 7335-B11-8				10/30/2002	SO
Xylenes	SW8020F	14	UG/KG		11/04/2002
Sample: 02-1559-15 Client ID: 7335-B11-13				10/30/2002	SO
Benzene	SW8020F	ND<5	UG/KG		11/04/2002
Ethylbenzene	SW8020F	ND<5	UG/KG		11/04/2002
Gasoline Range Organics	SW8020F	ND<500	UG/KG		11/04/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/04/2002
Toluene	SW8020F	ND<5	UG/KG		11/04/2002
Xylenes	SW8020F	ND<10	UG/KG		11/04/2002
Sample: 02-1559-16 Client ID: 7335-SC1				10/30/2002	SO
Benzene	SW8020F	ND<5	UG/KG		11/05/2002
Ethylbenzene	SW8020F	14	UG/KG		11/05/2002
Gasoline Range Organics	SW8020F	943	UG/KG		11/05/2002
Methyl-tert-butyl ether	SW8020F	ND<5	UG/KG		11/05/2002
Toluene	SW8020F	10	UG/KG		11/05/2002
Xylenes	SW8020F	59	UG/KG		11/05/2002
Lead	SW6010B	24.9	MG/KG		11/01/2002

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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

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported: 11/05/2002

Gasoline,BTEX and MTBE by Methods SW8020F
Total Cd, Cr, Ni, Pb and Zn by 6010B ICAP
Silica Gel Treated Hexane extractable material by E1664

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1559-17 Client ID: 7335-B7-W				10/30/2002	W
Benzene	SW8020F	18400	UG/L		11/05/2002
Ethylbenzene	SW8020F	8310	UG/L		11/05/2002
Gasoline Range Organics	SW8020F	296000	UG/L		11/05/2002
Methyl-tert-butyl ether	SW8020F	*1360	UG/L		11/05/2002
Toluene	SW8020F	21900	UG/L		11/05/2002
Xylenes	SW8020F	33800	UG/L		11/05/2002
Sample: 02-1559-18 Client ID: 7335-B8-W				10/30/2002	W
Benzene	SW8020F	386	UG/L		11/05/2002
Ethylbenzene	SW8020F	74	UG/L		11/05/2002
Gasoline Range Organics	SW8020F	1480	UG/L		11/05/2002
Methyl-tert-butyl ether	SW8020F	35	UG/L		11/05/2002
Toluene	SW8020F	9	UG/L		11/05/2002
Xylenes	SW8020F	81	UG/L		11/05/2002

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CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 02-1559
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE

Date Reported:11/05/200

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Cadmium	SW6010B	2.0	MG/KG	ND<2.0	102/102	0
Chromium	SW6010B	1.0	MG/KG	ND<1.0	100/101	1
Lead	SW6010B	1.0	MG/KG	ND<1.0	98/99	1
Nickel	SW6010B	1.0	MG/KG	ND<1.0	100/101	1
Zinc	SW6010B	1.0	MG/KG	ND<1.0	99/99	0
Gasoline Range	SW8020F	500	UG/KG	ND	101/100	1
Benzene	SW8020F	5	UG/KG	ND	90/91	1
Toluene	SW8020F	5	UG/KG	ND	95/96	1
Ethylbenzene	SW8020F	5	UG/KG	ND	97/97	0
Xylenes	SW8020F	10	UG/KG	ND	99/98	1
Methyl-tert-butyl	SW8020F	5	UG/KG	ND	96/93	3
Gasoline Range	SW8020F	50	UG/L	ND	91/89	2
Benzene	SW8020F	0.5	UG/L	ND	90/87	3
Toluene	SW8020F	0.5	UG/L	ND	92/89	3
Ethylbenzene	SW8020F	0.5	UG/L	ND	92/90	2
Xylenes	SW8020F	1.0	UG/L	ND	93/91	2
Methyl-tert-butyl	SW8020F	0.5	UG/L	ND	86/85	1
Silica Gel	E1664	50	MG/KG	ND<50	99/93	6

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/06/2002
Date Reported: 11/05/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1559-11
Client ID	7335-B10-11
Matrix	SO
Analyte	UG/KG
Bromochloromethane	ND<100
Dichlorodifluoromethane	ND<100
Chloromethane	ND<200
Vinyl chloride	ND<100
Bromomethane	ND<100
Chloroethane	ND<100
Trichlorofluoromethane	ND<100
1,1-Dichloroethene	ND<20
Acetone	ND<1000
Methylene chloride	ND<1000
trans-1,2-Dichloroethene	ND<20
Methyl-tert-butyl ether	599
1,1-Dichloroethane	ND<20
2,2-Dichloropropane	ND<20
cis-1,2-Dichloroethene	ND<20
2-Butanone	ND<200
Chloroform	ND<20
Carbon tetrachloride	ND<20
1,1-Dichloropropene	ND<20
Benzene	397
1,2-Dichloroethane	ND<20
Trichloroethene	ND<20
1,2-Dichloropropane	ND<20
Dibromomethane	ND<20
Bromodichloromethane	ND<20
trans-1,3-Dichloropropene	ND<20
4-Methyl-2-pentanone	ND<200
Toluene	1810
cis-1,3-Dichloropropene	ND<20
1,1,2-Trichloroethane	ND<20
Tetrachloroethene	ND<20
1,3-Dichloropropane	ND<20
2-Hexanone	ND<200
Dibromochloromethane	ND<20
1,2-Dibromoethane	ND<20

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/06/2002
Date Reported: 11/05/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1559-11
Client ID	7335-B10-11
Matrix	SO
Analyte	UG/KG
Chlorobenzene	ND<40
1,1,1,2-Tetrachloroethane	ND<20
Ethylbenzene	1050
Xylene, Isomers m & p	4020
o-Xylene	1350
Styrene	ND<20
Bromoform	ND<20
Isopropylbenzene	100
Bromobenzene	ND<20
1,1,2,2-Tetrachloroethane	ND<20
n-Propylbenzene	453
2-Chlorotoluene	ND<20
4-Chlorotoluene	ND<20
1,3,5-Trimethylbenzene	2630
tert-Butylbenzene	ND<20
1,2,4-Trimethylbenzene	832
1,3-Dichlorobenzene	ND<20
1,4-Dichlorobenzene	ND<20
sec-Butylbenzene	ND<20
1,2-Dichlorobenzene	ND<20
n-Butylbenzene	313
Naphthalene	715
1,2,4-Trichlorobenzene	ND<20
Hexachlorobutadiene	ND<20
1,2,3-Trichlorobenzene	ND<20
1,2,3-Trichloropropane	ND<20
Acetonitrile	ND<1000
Acrylonitrile	ND<1000
Isobutanol	ND<1000
1,1,1-Trichloroethane	ND<20
SUR-Dibromofluoromethane	102
SUR-Toluene-d8	101
SUR-4-Bromofluorobenzene	105

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/06/2002
Date Reported: 11/05/2002

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

Laboratory Number	02-1559	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	SO	SO			
Analyte	Results UG/KG	%Recoveries			
Bromochloromethane	ND<25				
Dichlorodifluoromethane	ND<25				
Chloromethane	ND<50				
Vinyl chloride	ND<5				
Bromomethane	ND<25				
Chloroethane	ND<25				
Trichlorofluoromethane	ND<25				
1,1-Dichloroethene	ND<5	85/86	1	54-155	27
Acetone	ND<250				
Methylene chloride	ND<250				
trans-1,2-Dichloroethene	ND<5				
Methyl-tert-butyl ether	ND<5				
1,1-Dichloroethane	ND<5				
2,2-Dichloropropane	ND<5				
cis-1,2-Dichloroethene	ND<5				
2-Butanone	ND<50				
Chloroform	ND<5				
Carbon tetrachloride	ND<5				
1,1-Dichloropropene	ND<5				
Benzene	ND<5	117/116	1	72-122	22
1,2-Dichloroethane	ND<5				
Trichloroethene	ND<5	104/105	1	68-122	20
1,2-Dichloropropane	ND<5				
Dibromomethane	ND<5				
Bromodichloromethane	ND<5				
trans-1,3-Dichloropropene	ND<5				
4-Methyl-2-pentanone	ND<50				
Toluene	ND<5	108/112	4	73-125	21
cis-1,3-Dichloropropene	ND<5				
1,1,2-Trichloroethane	ND<5				
Tetrachloroethene	ND<5				
1,3-Dichloropropane	ND<5				
2-Hexanone	ND<50				
Dibromochloromethane	ND<5				
1,2-Dibromoethane	ND<5				
Chlorobenzene	ND<10	114/114	0	80-135	21
1,1,1,2-Tetrachloroethane	ND<5				
Ethylbenzene	ND<5				
Xylene, Isomers m & p	ND<10				
o-Xylene	ND<5				
Styrene	ND<5				

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/06/2002
Date Reported: 11/05/2002

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

Laboratory Number	02-1559	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	SO	SO			
Analyte	Results UG/KG	%Recoveries			
Bromoform	ND<5				
Isopropylbenzene	ND<5				
Bromobenzene	ND<5				
1,1,2,2-Tetrachloroethane	ND<5				
n-Propylbenzene	ND<5				
2-Chlorotoluene	ND<5				
4-Chlorotoluene	ND<5				
1,3,5-Trimethylbenzene	ND<5				
tert-Butylbenzene	ND<5				
1,2,4-Trimethylbenzene	ND<5				
1,3-Dichlorobenzene	ND<5				
1,4-Dichlorobenzene	ND<5				
sec-Butylbenzene	ND<5				
1,2-Dichlorobenzene	ND<5				
n-Butylbenzene	ND<5				
Naphthalene	ND<10				
1,2,4-Trichlorobenzene	ND<5				
Hexachlorobutadiene	ND<5				
1,2,3-Trichlorobenzene	ND<5				
1,2,3-Trichloropropane	ND<5				
Acetonitrile	ND<250				
Acrylonitrile	ND<250				
Isobutanol	ND<250				
1,1,1-Trichloroethane	ND<5				
SUR-Dibromofluoromethane	103	101/104	3	54-145	23
SUR-Toluene-d8	0	91/92	1	81-108	14
SUR-4-Bromofluorobenzene	100	110/109	1	82-118	18

Reviewed and Approved

John A. Murphy
Laboratory Director

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/01/2002
Date Reported: 11/05/2002

8010 Volatile Organics by GC/MS

Laboratory Number	02-1559-16
Client ID	7335-SC1
Matrix	SO
Analyte	UG/KG
Chloromethane	ND<50
Vinyl chloride	ND<25
Bromomethane	ND<25
Chloroethane	ND<25
Trichlorofluoromethane	ND<25
1,1-Dichloroethene	ND<5
Methylene chloride	ND<250
trans-1,2-Dichloroethene	ND<5
1,1-Dichloroethane	ND<5
cis-1,2-Dichloroethene	ND<5
Chloroform	ND<5
Carbon tetrachloride	ND<5
1,2-Dichloroethane	ND<5
Trichloroethene	ND<5
Bromodichloromethane	ND<5
trans-1,3-Dichloropropene	ND<5
1,1,2-Trichloroethane	ND<5
Tetrachloroethene	ND<5
Chlorobenzene	ND<10
1,1,2,2-Tetrachloroethane	ND<5
1,3-Dichlorobenzene	ND<5
1,4-Dichlorobenzene	ND<5
1,2-Dichlorobenzene	ND<5
1,2-Dibromoethane	ND<5
Dichlorodifluoromethane	ND<25
1,2-Dichloropropane	ND<5
1,1,1,2-Tetrachloroethane	ND<5
1,1,1-Trichloroethane	ND<5
SUR-Dibromofluoromethane	104
SUR-Toluene-d8	102
SUR-4-Bromofluorobenzene	107

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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

Job Number: 02-1559
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE

Date Sampled : 10/30/2002
Date Analyzed: 11/01/2002
Date Reported: 11/05/2002

8010 Volatile Organics by GC/MS
Quality Control/Quality Assurance Summary

Laboratory Number	02-1559	MS/MSD	RPD	Recovery Limit	RPD Limit
Client ID	Blank	Recovery			
Matrix	SO	SO			
Analyte	Results UG/KG	%Recoveries			
Chloromethane	ND<50				
Vinyl chloride	ND<5				
Bromomethane	ND<25				
Chloroethane	ND<25				
Trichlorofluoromethane	ND<25				
1,1-Dichloroethene	ND<5	85/86	1	54-155	27
Methylene chloride	ND<250				
trans-1,2-Dichloroethene	ND<5				
1,1-Dichloroethane	ND<5				
cis-1,2-Dichloroethene	ND<5				
Chloroform	ND<5				
Carbon tetrachloride	ND<5				
1,2-Dichloroethane	ND<5				
Trichloroethene	ND<5	104/105	1	68-122	20
Bromodichloromethane	ND<5				
trans-1,3-Dichloropropene	ND<5				
1,1,2-Trichloroethane	ND<5				
Tetrachloroethene	ND<5				
Chlorobenzene	ND<10	114/114	0	80-135	21
1,1,2,2-Tetrachloroethane	ND<5				
1,3-Dichlorobenzene	ND<5				
1,4-Dichlorobenzene	ND<5				
1,2-Dichlorobenzene	ND<5				
1,2-Dibromoethane	ND<5				
Dichlorodifluoromethane	ND<25				
1,2-Dichloropropane	ND<5				
1,1,1,2-Tetrachloroethane	ND<5				
1,1,1-Trichloroethane	ND<5				
SUR-Dibromofluoromethane	103	101/104	3	54-145	23
SUR-Toluene-d8	0	91/92	1	81-108	14
SUR-4-Bromofluorobenzene	100	110/109	1	82-118	18

Reviewed and Approved

John A. Murphy
Laboratory Director

North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080
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Chain of Custody / Request for Analysis
Lab Job No.:_____ Page 1 of 2

Client: CGTR	Report to: B. WHEELER	Phone: 512.1555	Turnaround Time: 72 HR.
Mailing Address: 255 SHIPLEY ST. S.F, CA 94107	Billing to: SAME	Fax: 512-0964	Date: 10/31/02
		email: CGTRDATA@AOL	Sampler: BAW
Project / Site Address / Global ID: T0600102112 5930 COLLEGE AVE., OAK. CA		PO# 7335	

	Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	Analysis Requested: TPH-D (8015)	BTEX (8021)	Total Oil & Grease (5520 E/F)	LUFT 5 Metals	VOCs (8260)			EDF ☒ Field Point ID
													B07-8
1	7335-B7-8	SOIL	BUTYRATE TUBE	4°C	10/30/02 1040	X	X						HOLD/B07-12
	7335-B7-12				1045								B07-13
2	7335-B7-13				1050	X	X						B07-16
3	7335-B7-16				1050	X	X						B07-20
4	7335-B7-20				1100	X	X						B08-12
5	7335-B8-12				0830	X	X						B08-16
6	7335-B8-16				0835	X	X						B08-20
7	7335-B8-20				0845	X	X						B09-12
8	7335-B9-12				1005	X	X						B09-15
9	7335-B9-15				1005	X	X						B09-20
10	7335-B9-20				1010	X	X						B10-11
11	7335-B10-11				0920	X	X	X	X	X			B10-15
12	7335-B10-15				0925	X	X	X					B10-17
13	7335-B10-17	↓	↓	↓	0935 ↓	X	X	X					Lab Comments/ Hazards

Relinquished by: [signature] Date: 10/31/02 Time: 12⁰⁸ Received by: [signature] USCAR

Relinquished by: Date: Time: Received by:

Relinquished by: Date: Time: Received by:

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Chain of Custody / Request for Analysis
Lab Job No.: _____ Page 2 of 2

Client: GETTR	Report to: B. WHEELER	Phone: 512.1555	Turnaround Time: 24 HR.
Mailing Address: 255 SHIPLEY ST. SF, CA	Billing to: SAME	Fax: 512.0164	Date: 10/31/02
		email: GETRONTA@AOL	Sampler: BAW
Project / Site Address / Global ID: T0600102112 6930 COLLEGE AVE., OAK. CA		PO# 7335	EDF ☒

Analysis Requested

	Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-D (8020)	BTEX/MTBE (8020)	TOTAL Pb	MVOCs (8240)				Field Point ID
	7335-B11-8	SOIL	BUTYRATE TUBE	4°C	10/30/02 1135	X	X						B11-8
14	7335-B11-13	SOIL	BUTYRATE TUBE	4°C	1150	X	X						B11-13
15	7335-SC1	SOIL	2 BRASS TUBES	4°C	1400	X	X	X	X				COMPOSITE SAMPLE ANALYSIS
16	7335-B7-W	WATER	3-40ml VOAS	HCl/4°C	1200	X	X						B7-W
17	7335-B8-W	WATER	3-40ml VOAS	HCl/4°C	1230	X	X						B8-W
18													

Relinquished by: B. A. Wheeler Date: 10/31/02 Time: 1215 Received by: (NSCAB)

Relinquished by: Date: Time: Received by:

Relinquished by: Date: Time: Received by:

Lab Comments/ Hazards

North State Labs
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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

Lab Number: 02-1566
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE OAKLAND

Date Reported: 11/06/2002

Gasoline,BTEX and MTBE by Methods SW8020F
n-Hexane Extractable Material by Method E1664
Total Cd, Cr,Ni, Pb, Zn by 6010B ICAP

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1566-01 Client ID: 7335-B9-W				11/01/2002	W
Benzene	SW8020F	1250	UG/L		11/05/2002
Ethylbenzene	SW8020F	820	UG/L		11/05/2002
Gasoline Range Organics	SW8020F	16100	UG/L		11/05/2002
Methyl-tert-butyl ether	SW8020F	879	UG/L		11/05/2002
Toluene	SW8020F	1380	UG/L		11/05/2002
Xylenes	SW8020F	3480	UG/L		11/05/2002
Sample: 02-1566-02 Client ID: 7335-B10-W				11/01/2002	W
Cadmium	SW6010B	ND<0.05	MG/L		11/06/2002
Chromium	SW6010B	0.28	MG/L		11/06/2002
Lead	SW6010B	0.26	MG/L		11/06/2002
Nickel	SW6010B	0.33	MG/L		11/06/2002
Zinc	SW6010B	0.41	MG/L		11/06/2002
Benzene	SW8020F	6600	UG/L		11/05/2002
Ethylbenzene	SW8020F	1610	UG/L		11/05/2002
Gasoline Range Organics	SW8020F	49400	UG/L		11/05/2002
Methyl-tert-butyl ether	SW8020F	*2040	UG/L		11/05/2002
Toluene	SW8020F	9940	UG/L		11/05/2002
Xylenes	SW8020F	7600	UG/L		11/05/2002
n-Hexane Extractable	E1664	ND<5	MG/L		11/05/2002

*Confirmed by GC/MS method 8260.

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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: 02-1566
Client: Golden Gate Tank
Project: 5930 COLLEGE AVE OAKLAND

Date Reported: 11/06/2002
Gasoline,BTEX and MTBE by Methods SW8020F
n-Hexane Extractable Material by Method E1664
Total Cd, Cr,Ni, Pb, Zn by 6010B ICAP

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Gasoline Range	SW8020F	50	UG/L	ND	91/89	2
Benzene	SW8020F	0.5	UG/L	ND	90/87	3
Toluene	SW8020F	0.5	UG/L	ND	92/89	3
Ethylbenzene	SW8020F	0.5	UG/L	ND	92/90	2
Xylenes	SW8020F	1.0	UG/L	ND	93/91	2
Methyl-tert-butyl	SW8020F	0.5	UG/L	ND	86/85	1
n-Hexane	E1664	5	MG/L	ND	93/93	0
Cadmium	SW6010B	0.05	MG/L	ND<0.05	104/106	2
Chromium	SW6010B	0.05	MG/L	ND<0.05	121/106	12
Lead	SW6010B	0.05	MG/L	ND<0.05	118/105	10
Nickel	SW6010B	0.05	MG/L	ND<0.05	120/106	10
Zinc	SW6010B	0.05	MG/L	ND<0.05	119/105	11

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

North State Labs
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

Job Number: 02-1566
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 11/01/2002
Date Analyzed: 11/05/2002
Date Reported: 11/05/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1566-02
Client ID	7335-B10-W
Matrix	W
Analyte	UG/L
Bromochloromethane	ND<250
Dichlorodifluoromethane	ND<250
Chloromethane	ND<500
Vinyl chloride	ND<250
Bromomethane	ND<250
Chloroethane	ND<250
Trichlorofluoromethane	ND<250
1,1-Dichloroethene	ND<50
Acetone	ND<2500
Methylene chloride	ND<5000
trans-1,2-Dichloroethene	ND<50
Methyl-tert-butyl ether	2680
1,1-Dichloroethane	ND<50
2,2-Dichloropropane	ND<50
cis-1,2-Dichloroethene	ND<50
2-Butanone	ND<500
Chloroform	ND<50
Carbon tetrachloride	ND<50
1,1-Dichloropropene	ND<50
Benzene	8470
1,2-Dichloroethane	ND<50
Trichloroethene	ND<100
1,2-Dichloropropane	ND<50
Dibromomethane	ND<50
Bromodichloromethane	ND<50
trans-1,3-Dichloropropene	ND<50
4-Methyl-2-pentanone	ND<500
Toluene	11700
cis-1,3-Dichloropropene	ND<50
1,1,2-Trichloroethane	ND<50
Tetrachloroethene	ND<50
1,3-Dichloropropane	ND<50
2-Hexanone	ND<500
Dibromochloromethane	ND<50
1,2-Dibromoethane	ND<50

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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

Job Number: 02-1566
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 11/01/2002
Date Analyzed: 11/05/2002
Date Reported: 11/05/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1566-02
Client ID	7335-B10-W
Matrix	W
Analyte	UG/L
Chlorobenzene	ND<100
1,1,1,2-Tetrachloroethane	ND<50
Ethylbenzene	2280
Xylene, Isomers m & p	7550
o-Xylene	2930
Styrene	ND<50
Bromoform	ND<50
Isopropylbenzene	74
Bromobenzene	ND<50
1,1,2,2-Tetrachloroethane	ND<50
n-Propylbenzene	230
2-Chlorotoluene	ND<50
4-Chlorotoluene	ND<50
1,3,5-Trimethylbenzene	1610
tert-Butylbenzene	ND<50
1,2,4-Trimethylbenzene	441
1,3-Dichlorobenzene	ND<50
1,4-Dichlorobenzene	ND<50
sec-Butylbenzene	ND<50
1,2-Dichlorobenzene	ND<50
n-Butylbenzene	ND<50
Naphthalene	765
1,2,4-Trichlorobenzene	ND<50
Hexachlorobutadiene	ND<50
1,2,3-Trichlorobenzene	ND<50
1,2,3-Trichloropropane	ND<50
Acetonitrile	ND<2500
Acrylonitrile	ND<2500
Isobutanol	ND<2500
1,1,1-Trichloroethane	ND<25
SUR-Dibromofluoromethane	93
SUR-Toluene-d8	102
SUR-4-Bromofluorobenzene	103

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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

Job Number: 02-1566
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 11/01/2002
Date Analyzed: 11/05/2002
Date Reported: 11/05/2002

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

Laboratory Number	02-1566	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Bromochloromethane	ND<5				
Dichlorodifluoromethane	ND<5				
Chloromethane	ND<10				
Vinyl chloride	ND<1				
Bromomethane	ND<5				
Chloroethane	ND<5				
Trichlorofluoromethane	ND<5				
1,1-Dichloroethene	ND<1	68/68	0	61-121	25
Acetone	ND<50				
Methylene chloride	ND<50				
trans-1,2-Dichloroethene	ND<1				
Methyl-tert-butyl ether	ND<1				
1,1-Dichloroethane	ND<1				
2,2-Dichloropropane	ND<1				
cis-1,2-Dichloroethene	ND<1				
2-Butanone	ND<10				
Chloroform	ND<1				
Carbon tetrachloride	ND<1				
1,1-Dichloropropene	ND<1				
Benzene	ND<1	106/106	0	74-135	21
1,2-Dichloroethane	ND<1				
Trichloroethene	ND<2	94/96	2	69-129	20
1,2-Dichloropropane	ND<1				
Dibromomethane	ND<1				
Bromodichloromethane	ND<1				
trans-1,3-Dichloropropene	ND<1				
4-Methyl-2-pentanone	ND<10				
Toluene	ND<1	108/108	0	61-141	19
cis-1,3-Dichloropropene	ND<1				
1,1,2-Trichloroethane	ND<1				
Tetrachloroethene	ND<1				
1,3-Dichloropropane	ND<1				
2-Hexanone	ND<10				
Dibromochloromethane	ND<1				
1,2-Dibromoethane	ND<1				
Chlorobenzene	ND<2	110/112	2	70-139	19
1,1,1,2-Tetrachloroethane	ND<1				
Ethylbenzene	ND<1				
Xylene, Isomers m & p	ND<2				
o-Xylene	ND<1				
Styrene	ND<1				

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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

Job Number: 02-1566
Client : Golden Gate Tank
Project : 5930 COLLEGE AVE OAKLAND

Date Sampled : 11/01/2002
Date Analyzed: 11/05/2002
Date Reported: 11/05/2002

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

Laboratory Number	02-1566	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
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<2				
1,2,4-Trichlorobenzene	ND<1				
Hexachlorobutadiene	ND<1				
1,2,3-Trichlorobenzene	ND<1				
1,2,3-Trichloropropane	ND<1				
Acetonitrile	ND<50				
Acrylonitrile	ND<50				
Isobutanol	ND<50				
1,1,1-Trichloroethane	ND<0.5				
SUR-Dibromofluoromethane	95	96/98	2	67-129	21
SUR-Toluene-d8	98	100/101	1	72-119	16
SUR-4-Bromofluorobenzene	99	102/102	0	78-121	19

Reviewed and Approved

John A. Murphy
Laboratory Director

02-1566

North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis
Lab Job No.:_____ Page 1 of 1

Client: CGTR	Report to: B. WHEELER	Phone: 512.1555	Turnaround Time: 24 HR
Mailing Address: 255 SHIPLEY ST. S.F., CA 94107	Billing to: SAME	Fax: 512.0964	Date: 11/1/02
		email: CGTRDATA@AOL	Sampler: BAW
Project / Site Address / Global ID: T0600102112 5930 COLLEGE AVE., OAK., CA	Analysis Requested	PO# 7335	EDF ☒

	Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-D (8015)	BTEX/MTBE (8020)	Total Oil & Grease (5520 E&F)	Alkalinity (310.1)	VOCs (8260B)			Field Point ID
	7335-B9-W	WATER	3-40ml VOAs	HCl	11/01/02 0810	X	X						B09-W
1	7335-B10-W	WATER	3-40ml VOAs	"	0800	X	X			X			B10-W
2	7335-B10-W	WATER	250-ml Poly	HNO_3	0800				X				FILTER PAGE TO ACCOMPANY
2	7335-B10-W	WATER	1-Liter Amber	4°C	0800			X					

Relinquished by: _____ Date: 11/1/2 Time: 226 Received by: _____ NJ LABS

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Lab Comments/ Hazards

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