

**RECEIVED**

*By dehloptoxic at 10:55 am, Feb 01, 2007*



**January 31, 2007**

ACEH Fuel Leak Case RO0000117

**Mr. James Tracy, Alpine Rental**  
878 West Hayden Court  
Alpine Utah 84004

**Barney M. Chan, Hazardous Materials Specialist**  
Alameda County Health Care Services - Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda California 94502-6577

Subject: **Soil and Water Delineation Work Plan**  
1532 Peralta Street, Oakland, California

Dear Mr. Chan:

Upon my authorization, Golden Gate Tank Removal, Inc. has prepared a Soil and Water Delineation Work Plan for the above-referenced property. This work plan presents GGTR's preliminary findings, opinions, conclusions, and proposed methodology regarding the environmental conditions at the site. Should you have any questions, please contact Mr. Brent Wheeler, Project Engineer of GGTR (415) 512-1555 at your convenience.

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

Respectfully Submitted,  
**Tim Hallen**, Golden Gate Tank Removal, Inc.

 (BRENT A. WHEELER)

For **Mr. James Tracy**, Alpine Rental

Distribution: (1) Addressee



## **SOIL & WATER DELINEATION WORK PLAN**

**Fuel Leak Case RO0000117  
1532 Peralta Street, Oakland, California 94607**

Prepared For:

**Mr. James Tracy, Alpine Rental**  
878 West Hayden Court  
Alpine Utah 84004

&

**Barney M. Chan, Hazardous Materials Specialist**  
Alameda County Health Care Services - Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda California 94502-6577

Prepared By:

**Golden Gate Tank Removal, Inc**  
3730 Mission Street, San Francisco, CA 94110

GGTR Project No. 8757  
**January 31, 2007**

**TABLE OF CONTENTS**  
1532 Peralta Street, Oakland, California

|   |           |
|---|-----------|
| <b>1. INTRODUCTION &amp; PURPOSE .....</b>                | <b>1</b>  |
| <b>2. SITE DESCRIPTION .....</b>                          | <b>1</b>  |
| 2.1 SITE LOCATION AND IDENTIFICATION .....                | 1         |
| 2.2 PHYSICAL SETTING.....                                 | 2         |
| 2.3 DESCRIPTION & CURRENT USE OF PROPERTY .....           | 2         |
| 2.4 CURRENT USES OF ADJOINING PROPERTIES .....            | 3         |
| 2.5 CONDUIT STUDY .....                                   | 4         |
| <b>3. ENVIRONMENTAL HISTORY .....</b>                     | <b>6</b>  |
| 3.1 UNDERGROUND TANK REMOVAL IN 1999 .....                | 6         |
| 3.2 OVER-EXCAVATION OF USTs IN 2000 .....                 | 7         |
| 3.3 SOIL & GROUNDWATER INVESTIGATION IN 2004.....         | 7         |
| 3.4 GROUNDWATER MONITORING.....                           | 8         |
| <b>4. HISTORICAL RESEARCH .....</b>                       | <b>8</b>  |
| 4.1 AERIAL PHOTOGRAPHS .....                              | 8         |
| 4.2 SANBORN FIRE INSURANCE MAPS.....                      | 9         |
| 4.3 CITY TELEPHONE DIRECTORY .....                        | 11        |
| 4.4 TOPOGRAPHICAL MAPS .....                              | 13        |
| 4.5 ENVIRONMENTAL DATABASE INFORMATION.....               | 13        |
| 4.6 OAKLAND FIRE PREVENTION BUREAU .....                  | 14        |
| 4.7 SUMMARY OF HISTORICAL PROPERTY USES.....              | 15        |
| 4.8 SUMMARY OF ADJOINING PROPERTY USES .....              | 16        |
| <b>5. INITIAL SITE CONCEPTUAL MODEL .....</b>             | <b>17</b> |
| 5.1 GEOLOGY .....   | 17        |
| 5.2 GROUNDWATER.....                                      | 18        |
| 5.3 RESIDUAL CONSTITUENTS OF CONCERN.....                 | 19        |
| 5.4 SENSITIVE RECEPTORS .....                             | 20        |
| 5.5 POTENTIAL EXPOSURE PATHWAYS.....                      | 20        |
| 5.6 ENVIRONMENTAL SCREENING LEVELS .....                  | 22        |
| 5.7 SUMMARY OF SITE CONDITIONS.....                       | 23        |
| 5.8 DATA GAPS & PROPOSED ACTION .....                     | 24        |
| <b>6. SOIL &amp; WATER DELINEATION WORK PLAN.....</b>     | <b>26</b> |
| 6.1 PRE-FIELD WORK ACTIVITIES .....                       | 26        |
| 6.2 VERTICAL PROFILE CONTAMINATION CHARACTERIZATION ..... | 27        |
| 6.3 CONTINUED SATURATED SOIL CHARACTERIZATION .....       | 28        |
| 6.4 CONTINUED SOURCE REMOVAL .....                        | 28        |
| 6.5 CONTINUED ASSESSMENT OF GROUNDWATER .....             | 29        |
| 6.6 LABORATORY ANALYSES OF SAMPLES.....                   | 32        |
| 6.7 WASTE MANAGEMENT .....                                | 33        |
| 6.8 REPORT PREPARATION & DISTRIBUTION.....                | 34        |
| <b>7. LIMITATIONS &amp; SIGNATURE .....</b>               | <b>35</b> |

## **Table of Contents Continued....**

1532 Peralta Street, Oakland, California

### **Appendix A - Figures**

|           |  |
|-----------|--|
| Figure 1  | Well Survey Radius Map                   |
| Figure 2  | Site Plan                                |
| Figure 3  | Site Photographs                         |
| Figure 4  | Subsurface Utility Survey Map            |
| Figure 5  | Soil Over-Excavation Data                |
| Figure 6  | Soil Analytical Results from Borings     |
| Figure 7  | Groundwater Map                          |
| Figure 8  | Historic 1931 Aerial Photograph          |
| Figure 9  | Historic 1965 Aerial Photograph          |
| Figure 10 | Historic 1912 Sanborn Fire Insurance Map |
| Figure 11 | Historic 1951 Sanborn Fire Insurance Map |
| Figure 12 | Historic 1970 Sanborn Fire Insurance Map |
| Figure 13 | Geologic Map                             |
| Figure 14 | Cross Section A-A'                       |
| Figure 15 | Cross Section B-B'                       |
| Figure 16 | Groundwater Monitoring Results           |
| Figure 17 | Proposed Investigation Activities        |
| Figure 18 | Well Construction Diagram                |

### **Appendix B –Charts & Tables**

|         |   |
|---------|---|
| Chart 1 | TPH Gasoline in Groundwater                               |
| Chart 2 | Benzene in Groundwater                                    |
| Chart 3 | MTBE in Groundwater                                       |
| Table 1 | Summary of Soil Sample Analytical Data                    |
| Table 2 | Summary of Grab Groundwater Sampling Analytical Data      |
| Table 3 | Summary of Groundwater Monitoring Well Analytical Results |
| Table 4 | Groundwater Monitoring Well Measurements                  |

### **Appendix C – Additional Documentation**

Alameda County Environmental Health letter dated November 29, 2006  
Assessors Parcel Map  
Oakland Fire Prevention Bureau documents  
DWR Agency Release Agreement  
Alameda County Well Completion Report Release Agreement

# SOIL & WATER DELINEATION WORK PLAN

Fuel Leak Case RO0000117  
1532 Peralta Street, Oakland, California 94607



## 1. INTRODUCTION & PURPOSE

---

On behalf of Alpine Rental and Mr. James Tracy, Golden Gate Tank Removal, Inc. (GGTR) is pleased to submit this Soil and Water Delineation Work Plan for the commercial property located at 1532 Peralta Street in Oakland, California. Mr. Orobo Osagie previously owned the site from May 1998 to early 2006, at which time Mr. Jim Tracy of Alpine Rentals became the new responsible party for the site. The Cleanup Fund claim has been assigned to the new owner, Mr. James Tracy. Mr. Tracy intends to be in full compliance with the Alameda County corrective action and monitoring requirements at this site. Upon receipt of the Site Characterization and Groundwater Monitoring Report dated September 14, 2006, the Alameda County Environmental Health (ACEH) in their letter dated November 29, 2006, concurred that a work plan including a conduit survey, historical research and initial site conceptual model be prepared for the fuel leak investigation at the subject property. The purpose of this work plan and initial site conceptual model is to determine further investigation activities for delineating soil and water contamination at the site. Based on the results of this additional investigation, GGTR will prepare a feasibility report-remedial action work plan for the site. In addition, findings of the December 26, 2006, groundwater monitoring and sampling event are included herein and also submitted under separate cover. All work pertaining to this project was conducted in general accordance with the California Regional Water Quality Control Board's corrective action guidelines, policies and procedures. A copy of the November 29, 2006, ACEH letter is in attached in the appendices.

## 2. SITE DESCRIPTION

---

### 2.1 Site Location and Identification

The subject property (site) is located along Peralta Street in a mixed commercial and residential neighborhood called West Oakland. Figure 1 – Site Vicinity Map with Sensitive Receptors (located in Appendix A – Figures) shows the general location of the site. Location and identification information for the site is presented in the following table.

|                   |  |
|-------------------|--|
| Site Address:     | 1532 Peralta Street, Oakland California, Alameda County  |
| Site Location:    | Southeast corner of Peralta and 16 <sup>th</sup> Streets |
| Neighborhood:     | West Oakland   |
| Postal Zip Code:  | 94607  |
| General Setting:  | Mixed-use commercial and residential                     |
| Assessors Office: | APN 5-370-1  |

Property Type: Commercial  
Lot Description: Approximately 0.15-acre irregular-shaped lot has a 68 foot frontage on 16<sup>th</sup> Street, about 82 foot frontage on Peralta Street, 79 foot east boundary, and about 92 foot south boundary.  
Number of Buildings: One single-story commercial auto repair building & sheds  
Owner: Mr. Orobo Osagie previously owned the site from May 1998 to early 2006, at which time Mr. James Tracy of Alpine Rentals took claim as the new responsible party for the site.

## 2.2 Physical Setting

The site lies approximately one mile south of the San Francisco Bay. The elevation of the site is approximately 10 feet above Mean Sea Level (msl). Figure 1 – Well Survey Radius Map, shows a portion of a topographic map that includes the site. The surrounding neighborhood contains mainly commercial and residential buildings as shown on Figure 2 - Site Plan. The site is flat with the regional topographic relief gently sloping towards the northwest. West Oakland occupies a broad alluvial plain formed by streams flowing from the Oakland Hills on the east to the San Francisco Bay on the west. GGTR reviewed the United States Geological Survey (USGS) topographic quadrangle map, Oakland West dated 1980, for physical features. GGTR also reviewed the GeoCheck® – Physical Setting Source Addendum provided by Environmental Data Resources, Inc. The documents show surrounding ground surface elevations ranging from sea level to 25 feet. The specific elevation of the property is about 10 feet msl (verified by a site specific well survey in April 2006). The topographic map depicts the area of the subject property as dense urban development. Several blocks to the west of the site are industrial facilities associated with a sewage treatment plant, Oakland Army Terminal, and railroad yards.

## 2.3 Description & Current Use of Property

The subject property is occupied by a single-story commercial structure (approximately 1,175 square feet in area) situated along the southeast side of the site (Figure 2 – Site Plan). The building is currently used as an automobile service garage (Figure 3 – Site Photographs). The flooring in the service garage building is paved with concrete. The majority of the site is paved throughout with asphalt or concrete. Most of the building space consists of open work area. The site also contains a small detached storage shed, wash pad, office and restroom.

Building Type: Commercial – wood frame building (1,175 square feet)  
Basement: None observed  
Interior Layout: Open repair shop layout  
Walls: wood exterior walls with wood framing  
Floor: concrete slab  
HVAC: none observed  
Source of Water: Municipal – East Bay MUD – 100% imported surface water  
Sewage Disposal: Municipal to sewage treatment plant  
Storm water: Catch basin drains to storm line under 16<sup>th</sup> Street that discharges

to San Francisco Bay  
Solid Waste Disposal: Municipal  
Year of Construction: circa 1950s  
Occupant: LBJ's Automotive Repair - 100%  
Access to Property: Driveway from 16<sup>th</sup> Street

The building and site was 100% occupied at the time of the inspection on January 8, 2007, by LBJ's Automotive Repair, an automobile repair shop. The site has been leased since 2004 to LBJ's Automotive Repair for the service of automobiles. Peralta Auto Care formerly occupied the site until 2004.

## 2.4 Current Uses of Adjoining Properties

The immediate neighborhood was briefly observed to determine the land use of adjoining property (Figure 2 – Site Plan). The reconnaissance was limited to the observations that could be made from the public roadways or sidewalks and did not involve entering private property.

| <u>Compass Direction from Site</u> | <u>Description of Adjoining Land Use</u>   |
|------------------------------------|--|
| North                              | Across 16 <sup>th</sup> Street contains a vacant lot at 1600 Peralta Street (former gasoline station). Partially vacant commercial building beyond with convenience store at south corner of Peralta Street-Center Street-17 <sup>th</sup> Street. |
| Northwest                          | Large brick older (pre-1930s) industrial-style warehouse building at northwest corner of Peralta Street and 16 <sup>th</sup> Street – possibly vacant with residential-commercial properties beyond.   |
| Northeast                          | Small apartment building and garage at northwest corner of 16 <sup>th</sup> Street and Center Street with residential-commercial properties beyond. May be part of gasoline station property.  |
| East                               | New Bethel Missionary Baptist Church at southeast corner of 16 <sup>th</sup> Street and Center Street abuts subject building along east wall. Residential buildings beyond.  |
| Southeast                          | Single-family residences along Center Street.  |
| South                              | Cozy Corner restaurant with residential apartments on second floor. Single-family residences beyond along Peralta Street.  |
| Southwest                          | Single-family residences along Peralta Street.   |
| West                               | Commercial property with industrial-style machine shop building and parking lot at southwest corner of Peralta Street and 16 <sup>th</sup> Street with residential-commercial properties beyond.   |

The only obvious adjoining property of concern is the former McKinney gasoline station and auto repair facility (1600 Peralta Street) located on across 16th Street to the north.

## 2.5 Conduit Study

Based upon results of the preliminary site investigation activities, the ACEH in their November 29, 2006 letter requested that a "Conduit Study" be performed within the vicinity of the subject property. The purpose of the conduit study is to locate potential migration pathways and potential conduits and determine the probability of the plume encountering preferential pathways and conduits that could spread the contamination. Of particular concern is the identification of abandoned wells and improperly-destroyed wells that can act as conduits to deeper water bearing zones. The conduit study details the potential migration pathways and potential conduits (utilities, storm drains, etc.) that may be present in the vicinity of the site.

### ***Subsurface Utility Survey***

GGTR provided for a subsurface utility survey of the site and adjacent utility corridors as shown on Figure 4, Subsurface Utility Survey Map. The map shows the potential migration pathways and conduits that may be present in the vicinity of the plume area. On-site utilities consist of water and sewer connections to the restroom located on the southern margin of the site. The water line is believed to cross the former fuel dispenser island area at a depth of 15 inches below grade and connect to the water main along the west side of Peralta Street. Although several attempts to trace the bathroom sewer line failed, the sewer connection is believed to run along the southern margin of the site at a shallow depth (<24"). The sewer line connects to the 12" sanitary sewer main that runs along the centerline of Peralta Street at a flow-line depth of 5.61 feet. This sewer line flows northward at this location. The PG&E gas line runs along eastern margin of Peralta Street at a depth of 36 inches then turns eastward down 16<sup>th</sup> Street at a depth of about 29 inches. Electrical service is by overhead wires. No gas line connections to the site were identified. Observations at the site are difficult due to the closely space parked cars and store auto parts. No obvious preferential utility pathway for groundwater flow within the subject property itself has been identified. The shallow water line that crosses the former dispenser area could have been a preferential pathway for product line or dispenser-related discharges of fuel.

A historical EBMUD Water Main servicing fire hydrants runs along 16<sup>th</sup> Street at a presumed depth of 42" bsg. A storm catch basin is located at the southeast corner of Peralta Street and 16<sup>th</sup> Street adjacent to the site. The catch basin line is located 5.07 feet bsg. The catch basin line connects to the 12"-diameter storm main beneath 16<sup>th</sup> Street at an invert depth of 5.47 feet bsg. The storm line flows eastward to a larger line under Center Street with an invert that is 8.77 feet bsg. As the stabilized groundwater table has been measured on the site varying from 2-3 feet bsg, the PG&E, EBMUD and storm water lines under Peralta and 16<sup>th</sup> Street appear to provide preferential pathways for groundwater flowing northward (down-gradient) from the site. In particular, the storm water line trench could conceivably intercept and collect the upper 2-3 feet of the groundwater table directly down-gradient from the plume area at the site.



### **Detailed Well Survey**

As part of the conduit study, GGTR conducted a detail well survey of all wells within a ¼-mile radius of the subject site. GGTR requested well records from Alameda County and the State of California Department of Water Resources. Figure 1 – Well Survey Radius Map shows the location of water wells disclosed on State and County records. The agencies reported information on monitoring wells, production wells, dewatering wells, drainage wells and cathodic protection wells. The survey indicated whether any domestic or irrigation water-producing wells exist within an approximately 1,000-foot radius of the site and whether they may potentially act as receptors for offsite migration of the hydrocarbon-affected groundwater.

On December 22, 2006, GGTR submitted a Well Completion Report Release Agreement to the Department of Water Resources (DWR), Central District for all domestic/irrigation and monitoring wells installed within a 0.25-mile radius of the subject property. On January 3, 2007, GGTR submitted a Well Completion Report Release Agreement to the Alameda County Public Works Agency (ACPWA) for all domestic/irrigation and monitoring wells installed within a 0.25-mile radius of the subject property. Copies of the DWR & Alameda County Well Report Release Agreements are attached in Appendix C. Numerous well completion reports were received from these agencies. Copies of the well completion reports will be provided upon request. The well completion reports provided by the DWR and ACPWA indicate eleven properties have registered wells within an approximately 1250 foot radius of the subject property as shown on the following table:

| <b>Map ID #</b> | <b># Wells</b> | <b>Address</b>   | <b>Name</b>                  | <b>Depth feet</b> | <b>Type</b>                          |
|-----------------|----------------|--|------------------------------|-------------------|--------------------------------------|
| 1               | 10             | 1340 Cypress St  | Coca-Cola Enterprises        | <30               | Monitoring<br>Extraction             |
| 2               | 1              | 1708 Wood Street   | Roadway Services             | 15                | Boring                               |
| 3               | 1              | 20 & Campbell St   | Pacific Gas & Electric       | 120               | Cathodic<br>Protection               |
| 4               | 2              | 1800 Peralta St  | Architectural<br>Emphasis    | 25                | Monitoring                           |
| 5               | 172            | 1310 14 <sup>th</sup> Street                                       | Carnation Dairy<br>Facility  | <57               | Monitoring<br>Extraction<br>Recovery |
| 6               | 1              | 1614 Campbell  | General Electric             | 200               | Industrial                           |
| 7               | 1              | 1705 14 St   | Right Way Cleaner            | 0                 | Abandoned                            |
| 8               | 6              | 1399 Wood St<br>14 <sup>th</sup> & Wood                            | Southern Pacific             | <18               | Monitoring<br>Test                   |
| 9               | 9              | 1769 13 <sup>th</sup> Street<br>Wood St. & 15 <sup>th</sup> Street | Taylor Roof<br>Structures    | <34               | Piezometer<br>Monitoring<br>Boring   |
| 10              | 3              | 1545 Willow St   | Western Properties<br>Broker | <13               | Monitoring                           |
| 11              | 1              | 19 <sup>th</sup> & Cypress   | ?                            | 212               | Historical 1913                      |

One cathodic protection well and one industrial well were located as result of the search. The majority of the reported wells are related to environmental cleanup actions including numerous monitoring wells, abandoned monitoring wells, extraction wells and recovery wells. One unknown historical (1913) well (212 feet deep) is reported approximately ¼-mile down/cross-gradient of the site (possibly a historical industrial or municipal well). No active domestic or irrigation wells are known within the search radius.

Based on results of the well survey, no known active domestic and/or irrigation wells exist within the 1250-foot survey radius of the subject property. One cathodic protection well (120 feet deep) reportedly exist approximately 500-feet from the site and located regionally down-gradient of the property. Cathodic protection wells are typically installed to protect metallic objects (i.e., buried petroleum, natural gas, and water pipelines) in contact with the ground or subsurface environment from electrolytic corrosion. One industrial production well is located about 200 feet cross gradient from the site. One historical municipal-industrial well (1913) is shown approximately ¼-mile down-gradient of the site. Numerous groundwater monitoring and remedial action wells exist in the vicinity of the site many of them related to leaking underground storage tanks. Because of the distance from the subject property and small area of known impacted groundwater, at this time it appears unlikely that such cathodic protection, industrial, historic and environmental wells will act as potential receptors or vertical conduits for continued contaminant migration.

### 3. ENVIRONMENTAL HISTORY

---

#### 3.1 Underground Tank Removal in 1999

In December 1999, Golden Gate Tank removal, Inc. (GGTR) removed five USTs from the site at the locations shown in Figure 2 – Site Plan. The following table presents a summary of the tank designations, size, type of construction, and contents:

| Designation | Construction | Diameter<br>(Feet) | Length<br>(Feet) | Volume<br>(Gallons) | Contents |
|-------------|--------------|--------------------|------------------|---------------------|----------|
| UST #1      | Steel        | 6                  | 10               | 2,000               | diesel   |
| UST #2      | Steel        | 4                  | 7                | 675                 | gasoline |
| UST #3      | Steel        | 4                  | 7                | 675                 | gasoline |
| UST #4      | Steel        | 5                  | 7                | 1,000               | gasoline |
| UST #5      | Steel        | 5                  | 7                | 1,000               | diesel   |

GGTR subsequently collected soil samples from each excavation between 7 and 12.5 feet bsg. These samples contained maximum concentrations of total petroleum hydrocarbons (TPH) as gasoline (TPH-G 2,600 milligrams per kilogram [mg/kg; parts per million]), TPH as diesel (TPH-D 8,100 mg/kg), and benzene (9.1 mg/kg). UST removal and sampling activities were conducted under the supervision of Mr. Hernan Gomez of the City of Oakland Fire Prevention Bureau (OFPB). Laboratory results of the soil samples collected after the

tank removal are presented in the report entitled Tank Closure Report, GGTR December 15, 1999 and Site Characterization and Groundwater Monitoring Report, GGTR September 14, 2006. Following sampling, the excavations were backfilled with the excavated soil stockpiles. The volume of the USTs was replaced with imported soil. Based on analytical results of the excavation soil sample analysis, Mr. Gomez requested a work plan of over-excavation activities to assess the extent of hydrocarbon-affected soil and potential impact to groundwater in the vicinity of the former USTs.

### 3.2 Over-Excavation of USTs in 2000

On January 3, 2000, GGTR submitted a work plan for over-excavation of the UST locations, which was approved by the OFPB in a letter dated January 25, 2000. In February 2000, GGTR over-excavated the former UST cavities to a maximum depth of 11 ft bsg and to the approximate lateral limits shown in Figure 5 – Soil Over-Excavation Data. GGTR collected soil samples from the sidewalls (7.5 ft bsg.) and from the bottom (8 to 12 ft bsg) of the over-excavated cavities. Groundwater accumulated within the excavations and was subsequently purged prior to sampling.

With groundwater in the excavations at approximately 8 ft bsg, GGTR collected a grab groundwater sample from each excavation with a new bailer. GGTR performed the sampling activities under the observation of Mr. Gomez of the OFPB. Approximately 194 tons of petroleum hydrocarbon impacted soil were excavated from the site and transported for off-site disposal at Forward, Inc. in Manteca, California. The excavation was backfilled with imported material and the pavement was replaced with concrete or asphalt. The laboratory reported significant concentrations of TPH-G, TPH-D, benzene, and methyl tertiary-butyl ether (groundwater only) in the soil and grab groundwater samples. Sampling activities and laboratory analysis results are presented in the GGTR document titled *Remedial Activity Report* dated March 8, 2000. Following review of this report, the ACEH in letters dated May 19 and May 25, 2000, requested a work plan to evaluate the extent of soil and groundwater contamination at the site.

### 3.3 Soil & Groundwater Investigation in 2004

On October 6, 2000, DECON Environmental Services, Inc. (DECON) of Hayward, California prepared the requested work plan (Remedial Activity Plan, October 2000), which was subsequently approved by Mr. Larry Seto of the ACEH. After further review of DECON's work plan, representatives of both the ACEH and State Water Resources Control Board UST Cleanup Fund concurred that the work plan required additional content and requested that it be revised and resubmitted to the ACEH for further review / approval. In February 2002, GGTR prepared and re-submitted the revised work plan for soil and groundwater investigation activities at the subject property.

In February 2004, GGTR in collaboration with Gregg Drilling, Inc. advanced eleven direct-push soil borings (B1 through B11) to a depth of 12-16 feet bsg (see Figure 6 – Soil

Analytical Results from Borings). Six of the borings were subsequently constructed as 2-1/4"-diameter monitoring wells with pre-packed 3/4" well screen (Figure 2 - Site Plan). Borings B2, B4, B6, B9, B10, and B11 were converted to monitoring wells MW-1 through MW-6, respectively. Groundwater was encountered between 2 and 4 feet bsg and stabilized in the wells at approximately 2 to 3 feet bsg. The investigation objective was to define the extent of petroleum hydrocarbon impact to soil and groundwater. On April 13, 2006, Virgil Chavez Land Surveying of Vallejo, California surveyed the top of casings / rims of all six monitoring wells. After a lengthy delay due to redevelopment planning issues and site ownership transfer, details of the field activities for the boring and well installation were documented in a GGTR report titled *Site Characterization and Groundwater Monitoring Report* dated September 14, 2006. Permits, boring logs, well sampling field sheets, and the laboratory analytical reports for soil and groundwater are presented in this report.

### 3.4 Groundwater Monitoring

GGTR has conducted five groundwater monitoring episodes to date: March 5, 2004, March 27, 2006, June 22, 2006, September 25, 2006, and December 21, 2006. This report and the recently submitted monitoring report summarize the results of all groundwater monitoring at the site to date. Sample analytical results and associated fluid level monitoring data for each event are summarized in Tables 1 and 2, respectively. Figure 7 – Groundwater Map depicts the groundwater flow direction data for the groundwater monitoring. The flow direction data collected to date is relatively consistent for measurements of this type with groundwater flow generally towards the North. GGTR is now authorized to perform quarterly monitoring events with the next event scheduled for March 2007.

## 4. HISTORICAL RESEARCH

---

### 4.1 Aerial Photographs

Historical aerial photographs of the subject property and surrounding neighborhood were provided by Environmental Data Resources, Inc. (EDR) in their "EDR Aerial Photo Decade Package" dated January 9, 2007. GGTR examined the photographs for land forms, features, structures, and tonal differences that might give an indication of the past land use of the site. Because of the large size of the electronic files, GGTR has not provided the EDR reports as attachments to this report. GGTR will provide the entire EDR report upon request. The following aerial photographs were examined and pertinent features summarized below:

| <b>Date</b> | <b>Observations of Aerial Photograph Pertinent to Subject Property</b>  |
|-------------|---|
| 1931        | This photo shows excellent detail of the site. The site contains what appears to be a canopy over a dispenser island location different from the dispenser location in later years. The small office, water closet and storage structures are present along the southern boundary. The existing auto repair garage building is not shown in this photo. The surrounding |

---

|             |   |
|-------------|---|
|             | neighborhood is mixed-use residential, commercial and light-industrial with existing buildings. The adjoining property at 1600 Peralta Street appears to be an active gasoline station in this photo. The majority of existing buildings within the site's neighborhood are already present in this photograph.   |
| <b>1939</b> | Indistinct photograph but generally appears similar to the 1931 photographs with a canopy over the dispenser island location and the smaller office, water closet and storage structures along the southern boundary. The existing auto repair building is not shown in this photo.   |
| <b>1946</b> | Indistinct photograph but generally appears similar to the 1931 photographs with a canopy over the dispenser island location and the smaller office, water closet and storage structures along the southern boundary. The existing auto repair building is not shown in this photo.   |
| <b>1958</b> | The photo is indistinct at high magnification. The site appears to be present in its existing configuration. The surrounding neighborhood is mixed-use residential, commercial and light-industrial with the majority of existing buildings present. The adjoining gasoline station at 1600 Peralta Street appears active.  |
| <b>1965</b> | The site and vicinity is present largely in existing configuration without a canopy over the dispenser island. The site appears as an active gasoline station with a former dispenser island visible. The surrounding neighborhood is mixed-use residential, commercial and light-industrial with existing buildings largely in their current configurations. The adjoining gasoline station at 1600 Peralta Street appears active. The adjoining property at the southwest corner of 16 <sup>th</sup> Street and Peralta Street appears as a recently graded vacant lot (now a parking lot). |
| <b>1982</b> | The photo is indistinct at high magnification. The site appears to be in its existing configuration. Existing buildings to west, east, south and north are present in 1982.   |
| <b>1993</b> | The site and vicinity is present in its existing configuration. The site appears as an active gasoline station with a former dispenser island visible. The surrounding neighborhood is mixed-use residential, commercial and light-industrial. The adjoining gasoline station at 1600 Peralta Street appears active.  |
| <b>1998</b> | The site and vicinity is present in its existing configuration. The site appears as an active gasoline station with a former dispenser island visible. The surrounding neighborhood is mixed-use residential, commercial and light-industrial. The adjoining gasoline station at 1600 Peralta Street appears vacant.  |

A portion of the 1931 aerial photograph for the site is shown in Figure 8 – Historic 1931 Aerial Photograph. The enlarged aerial photo shows detail of the site with an obvious canopy present over a historic location of the fuel dispenser island location. Figure 9 – Historic 1965 Aerial Photograph shows the site with the repair garage but without a fuel canopy.

## 4.2 Sanborn Fire Insurance Maps

Sanborn fire insurance rate maps have been prepared on a regular basis for the San Francisco Bay area since 1866. They may identify the location of infrastructure, major structures and

their uses, and other related land use information. GGTR examined the EDR “Sanborn Map Report” dated January 9, 2007, for features, structures, and labels that might give an indication of the past land use of the site. Because of the large size of the electronic files, GGTR has not provided the EDR reports as attachments to this report. GGTR will provide the entire EDR report upon request. The following maps were examined and pertinent features summarized below:

| <b>Date</b> | <b>Observations of Aerial Photograph Pertinent to Subject Property</b>   |
|-------------|--|
| <b>1902</b> | The map shows the site has a vacant lot and dwelling with several small sheds on the northwest portion along 16 <sup>th</sup> Street. The purpose of the small sheds is not indicated on the map. The majority of the site is a vacant lot surrounded by other small dwellings and vacant lots. Dwellings located south of the site display elevated backyard water tanks.   |
| <b>1912</b> | The map shows the site has mainly a vacant lot and small dwelling on the northern portion. The dwelling has an address of 1453-1455 16 <sup>th</sup> Street. The site is surrounded mainly by small dwellings, scattered vacant lots and a store building across Peralta Street to the west. Backyard water tanks are no longer shown on dwellings south of the site.  |
| <b>1951</b> | The map shows the site address of 1532 Peralta Street in its existing property boundaries. A canopy is shown at the presumed dispenser island location along the west margin of the property. The site is labeled “Gas & Oil” with the existing garage building labeled “Grease.” The smaller structures along the south margin of the site are labeled “office”, “wc” (water closet) and “oil.” A store building is shown adjoining the site to the east at 1451 16 <sup>th</sup> Street. A restaurant building is shown adjacent to the site on the south at 1524 Peralta Street. A machine shop building, dwelling and restaurant building are shown across Peralta Street to the west. |
| <b>1952</b> | The map shows the site address of 1532 Peralta Street in its existing configuration. The site is labeled “Gas & Oil” with the existing building labeled “Grease.” The smaller buildings along the south margin of the site are labeled “office”, “wc” (water closet) and “oil.” A store building is shown adjoining the site to the east at 1451 16 <sup>th</sup> Street. A 3-story restaurant building is shown adjacent to the site on the south at 1524 Peralta Street. A machine shop building, dwelling and restaurant building are shown across Peralta Street to the west. The location of USTs or dispensers is not shown on this map.   |
| <b>1957</b> | The map shows the site address of 1532 Peralta Street in its existing configuration. The site is labeled “Gas & Oil” with the existing building labeled “Grease.” The smaller buildings along the south margin of the site are labeled “office”, “wc” (water closet) and “oil.” A church building is shown adjoining the site to the east at 1451 16 <sup>th</sup> Street. A 3-story restaurant building is shown adjacent to the site on the south at 1524 Peralta Street. A machine shop building, dwelling and commercial building are shown across Peralta Street to the west. The location of USTs or dispensers is not shown on this map.  |
| <b>1958</b> | The map shows the site address of 1532 Peralta Street in its existing configuration. The site is labeled “Gas & Oil” with the existing building labeled “Grease.” The smaller buildings along the south margin of the site are labeled “office”, “wc” (water closet) and “oil.” A church building is shown adjoining the site to the east at 1451 16 <sup>th</sup> Street. A 3-story restaurant  |

building is shown adjacent to the site on the south at 1524 Peralta Street. A machine shop building, dwelling and commercial building are shown across Peralta Street to the west. The location of USTs or dispensers is not shown on this map.

- 1961** The map is very similar to the 1958 map discussed above.
- 1967** The map is very similar to the 1958 map discussed above.
- 1970** The map is very similar to the 1958 map discussed above.

Figure 10 – Historic 1912 Sanborn Fire Insurance Map shows the former residential use of the site. A portion of the 1951 Sanborn fire insurance map for the site is shown in Figure 10 – Historic 1951 Sanborn Fire Insurance Map. The enlarged map shows detail of the site with an obvious canopy present over the recent location of the fuel dispenser island. Figure 12 – Historic 1970 Sanborn Fire Insurance Map shows the existing configuration of the site.

The 1902 and 1912 Sanborn Fire Insurance Maps depict a small residential dwelling on the northern portion of the property. Associated with the dwelling on the 1902 map are two small sheds located on the northwest corner of the site. The purpose of the sheds is unknown but may have been a water closet, poultry shed or backyard water well shed. The dwelling was demolished by 1931 when a gasoline station is shown on the site. The 1912 Sanborn map also shows several residential properties located about 100 feet south of the site with what appear to be elevated water tanks presumably associated with backyard water wells. As discussed above, backyard water wells were common in the Merritt sand outcrop of West Oakland during the early 1900s. Apparently, water quality was declining at this time due to septic system contamination and by the 1930s the backyard wells were no longer in use. If such backyard well did formerly exist at the site, it was likely a shallow uncased well less than 20 feet deep and entirely completed in Merritt sand formation. Because the potential location of such well, if any, was near the former location of USTs at the site, the potential backyard well is considered an environmental concern.

### 4.3 City Telephone Directory

Historical telephone directory listings of the subject property and surrounding neighborhood were provided by Environmental Data Resources, Inc. in their “EDR-City Directory Abstract” dated January 9, 2007. GGTR examined the listings for businesses that might give an indication of the past land use of the site. Because of the large size of the electronic files, GGTR has not provided the EDR reports as attachments to this report. GGTR will provide the entire EDR report upon request. The following maps were examined and pertinent features summarized below. The site address is not listed in the EDR report for the years 1920 through 1940. The site address first appears in the year 1943. The site appears to have operated under the address of 1550 Peralta Street in the 1933 directory. The following listings are shown in the EDR report for the site address:

| <i>Date of Listing</i> | <i>Description in Telephone Directory</i> |
|------------------------|---|
| <b>1933</b>            | PIMBO ANTHONY P IRENE GAS STA (1550)      |
| <b>1943</b>            | PIMBO ANTHONY P IRENE GAS STA (1532)      |
| <b>1950</b>            | DEPOT SERVICE STATION (1532)              |

|             |  |
|-------------|--|
| <b>1955</b> | GENERAL PETROLEUM CORP (1532)  |
| <b>1962</b> | MOBIL SERVICE STN DIRS (1532)<br>PHILLIPS JERRY MOBIL SERV STN DIRS (1532) |
| <b>1967</b> | JERRYS MOBILE SERVICE (1532)   |
| <b>1970</b> | JERRY S MOBIL SERVICE (1532)<br>MOBIL SERVICE STN DLRS (1532)              |
| <b>1975</b> | JERRY S MOBIL SERVICE (1532)   |
| <b>1980</b> | JERRY S MOBIL SERVICE (1532)<br>MOBIL SERVICE STN DLRS (1532)              |
| <b>1991</b> | GAS STOP (1532)  |
| <b>1992</b> | GAMEZ TIRE REPAIR (1532)<br>GAS STOP (1532)                                |
| <b>1996</b> | GAS STOP AUTO REPAIR (1532)<br>GAUCHAO TRUCK STOP (1532)                   |
| <b>2000</b> | PERALTA AUTO CARE CENTER (1532)  |

The historic telephone directories mainly list individuals living in the predominantly residential neighborhood. The following is the historical listings for the adjoining gasoline station at 1600 Peralta Street and other businesses of interest:

| <i>Date of Listing</i> | <i>Description in Telephone Directory</i>   |
|------------------------|---|
| 1933                   | PAGANI GEO (MINNIE) GAS STA (1600)  |
| 1943                   | SEABROOKS WILLIE GAS STA (1600)   |
| 1945                   | FORD S SERVICE (1600)   |
| 1950                   | MC KINNEY SERVICE STATION (1600)<br>CHICAGO CLEANERS (1524)<br>HOWARD CLEANERS (1622) |
| 1955                   | MCKINNEY SERVICE STN (1600)   |
| 1960                   | MCKINNEY SERVICE STN (1600)   |
| 1967                   | MCKINNEYS RICHFIELD SERVICE (1600)  |
| 1970                   | MCKINNEY SERVICE STN (1600)<br>DU FRANE MACHINE & ENGINE WORKS (1525)                 |
| 1980                   | MCKINNEY SERVICE STN (1600)<br>DU FRANE MACHINE & ENGINE WORKS (1525)                 |
| 1986                   | MCKINNEY SERVICE STN (1600)<br>DU FRANE MACHINE & ENGINE WORKS (1525)                 |
| 1991                   | MCKINNEY SERVICE STN (1600)<br>DU FRANE MACHINE & ENGINE WORKS (1525)                 |
| 1992                   | MCKINNEY SERVICE STN (1600)<br>T & I ENGINE & MACHINE (1525)                          |
| 1996                   | MCKINNEY SERVICE STN (1600)<br>DU FRANE MACHINE & ENGINE WORKS (1525)                 |
| 2000                   | MCKINNEY SERVICE STN (1600)   |

The adjoining property (1600 Peralta Street) across 16th Street to the north is listed in the 1933 through 2000 directories as a gasoline station and/or auto repair shop. Potential dry cleaner facilities are located south of the site in the 1950 directories. An auto repair shop-machine shop is located south of the site at 1525 Peralta Street in the 1970 through 1996 directories.



## 4.4 Topographical Maps

Historical topographic maps of the subject property and surrounding neighborhood were provided by Environmental Data Resources, Inc. in their “EDR Historical Topographic Map Report” dated January 9, 2006. GGTR examined the maps for features that might give an indication of the past land use of the site. Because of the large size of the electronic files, GGTR has not provided the EDR reports as attachments to this report. GGTR will provide the entire EDR report upon request. Maps for the years 1980, 1973, 1968, 1959, 1949, 1948 and 1915 were examined in the EDR report. The site is shown within a shaded area of urban developed land on the 1958 through 1980 maps inspected. No individual structures are indicated on these maps for the site location or surrounding neighborhood. The site is shown on the 1915 map as possibly containing a visible structure (although the map is indistinct at high magnification) presumed to be the small dwelling shown on Sanborn fire insurance maps for this time period. Existing buildings are largely shown to the north, east and west of the site in 1948 through 1980 maps. No obvious indications of environmental concern were noted on the topographic maps.

## 4.5 Environmental Database Information

Environmental Data Resources, Inc. (EDR) provided a computerized database search report of state and federal database records for reported sites within a one mile radius of the site dated January 9, 2007. Because of the large size of the electronic files, GGTR has not provided the EDR reports as attachments to this report. GGTR will provide the entire EDR report upon request. EDR updates their databases when they receive new information. Generally, the information becomes available quarterly. However, some agencies provide updates semi-annually, annually, or bi-annually. EDR lists the most recent database update on the report. The site is not on or near tribal lands. Therefore, a search of tribal land databases was not requested. The following table summarizes the properties listed in the EDR report within 500 feet of the site.

| <i>Facility/Address</i>                     | <i>Direction &amp; Elevation</i>   | <i>Map ID No.</i> | <i>Databases Listed</i>                         |
|---|------------------------------------|-------------------|---|
| DR OROBO OSAGIE<br>1532 PERALTA ST          | TARGET<br>13 FEET ELEV.            | A1-3              | LUST, HAZNET,<br>Preliminary Site<br>Assessment |
| MANNY SERVICES/MCKINNEY GAS<br>1600 PERALTA | 127 FEET NNE<br>13 FEET ELEV.      | A4-5              | ENVIROSTOR, CERC-<br>NFRAP                      |
| ALBERT S GARAGE<br>1418 PERALTA ST          | 305 FEET SW<br>15 FEET (HIGHER)    | 6                 | Historical Auto Station<br>1967                 |
| DEL MAR CLEANERS INC                        | 397 FEET SOUTH<br>16 FEET (HIGHER) | B7                | Historical Cleaners 1967                        |
| CANEPA GLENN<br>1700 CENTER ST              | 435 FEET NE<br>12 FEET (LOWER)     | 8                 | Historical Auto Station<br>1933 and 1943        |
| WITT & MARTIN<br>1501 14 <sup>TH</sup> AVE  | 456 FEET SW<br>15 FEET (HIGHER)    | 9                 | Historical Auto Station<br>1944 and 1943        |

|   |                                    |        |  |
|---|------------------------------------|--------|--|
| NEW OAKLAND FIRE STATION #3<br>CENTER / 14 <sup>TH</sup> STREET | 470 FEET SOUTH<br>17 FEET (HIGHER) | B10    | Voluntary Cleanup  |
| RELIANCE PRODUCTS INC<br>1614 CAMPBELL ST                       | 478 FEET NW<br>12 FEET (LOWER)     | C11-12 | Small Quantity Generator,<br>FINDS, HAZNET, SLIC,<br>VCP, ENVIROSTOR |
| OAKLAND FIRE SERVICES AGENCY<br>1445 14 <sup>TH</sup> ST        | 481 FEET SOUTH<br>17 FEET (HIGHER) | B13-14 | Small Quantity Generator,<br>FINDS, HAZNET                           |
| NELSON EMMA MRS<br>1652 15 <sup>TH</sup> AVE                    | 480 FEET WEST<br>13 FEET (EQUAL)   | 15     | Historical Cleaner 1933  |
| SIMAS W J<br>1429 14 <sup>TH</sup> AVE                          | 511 FEET SSE<br>17 FEET (HIGHER)   | B16    | Historical Auto Station<br>1933 and 1943                             |

The site address is listed in the records for a leaking underground storage tank (LUST) case and hazardous materials storage. The leaking UST created a contamination problem that impacted groundwater and is the subject of this work plan. The adjoining property at 1600 Peralta Street is listed in the EDR report for a 1997 preliminary site assessment that concluded this property was not a CERCLA eligible site. The property is listed with aliases of McKinney Gas, J & J Garage, and Johnny Crower Auto Repair. Historical dry cleaners and auto stations exist within the site neighborhood dating from the 1930s and 1940s.

#### 4.6 Oakland Fire Prevention Bureau

GGTR requested a file review at the City of Oakland Fire Department, Fire Prevention Bureau for the site address and adjacent address of 1600 Peralta Street. The Fire Prevention Bureau is the local regulatory agency that regulates hazardous substances and underground storage tank removals in Oakland. On January 12, 2007, Mark Youngkin reviewed the file for the property at the Fire Prevention Bureau office in Oakland under the supervision of Vibhor Jain. The files contain historical documentation concerning underground gasoline storage tank (UST) removals at both properties and inspection reports for the operation of automotive repair shops. Selected information from the files is summarized below.

##### **1532 Peralta Street**

A 1996 UST permit was issued to Gauchao Truck Stop. The file contains documents pertaining to the December 8, 1999, removal of five USTs at the subject property by Golden Gate Tank Removal, Inc. A letter dated May 22, 2000, from the Alameda County Health Service Agency (ACHSA), indicates the gasoline station at the site ceased operation in December 1998 with the expiration of the business license and UST permits. On May 19, 2000, following over-excavation of soil at the site and discovery of groundwater contamination, the City of Oakland transferred the contamination case to the ACEH local oversight program.

The file contains a Hazardous Materials Inspection Report dated July 16, 2003, for Peralta Auto Care. The form indicates that Peralta Auto Care has operated at the site since March 1, 2003. The report records five violations that require correction within 30 days. The violations were for failure to retain waste receipts, lack of drip pans under engines and parts, lack of

drum labels, no EPA ID#, and failure to keep the lot clean. There is no evidence in the file that the violations were corrected.

The file contains a Hazardous Materials Inspection Reports dated June 24, 2004, and June 23, 2006, for LBJ Auto Service. The form indicates that LBJ Auto Service has operated at the site since March 2004. The report records six violations that require correction within 30 days. The violations were for failure to retain waste receipts, lack of drip pans under engines and parts, lack of drum labels, no EPA ID#, no lids on containers, and failure to cover oil coated parts. The June 23 report indicates there was a complaint for oil streaming into a storm drain but no evidence of such oil streaming was observed. There is no evidence in the file that the violations were corrected and our site visit suggests that existing conditions are similar to those reported in the inspection report.

### **1600 Peralta Street**

The file contains documents pertaining to McKinney Service at 1600 Peralta Street (adjoining and down-gradient property). The service station is listed as being constructed in 1946. The file contains an inspection report from Alameda County dated March 24, 1986, for Harry McKinney gasoline station. The report lists a waste oil UST under the sidewalk, no leak detection on USTs, and petroleum naphtha used as a solvent. A letter from the ACEH dated April 26, 1996, required removal of abandoned underground storage tanks (USTs) from the non-operating gasoline station.

The file contains a U.S. EPA Preliminary Assessment dated September 25, 2001, for Manny Service at 1600 Peralta Street. According to the document, in 1997 this property contained an operating auto repair garage (J&J Garage) and an abandoned gas station called Manny Service. The property also contained a small residence. On July 19, 2001, Weston conducted a CERCLA Preliminary Assessment drive-by inspection. J&J Garage was no longer in operation and the gas station remained closed. A small apartment building was located on the property. Weston concluded the property does not qualify for CERCLA action.

On August 24, 2006, the file indicates that four USTs were removed from the adjoining property at 1600 Peralta Street. The USTs consisted of three 1000-gallon gasoline tanks and one 500-gallon waste oil tank. The report indicates a leak was suspected due to obvious odors and evidence of contaminated soil / groundwater in the UST excavations. The file contains no documentation that investigation or remedial action had started at this property.

## **4.7 Summary of Historical Property Uses**

Sanborn fire insurance maps from 1902 and 1912 show the site as mainly a vacant lot with a small dwelling / several small sheds along the northern margin at 16<sup>th</sup> Street. The site is surrounded by other dwellings and vacant lots. A store building occurs across Peralta Street to the west in the 1912 map. After the 1906 earthquake, West Oakland experienced rapid growth and by the 1930s was thriving commercial-residential neighborhood. The 1931 aerial photograph shows excellent detail of the site showing a gasoline station with canopy along

Peralta Street and small office & storage building along the south boundary (see Appendix C – Historical Sanborn Map 1931). The 1933 and 1943 telephone directories list “Pimbo Anthony P Irene Gas Sta at the site addresses of 1532 and 1550 Peralta Street. The 1939 and 1946 aerial photographs show similar configurations with a developing mixed-use residential, commercial and light-industrial neighborhood. The 1950 telephone directory lists “Depot Service Station” at the site address.

The 1951-1952 Sanborn maps show the site in basically its existing configuration. The auto repair garage building has been added and the canopy-dispenser island appears to have been shifted to the west side of the site along Peralta Street. A store building is present along the eastern margin of the site. The 1955 telephone directory lists “General Petroleum Corp.” at the site address. The 1957-1961 maps show the site in its existing configuration without the canopy shown in the earlier maps. The store building to the east is now labeled a church. The 1958 aerial photograph shows the site in its existing configuration. The 1962 telephone directory lists “Mobil Service Stn” and “Phillips Jerry Mobil Serv Stn” at the site address. The 1965 aerial photograph appears to show the site as an active gasoline station. The 1967 and 1970 Sanborn maps show the site in its existing configuration.

The 1967 through 1980 telephone directories list “Jerry’s Mobil Service” at the site address. The 1982 through 1998 aerial photos show the site in its existing configuration. The 1991 telephone directory lists “Gas Stop” at the site address. The 1992 telephone directory lists “Gas Stop” and “Gamez Tire Repair” at the site address. The 1996 telephone directory lists “Gas Stop Auto Repair” and “Gauchao Truck Stop” at the site address. Oakland Fire Prevention Bureau records indicate the gasoline station at the site ceased operation in 1998. The 2000 telephone directory lists “Peralta Auto Care Center” at the site address. Oakland Fire Prevention Bureau records indicate LBJ’s Auto Service has occupied at the site since March 2004.

#### 4.8 Summary of Adjoining Property Uses

The adjoining property at 1600 Peralta Street has a long history since at least the 1940s of gasoline station and auto repair shop activities. This gasoline station was inactive in 1997 and the USTs were removed in August 2006 with evidence of groundwater contamination. Also present on this property is a small apartment building. The building abutting the site on the east was originally constructed as a store building and converted to a church in the 1950s to present. A two-story building to the south of the site has a long history as a restaurant on the ground floor and residential flats above. To the northwest and down-gradient of the site is a large older brick warehouse building constructed prior to the 1930s. Across Peralta Street to the west is a commercial building with a long history of steel truss fabrication and machine shop activities. On the corner of Peralta and 16<sup>th</sup> Street, former stores and dwellings were demolished for the existing parking lot. To the south of the site is a predominantly residential neighborhood with an engine machine shop at 1525 Peralta Street. This machine shop has a long historical history of engine repair activity. Historical cleaners were located in the site vicinity during the 1930s to 1940s.

---

## 5. INITIAL SITE CONCEPTUAL MODEL

---

GGTR developed an initial site conceptual model (SCM) for the site by identifying the site's physical characteristics, geology, hydrogeology, residual contamination sources, transport and exposure pathways, representative site concentrations, and potential future use of the land. The site layout including building, former UST locations, over-excavation area, soil borings, monitoring wells, dissolved-phase plumes and the adjoining former gasoline station, are shown in the attached figures in Appendix A. Cross sections showing the known shallow conditions at the site are presented in Figure 14 – Cross Section A-A' and Figure 15 – Cross Section B-B'. Locations of each cross section are referenced in Figure 2 – Site Plan.

### 5.1 Geology

Geologic information for the area is provided in the “Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California, 2000, by R.W. Graymer, U.S. Geological Survey Misc. Field Studies MF-2342. See Figure 13, Geologic Map, for a portion of this geologic map showing the site and immediate vicinity. The subsurface geology and hydrogeology of the site area is discussed in the document by the California Regional Water Quality Control Board San Francisco Bay Region (RWQCB) Groundwater Committee report dated June 1999 and titled “East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA. The area of the site is on a broad sloping alluvial plain along the margin of San Francisco Bay.

According to the documents, the site is situated on Pleistocene and Holocene eolian sand deposits called the Merritt sand (Qms). The wind deposited sands are fine-grained, very well sorted, well-drained eolian (wind blown) deposits found in western Alameda County. The Merritt sand outcrops in three large areas in Oakland and Alameda. The Merritt sand forms large sheets of shallow sand that ranges between 0 to 60 feet thick. Historically, the very shallow Merritt sand was extensively used prior to 1930 for residential backyard water wells. Prior to the 1930s, shallow water quality declined apparently due to widespread use of septic systems and the Merritt sand was abandoned as a residential water supply.

The Merritt sand is part of a larger formation known as the Alameda Formation. For discussion purposes, shallow groundwater-bearing units are defined as the units above the Yerba Buena Mud called the Alameda Formation including the Merritt sand. Deeper groundwater-bearing units are defined as the units below the Yerba Buena Mud called the Santa Clara Formation. The early Pleistocene Santa Clara formation is continental in origin and includes alluvial fans deposits inter-fingered with lake, swamp, river channel, and flood plain deposits. The formation may be between 300 to 500 feet thick in the site vicinity. Historically, deeper municipal wells were completed in the Santa Clara formation. This formation is currently of interest to EBMUD for a proposed aquifer storage program.

Beneath the Santa Clara Formation is Franciscan Complex bedrock of ancient Cretaceous-Jurassic age (shown as fc, fg, KJfs, Kfgm, Kfn and KJfm on the map). This bedrock is exposed at the surface east of the site in the vicinity of the Hayward Fault. The bedrock consists of mélange (sheared rock), sandstone, greenstone, Serpentine, and quartz diorite. The bedrock is not known to contain extensive water bearing resources. The depth of the Franciscan Complex bedrock below the site is shown in the East Bay Plain Groundwater Basin Beneficial Use Evaluation Report's Figure 11, Structural Contact Map on Bedrock, at a depth to bedrock between 500 and 518 feet bsg in the vicinity of the site.

## 5.2 Groundwater

The regional groundwater flow direction in the vicinity of the site is estimated to be toward the north in the general direction of the San Francisco Bay and decreasing topographic relief. The depth to groundwater at the site measured in the monitoring wells is between 2.7 and 4 ft bsg. The nearest surface water body is the Oakland Outer Harbor of the San Francisco Bay, located approximately 1.03 miles northwest of the subject property. The groundwater flow direction measured in five monitoring events is directed northward (ranging from 357 to 19 degrees) with a gradient ranging from 0.005 to 0.015 ft/ft. The following discussion was excerpted from the document by the California Regional Water Quality Control Board San Francisco Bay Region (RWQCB) Groundwater Committee report dated June 1999 and titled "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA.

According to the document, the site is within the East Bay Plain groundwater basin and Oakland Sub-Area basin. Existing and potential beneficial uses as designated in the San Francisco Bay Basin Water Quality Control Plan for this regional basin include municipal and domestic water supply, industrial service water supply, industrial process water supply, and agricultural water supply. The Oakland Sub-Area basin generally contains a sequence of alluvial fan deposits. The basement rock is deep and the alluvial fill is thick (about 500 feet at the site). The document states that there are no well-defined aquitard such as estuarine mud within the Oakland Sub-Area. The largest and deepest wells in the Oakland Sub-Area historically pumped 1 to 2 million gallons per day at a depth greater than 200 feet (apparently from the Santa Clara Formation). Overall, sustainable yields are low due to low recharge potential.

Most groundwater in Oakland is currently designated as a potential source of drinking water. Until the 1930s, the East Bay Plain Groundwater Basin was historically used for drinking water, industrial, and agricultural supply. However, because of the lack of an adequate and dependable supply for a growing population, the East Bay now relies on imported surface water to satisfy nearly all drinking water and industrial demands. By far the most frequent current use of groundwater is for irrigation from "backyard" private shallow wells. The area of the site is known to contain numerous private shallow wells dating from the early 1900s. The only known permitted drinking water system in Oakland is located in the Oakland Hills above the East Bay Plain Groundwater Basin.

The shallow Merritt Sand outcrop in west Oakland was an important part of the early water supply for Oakland. Single family residences historically relied on the Merritt Sand for water supply during the late 1880s and early 1900s. Contamination from septic systems and some saltwater intrusion resulted in abandonment of the Merritt sand as a water supply. However, groundwater in the area of the site is shown in the document designated as Zone A – a significant drinking water resource. Within Zone A, remedial strategies are focused on actively maintaining or restoring groundwater quality to drinking water quality objectives. According to the document, these areas historically supported a municipal beneficial use prior to the 1930's and likely could again with proper management be used as a limited municipal source of drinking water in the future. Historic and abandoned wells may act as vertical conduits and allow shallow contamination to migrate into deeper aquifers. Historical research previously discussed, indicates the potential for an abandoned (prior to 1930) shallow backyard well to exist on the northern portion of the subject property.

### 5.3 Residual Constituents of Concern

A primary source of fuel hydrocarbon releases was associated with the former gasoline USTs that were removed in 1999. Over-excavation of the UST locations was performed in 2000. The bulk of the petroleum hydrocarbon-impacted soil in the area of the former UST locations was removed in March 2000. A total of approximately 194 tons of soil was excavated and disposed of at Forward, Inc. landfill in Manteca, California. Confirmation soil sampling indicates several areas of residual contamination remaining along the excavation limits. Figure 5 – Soil Over-Excavation Data shows the results of confirmation soil sampling following over-excavation activities. The analytical results of confirmation soil samples collected after the soil over-excavation in March 2000 and the soil samples collected from the borings drilled in February 2004 show the existence of significant petroleum hydrocarbons in soil samples collected from the groundwater saturated zone (depth to water is 2.7 to 4 feet bsg).

A residual source of contamination also remains at the location of the fuel dispenser island and/or associated product piping. Two soil borings, B1 and B8, were drilled east of the former dispenser island as shown on Figure 2 – Site Plan. A maximum of 2,030 ppm TPH-G, 5,630 ppm TPH-D, and 3.96 ppm benzene were detected at depths between 3 and 6 feet bsg. The soil samples were apparently collected from the groundwater saturated zone (depth to water is 2.7 to 4 feet bsg). MTBE was non-significant or non-detect in all of the soil samples collected to date.

No free petroleum product was observed in monitoring wells during the last groundwater monitoring episode. In general, the site has historically not displayed free product except for a slight amount in one well during the September 2006 monitoring event. Significant concentrations of TPH-G, benzene and MTBE were detected in monitoring wells located within the former UST excavation. Within the core area of former UST locations, petroleum concentrations in groundwater have shown recent increases suggesting that residual hydrocarbon material within the saturated zone provides mass to the dissolved hydrocarbon plume. Elevated concentrations of TPH-D were detected in borings B1, B7, and B8.

However, samples collected from the monitoring wells at the site did not detect TPH-D. Long chain hydrocarbons were reported by the laboratory in recent monitoring well samples. Figure 16 – Groundwater Monitoring Results shows the results of the latest groundwater monitoring at the site.

## 5.4 Sensitive Receptors

GGTR searched available government records for evidence of sensitive receptors within 1000 feet of the site. A review of well completion records at Alameda County Public Works Agency and the Department of Water Resources (DWR) revealed that no active domestic, municipal or irrigation wells exist within a ¼-mile radius of the site. A residential apartment building is located across 16<sup>th</sup> Street to the northeast of the site. The small building does not appear to have a basement. The apartment building is located adjacent to an abandoned gasoline station at 1600 Peralta Street. According to the known groundwater flow direction and monitoring data from on-site wells, the apartment building is down/cross-gradient to the former UST locations and significant petroleum contamination does not appear to extend from the site towards this building. Apparently, there is no surface water within the immediate vicinity of the site. The Willow Manor School is shown on topographic maps about one to two blocks west of the site. This school location is cross-gradient to the site and does not appear to be impacted at this time.

## 5.5 Potential Exposure Pathways

The exposure pathways considered for this assessment are (1) ingestion of contaminated groundwater or soil, (2) vapor migration of MTBE and hydrocarbon vapors from soil or groundwater into the commercial garage building on the site, (3) migration of hydrocarbon vapors from shallow groundwater into the residential apartment building across 16<sup>th</sup> Street, (4) inhalation of hydrocarbon vapors from shallow soil by construction workers, and (5) direct contact with contaminated soil or groundwater by occupants or construction workers.

### ***Ingestion Pathway***

Incidental soil ingestion for site trespassers or onsite mechanics is considered unlikely because the site is completely covered with asphalt / concrete and fenced with a security dog. Since dissolved-phase MTBE and fuel hydrocarbons have been detected in groundwater beneath the site, it is reasonable to expect groundwater ingestion to be a primary exposure pathway. Groundwater directly beneath the site is not currently used as a drinking water resource and no onsite wells are known. Regulatory agency records do not reveal municipal water wells within 1,000 feet of the site. Therefore, the groundwater ingestion exposure pathway is not considered relevant at this time. Ingestion for groundwater by humans has not been considered as an exposure pathway because of the lack of currently active domestic or irrigation wells. Future development and use of the Merritt sand aquifer is a potential long-term issue not related to immediate public health concerns.

### ***Inhalation Pathway***



Due to elevated shallow soil and groundwater concentrations within the area of former USTs, inhalation of residual petroleum hydrocarbons and volatile chemicals is considered a primary exposure pathway. The existing garage building appears to be cross-gradient from the main area of residual contamination. The garage building has a concrete floor. The building remains open during work hours for automobile repair ventilation purposes. Additionally, inspection of the site reveals open petroleum containers within the garage work area. Recent groundwater monitoring of well MW-1 adjacent to the garage does not reveal concentrations indicative of potential vapor intrusion. Because of these conditions, vapor intrusion is not considered a significant risk to existing commercial use of the building. For protection of potential future residents from inhalation of outdoor and indoor air, inhalation is considered to be a complete pathway. Inhalation of vapor in indoor areas is believed to be the most significant exposure pathway at the site under a future re-development scenario involving residential construction.

Directly down-gradient from the main area of residual contamination is an abandoned gasoline station (1600 Peralta Street) with groundwater contamination recently discovered during UST removals in August 2006. Because the directly down-gradient former gasoline station property is without structures, the inhalation risk from shallow groundwater contamination is not considered a risk at this time. Evaluation of inhalation risk would be complicated by potential groundwater contamination at the adjoining property's former UST locations. To our knowledge, investigation activities have not been initiated at the adjoining property. Also, down and cross-gradient is a residential apartment building at the northwest corner of 16<sup>th</sup> Street and Center Street. This apartment building may be on the same property as the former gasoline station at 1600 Peralta Street. Recent groundwater monitoring of well MW-2 located between the former UST area and the apartment building does not reveal concentrations indicative of potential vapor intrusion.

#### ***Direct Contact Pathway***

Direct contact with chemicals in soil is assumed to occur during outdoor activities. However, the likelihood of contacting outdoor surface soil is unlikely since the site is covered by asphalt or concrete. Nonetheless, the possibility of direct contact with chemicals in soil is considered for construction workers. To address the possibility of future short-term but intensive exposures to chemicals in subsurface soil, a construction worker is assumed to have skin contact with chemicals in soil ranging from the surface to three feet bsg. Below three feet at the site, the ground is saturated with water and excavation would have to be shored preventing direct contact. Direct contact with chemicals of concern in groundwater is possible for construction workers. Construction workers engaged in utility installation or future site grading activities could also be exposed to petroleum vapor related to residual soil and groundwater contamination at the site. The duration of exposure would be a one-time event and relatively brief. In general, brief exposure to petroleum vapor is not considered a significant risk hazard. However, the residual contamination would need to be documented and disclosure provided to construction workers of the potential for exposure to petroleum contamination.

## 5.6 Environmental Screening Levels

The following is a summary of maximum residual contaminant concentrations known at the site in saturated zone soil (3.5-6 feet):

2,200 mg/Kg TPH-G (excavation sidewall sample) – collected in 2000  
3,100 mg/Kg TPH-D (excavation sidewall sample) – collected in 2000  
15 mg/Kg Benzene (excavation sidewall sample) – collected in 2000  
0.4 mg/Kg MTBE (B10-3.5) – collected in 2000

The concentrations for residual soil contamination significantly exceed the shallow soil screening levels of 100 mg/Kg. However, the soil samples recovered at the site were collected from below the known water table (2-3 feet bsg) and represent saturated zone samples. The shallow soil ESLs do not usually apply to saturated zone soil samples. However, the contamination occurs within porous sediments of the Merritt sand and the contamination is considered a significant source of contaminant mass to the dissolved groundwater plume at the site.

The following is a summary of maximum contaminant concentrations known at the site in grab groundwater samples:

787 µg/L MTBE (B5-W) – collected in 2004  
72,300 µg/L TPH-D (B1-W) – collected in 2004  
118,000 µg/L TPH-G (B1-W) – collected in 2004  
5,460 µg/L benzene (B5-W) – collected in 2004

The following is a summary of maximum contaminant concentrations known at the site in historical monitoring well groundwater samples:

2250 µg/L MTBE (MW-5) – collected in 2004  
800 µg/L TPH-D (MW-6) – collected in 2004  
8,400 µg/L TPH-G (M-6) – collected in 2006  
2,600 µg/L benzene (MW-6) – collected in 2006

The following is a summary of maximum contaminant concentrations in the most recent groundwater monitoring samples (December 21, 2006):

550 µg/L MTBE (MW-5)  
ND<250 µg/L TPH-D (MW-6)  
8,400 µg/L TPH-G (M-6)  
2,600 µg/L benzene (MW-6)

The City of Oakland provides Tier 1 and Tier 2 cleanup levels for properties located on Merritt Sand soils as part of the Brownfields redevelopment program. GGTR completed the “Oakland RBCA Eligibility Checklist” for the site specific criteria. It appears the site is not eligible for the RBCA cleanup levels because of the shallow depth of groundwater and

concern for vapor intrusion. Therefore, the most recent groundwater monitoring concentrations were compared to the conservative California Regional Water Quality Control Board – San Francisco Bay Region, “Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, Volume 1: Summary Tier 1 Lookup Tables, Interim Final, February 2005”, as shown in the following table:

| <b>Matrix</b> | <b>Site Concentration</b>                      | <b>ESL - Groundwater IS a Potential Drinking Water Source</b>                                     |
|---------------|--|---|
| Groundwater   | <b>550 µg/L</b> MTBE                           | 5 µg/L  |
|               | <b>33 µg/L</b> TBA                             | 12 µg/L   |
|               | <b>ND</b> TPH-D                                | 100 µg/L  |
|               | <b>2900 µg/L</b> long-chain hydrocarbon C9-C16 | 100 µg/L  |
|               | <b>8,400 µg/L</b> TPH-G                        | 100 µg/L  |
|               | <b>2600 µg/L</b> benzene                       | 1 µg/L (groundwater ESL)<br>540 µg/L (vapor intrusion screening level for benzene in groundwater) |
|               | <b>32 µg/L</b> ethylbenzene                    | 30 µg/L   |

The residual fuel hydrocarbons, benzene, and MTBE in groundwater exceed the environmental screening levels by significant margins. Ethylbenzene and TBA slightly exceed the screening levels. Groundwater is considered a potential drinking water resource and a deeper groundwater aquifer exists beneath the site. The groundwater contamination may pose a risk to future commercial and residential use of the site. Volatile constituents of the groundwater in residual fuel hydrocarbons and benzene exceed screening levels for potential vapor intrusion into future site buildings. The screening levels indicate a potential for risk to human health from the former fuel release specifically via inhalation of vapors within the future buildings.

Because of the commercial land use of the site (automobile repair garage) and asphalt-concrete cover, the residual soil and groundwater contamination does not appear to pose a significant risk to mechanics at this time. However, the concentrations of residual petroleum hydrocarbon in shallow groundwater (2.7-4 feet bsg) appear to pose a significant risk to any future residential land use at the site through vapor intrusion (groundwater ingestion is not considered likely). The primary reason for the elevated risk is the inhalation of indoor air containing chemicals of potential concern. Residual groundwater contamination appears to present a significant risk to the groundwater resource and from potential discharge to a storm line that leads to San Francisco Bay.

## 5.7 Summary of Site Conditions

All primary sources have been stopped as the site. USTs have been removed and fuel is no longer stored or dispensed at the site. Long chain hydrocarbons reported in recent groundwater monitoring may indicate weathered product. The on-site building is built on a concrete slab without a basement. Any residual soil contamination is below grade and covered by asphalt or concrete. The site and down-gradient off-site property are/were used

for commercial auto repair activities. The site had a long history of fueling activity from the 1930s through 1998. Because the USTs were installed below the water table (2.7-4 feet bsg), the UST cavities were in the saturated zone to depths of 7-9 feet bsg. Saturated zone soil is contaminated surrounding the former UST and dispenser locations to a known depth of 10-12 feet bsg. Soil samples do not contain significant MTBE concentrations and the MTBE source appears to be former gasoline UST number 4.

A dissolved petroleum hydrocarbon plume exists at the site with maximum concentrations centered on the former UST locations. The continuing source of the plume appears to be residual hydrocarbon contained in saturated zone soils surrounding the former UST and dispenser locations. Groundwater occurs within fine-grained sands of the Merritt sand. The ground water has been calculated to flow northward toward 16<sup>th</sup> Street. The nearest surface water is over one mile from the site at San Francisco Bay. Groundwater gradients are relatively shallow. The main area of soil & groundwater contamination is beneath the paved parking lot at the northwest corner of the site. Recent groundwater monitoring does not indicate a vapor intrusion problem beneath the repair garage building. Because of the onsite auto repair activities, mechanics do not appear to be at risk from vapor intrusion, ingestion or direct contact with contaminated soil or the groundwater plume.

The shallow water-bearing sediments are not currently used for domestic water supply. No local domestic or irrigation wells or sensitive receptors are known to occur within 1000 feet of the site except for a school located cross-gradient to the site several blocks to the west. However, the area of the site is known to have been extensively used prior to 1930 for backyard residential water wells and a historical shallow conduit may exist on the northern portion of the site. Groundwater flow may be intercepted by a storm line within 16<sup>th</sup> Street with an invert below the groundwater table. Potential capture of petroleum contaminated groundwater by the storm line along 16<sup>th</sup> Street may be a contributing factor to surface water quality at San Francisco Bay. Biological receptors such as fish and fowl do not appear to be at risk based on the long distance to San Francisco Bay and co-mingling of water in the line.

The immediate down-gradient properties consist of an apparently vacant industrial warehouse and former gasoline station at 1600 Peralta Street. A small residential apartment building exists cross- and down-gradient to the former UST locations. The apartment building apparently occurs on the former service station property at 1600 Peralta Street. Recent groundwater monitoring does not indicate significant groundwater contamination in the direction of the apartment building. During the removal of abandoned USTs at the 1600 Peralta Street property in August 2006, significant groundwater contamination was observed by the Oakland Fire Prevention Bureau inspector.

## 5.8 Data Gaps & Proposed Action

Significant historical research, source removal and investigation activities have been performed at the site to date. Potential data gaps identified in this report consist of the following:

- Data Gap:** Saturated zone soil from about 3 to 10 feet bsg contains residual petroleum contamination along the margins of previous UST over-excavations and in the area of the fuel dispenser island. The lateral extent of the residual saturated zone soil contamination is not defined in several locations.
- Action:** GGTR proposes to drill four additional soil borings to collect saturated zone soil sample data at 3 and 6 feet bsg as shown on Figure 17 – Proposed Investigation Activities.
- Data Gap:** The former dispenser island remains intact at the site although the fuel dispensers have been removed. No soil sampling has been performed beneath the fuel dispenser locations and adjacent product piping.
- Action:** GGTR proposes to perform additional source removal by demolishing and removing the former dispenser island and any remaining product piping. Three soil samples will be collected beneath the former fuel dispensers and product piping as shown on Figure 17 – Proposed Investigation Activities.
- Data Gap:** An up-gradient monitoring well has not been installed since determination of the groundwater flow direction.
- Action:** GGTR proposes to install an additional up-gradient monitor well as shown on Figure 17 – Proposed Investigation Activities.
- Data Gap:** A directly down-gradient monitoring well has not been installed since determination of the groundwater flow direction.
- Action:** GGTR proposes to install an additional down-gradient monitor well as shown on Figure 17 – Proposed Investigation Activities.
- Data Gap:** A vertical profile of groundwater contamination has not been performed at the site. The ACEH requests that the vertical extent of contamination be determined with conventional direct-push (Geoprobe) technology with depth discrete soil and groundwater samples. Potential vertical conduits should be identified from historical research.
- Action:** GGTR proposes to drill a deep Geoprobe boring near the former UST locations to a depth of 40 feet bsg. The proposed location is also near the historical location of small sheds shown in the 1902 Sanborn Map that could represent a potential backyard water well location. Lithology will be continuously logged during drilling and soil samples collected for laboratory analysis every five feet and/or at significant zones of apparent water bearing capacity or obvious evidence of petroleum contamination. Using data from the first deep boring, additional Geoprobe borings will collect depth discrete water samples from identified zones of interest or every five feet from 10 to 40 feet bsg.
- Data Gap:** Historical research and site activities have not identified the location of a waste oil UST at the site, if any. Waste oil USTs were common at facilities such as the subject. GGTR recommends additional site inspection-investigation to determine if a waste oil UST is present at the site.

**Action:** GGTR proposes to inspect the site and perform an underground UST locator survey of any suspect areas where a waste oil UST may exist.

**Data Gap** Recent monitor well sampling indicates significant groundwater contamination by long chain hydrocarbons. The long chain hydrocarbon detections appear to correlate with the former UST locations and dissolved hydrocarbon plume. At this time, GGTR assumes the long chain hydrocarbons represent degraded petroleum fuel.

**Action:** GGTR does not propose additional action at this time to address this issue.

The following work plan presents the procedures and protocols for performing the additional proposed investigation action.

## **6. SOIL & WATER DELINEATION WORK PLAN**

---

In accordance with the comments presented in the aforementioned Alameda County Environmental Health (ACEH) directive letter, the purpose of this work plan is to describe the procedures used to conduct additional site characterization activities at the site. GGTR proposes the following scope of work that addresses the residual contamination issues at the site.

### **6.1 Pre-Field Work Activities**

- Obtain a permit from City of Oakland for all soil boring work conduct in public right of way
- Obtain drilling permit from the Alameda County Environmental Health
- Conduct site mark-out and notify Underground Service Alert for utility clearance
- Schedule drill contractor, owner, and local agencies for proposed field work

Upon approval of this work plan by the ACEH, GGTR will obtain a drilling permit from the ACEH and a construction permit from the City of Oakland. Also, GGTR will prepare and submit a traffic control plan to the City of Oakland, should partial or complete closure of the parking lane and/or sidewalks along the Peralta and 16<sup>th</sup> Street frontages be warranted. GGTR will notify all property owners and tenants as well as the ACEH of all scheduled work activities at least 72 hours prior to field work. At least 72 hours before commencing field activities, GGTR will visit the site and outline the proposed work areas in white surface paint and subsequently notify Underground Service Alert (USA) to locate and mark any subsurface utilities extending through the designated work areas. GGTR will update the site-specific Health & Safety Plan and conduct a tailgate safety meeting prior to the initiation of field work.

## 6.2 Vertical Profile Contamination Characterization

GGTR proposes to drill a deep Geoprobe boring, B12, near the former UST locations to a depth of 40 feet bsg. Lithology will be continuously logged during drilling and soil samples collected for laboratory analysis every five feet and/or at significant zones of apparent water bearing capacity or obvious evidence of petroleum contamination. Using data from the first deeper boring, additional clustered Hydropunch borings will collect depth discrete water samples from identified zones of interest. As many as five additional borings will be used to recover grab groundwater samples from target zones.

Soil borings will be drilled by a California-licensed Water Well Drilling Contractor (C-57) using a limited access, truck-mounted, GeoProbe® drill rig equipped with 1.5- to 2-inch-diameter steel, concentrically-cased percussion drill tubes. While simultaneously casing the borehole with the outer drill tubes, soil samples will be collected in each boring using a 1.5-inch-diameter, butyrate plastic, tube-lined, core sampler (inner tube) driven in 2- to 4-foot increments into relatively undisturbed soil. Representative soil will be collected in general accordance with ASTM sampling procedures. GGTR will classify and log all soil extracted from each borehole using the Unified Soil Classification System and Munsell Rock Color Chart, and monitor and record the organic vapor concentrations of all soil samples using a Thermo® 580B Organic Vapor Analyzer. All borings will be logged under the supervision of a California-registered Civil Engineer/Geologist.

All down-hole drilling and sampling equipment will be cleaned between each boring location using a non-phosphate Alconox® solution and double rinsed using clean, potable water. Equipment wash and rinse water will be transferred to a separate D.O.T-approved storage container. All containers will be sealed and appropriately labeled as non-hazardous waste and securely stored onsite pending future disposal at respective licensed-disposal facilities. Soil samples retained for laboratory analysis will be immediately sealed with Teflon tape and plastic caps, appropriately labeled, and placed in a cooler chilled to approximately 4° Centigrade.

Grab groundwater samples will be collected from individual borings drilled to assess the vertical profile of groundwater contamination. As many as five separate borings will be used to collect depth-discrete grab water samples. At each depth discrete interval, GGTR will collect a grab groundwater sample from the Hydropunch equipment. The grab groundwater sample will be appropriately labeled and transferred to a cooler chilled to approximately 4° Centigrade. Following groundwater sampling activities, GGTR will direct the driller to backfill with neat Portland cement up to approximately 0.5 fbg. The borings containing groundwater will be backfilled by pumping Portland cement (6 gallons water per 94-pound bag of Portland cement) through a tremie pipe and grouting upward from the bottom of the boring. Gravity flow of grout through a funnel will not be allowed. Any water discharging the boring during grouting will be managed as a hazardous waste (contained and collected with absorbent for placement in 55-gallon drums). The balance of each borehole will be backfilled with appropriate surface material (i.e., concrete, asphalt, etc.) to restore original site conditions.

### 6.3 Continued Saturated Soil Characterization

GGTR will conduct additional exploratory drilling and sampling to delineate the lateral extent of residual petroleum hydrocarbons in saturated soil. Four additional hand augured borings, B13, B14, B15 and B16, and one new boring monitoring well B20/MW-7 will recover soil samples from depths of three and six feet bsg for laboratory analysis of petroleum constituents. Borings will be located as shown on Figure 17, Proposed Investigation Activities, in the immediate vicinity of the margins of former over-excavations. The proposed borings will sample beyond excavation sidewalls that were not previously sampled or previously revealed elevated petroleum concentrations in soil borings. This information will be useful for evaluating remedial action to remove contaminant mass from the saturate zone.

Drilling will be performed using hand augur equipment in the fine-grained sand. All down-hole drilling and sampling equipment will be cleaned between each boring location using a non-phosphate Alconox® solution and double rinsed using clean, potable water. Equipment wash and rinse water will be transferred to a separate D.O.T-approved storage container. All containers will be sealed and appropriately labeled as non-hazardous waste and securely stored onsite pending future disposal at respective licensed-disposal facilities. Samples will be collected using a brass tube-lined, 2-inch-diameter remote sampler (3- to 6- inch length) driven by a 15 pound slide hammer into relatively undisturbed soil, then sealed with Teflon® sheeting and plastic end caps, labeled, and transferred to a cooler chilled to approximately 4°C. Soil extracted from the shoe of the core sampler will be screened for soil vapor concentration (parts per million) using an OVA. GGTR will record the exact location, depth, and collection time of each sample.

### 6.4 Continued Source Removal

GGTR proposes to perform additional source removal by demolishing the abandoned fuel dispenser island and removing any encountered product piping. Two hand augur borings, B17 and B18, will be used to sample two feet below each of the two former fuel dispenser locations. One hand augur boring, B19, will be used to sample two feet below the former product piping at the bend in the piping as shown on Figure 17, Proposed Investigation Activities. All soil backfill removed during the product piping excavation will be contained in 55-gallon solid-waste drums for characterization and off-site disposal. No soil will be returned to the trench excavations. Any obvious shallow soil contamination revealed by the removal of the island and piping will be excavated for off-site disposal prior to backfill with imported fill and re-surfacing with asphalt.

Drilling will be performed using hand augur equipment in the fine-grained sand. All down-hole drilling and sampling equipment will be cleaned between each boring location using a non-phosphate Alconox® solution and double rinsed using clean, potable water. Equipment wash and rinse water will be transferred to a separate D.O.T-approved storage container. All containers will be sealed and appropriately labeled as non-hazardous waste and securely stored onsite pending future disposal at respective licensed-disposal facilities. Samples will



be collected using a brass tube-lined, 2-inch-diameter remote sampler (3- to 6- inch length) driven by a 15 pound slide hammer into relatively undisturbed soil, then sealed with Teflon® sheeting and plastic end caps, labeled, and transferred to a cooler chilled to approximately 4°C. Soil extracted from the shoe of the core sampler will be screened for soil vapor concentration (parts per million) using a calibrated hydrocarbon detection meter. GGTR will record the exact location, depth, and collection time of each sample.

## 6.5 Continued Assessment of Groundwater

### Monitoring Well Installation

Based on the significant benzene, MTBE and TPH as gasoline concentrations measured in monitoring wells MW-4 through MW-6 during quarterly sampling activities and on the general northward groundwater flow direction at the site, additional investigation is needed to further assess the lateral extent of hydrocarbon-affected groundwater. GGTR proposes to drill three additional soil borings (B20, B21 & B22) and convert these borings to two-inch groundwater monitoring wells MW-7, MW-8 and MW-9. The approximate location of new monitoring wells (if sampling at these locations will not be influenced by or conflict with utility structures) is shown on Figure 17, Proposed Investigation Activities). The wells will be located in the confirmed up- and down-gradient directions from the former UST-dispenser island locations.

### Drilling and Soil Sampling Procedures

All drilling will be conducted by a California-licensed Water Well Drilling Contractor (C57). GGTR will direct the subcontracted driller to initially hand-auger the proposed monitor wells to 4 fbg to confirm clearance of any unmarked subsurface utilities. GGTR will drill the borings using an 8-inch hollow stem augur drill rig. Proposed monitor wells will be drilled to a depth of 8 feet. Prior to drilling, the depth to groundwater (relative to grade surface) will initially be measured in MW1 through MW6 to determine the approximate static groundwater level. Boreholes will be logged under the supervision of a Registered Civil Engineer/Geologist.

GGTR will recover soil samples from depths of 3 and 6 feet bsg in boring B20 as previously discussed. The boring locations B21 and B22 are distant from the source area and no contaminated soil is anticipated. Unless visual evidence of contamination or hydrocarbon vapor is detected, then no soil samples will be recovered or submitted for laboratory analysis. GGTR may elect to collect soil samples based on field sample screening and stratigraphy. If evidence of contamination is detected, then a soil sample at the impacted interval will be preserved for the laboratory analysis of TPH as gasoline and diesel with BTEX and MTBE. All soil samples will be sealed with Teflon and plastic end caps, appropriately labeled, and transferred to cooler chilled to approximately 4° Centigrade. Soil boring samples will also be screened using a Thermo® 580B Organic Vapor Analyzer (OVA) and described using the Unified Soil Classification System and Munsell Rock Color Chart. All down-hole drilling and sampling equipment will be decontaminated between each boring location using an Alconox® solution and double rinsed with potable water. Equipment wash and rinse water

will be transferred directly to a separate 55-gallon drum. All drilling and sampling activities will be conducted under the observation of a representative of the ACEH.

### **Monitoring Well Construction**

All wells will be constructed by a California-licensed Water Well Drilling Contractor (C57) using a rotary 8-inch hollow stem auger drill. Upon completion of drilling, the auger boring will be converted to a 2-inch-diameter groundwater monitoring well. The proposed total well depth will be approximately 8 fbg. Figure 18 is a modified Well Construction Diagram showing the anticipated construction details of the proposed groundwater monitoring wells. The monitoring wells will be constructed of standard 2-inch diameter, flush-threaded, Schedule 40 Polyvinyl Chloride (PVC) factory slotted well screen and blank riser casing. Well construction specifications will be generally consistent with that for other wells. GGTR proposes using 0.010-inch slotted well screen sections for construction of the wells due to the appreciable amount of fines observed in the soil samples collected during the previous soil boring activities. The screened casing interval will extend from approximately 3 to 8 fbg. Blank riser casing will extend from approximately 0.5 to 3 fbg. A locking compression plug and threaded PVC bottom cap will be installed at the top and bottom of each well, respectively. Filter pack, consisting of No. 2/12 silica sand, will be placed within the annular space between the PVC casing and borehole as the auger sections are withdrawn from the borehole. Filter sand will extend approximately 1 foot above the upper limit of the screened well section to the total depth of each well (from 2 to 8 feet).

Prior to setting the annular well seal, GGTR will surge each well using a 2-inch-diameter surge block to remove any native annular fines and settle the sand filter pack. If insufficient water volume is present within each borehole, GGTR will add potable water to the borehole prior to surging. Additional potable water added to surge the well, if required, will be handled as hazardous waste if the water discharges from the well. If required, GGTR will place additional sand within the borehole/well annulus to maintain the proper distance (one foot) above the well screen. GGTR will then place hydrated bentonite chips above the annular filter pack up to approximately 1 fbg. The remainder of the annular space will be filled with neat Portland cement grout and a traffic-rated monitoring well box will be placed directly over each monitor well casing and secured in place with concrete, flush to surface grade. If actual site conditions vary significantly from that anticipated, GGTR personnel may vary the well construction specifications accordingly with concurrence from on-site ACEH personnel. GGTR will subsequently upload all well data to the State Water Resources Control Board's GeoTracker Database System.

### **Monitoring Well Development**

At least 48 hours following completion of the additional well installation activities, GGTR will develop each new monitor well to improve the groundwater hydraulic conductivity between the newly introduced sand filter pack and the native soil surrounding each well casing. GGTR will initially monitor and record the depth to water in each well and subsequently surge each well along the entire water column interval for approximately 10 minutes, using a 2-inch-diameter surge block. Well development will continue by purging up to approximately 10 casing volumes of groundwater from each well using a diaphragm pump

and polyethylene tubing, and continuing until the well water is relatively free of turbidity and suspended fines (generally only until slightly cloudy). GGTR will transfer the well purge water to 55-gallon, DOT-approved, steel drums and temporarily store them onsite pending transport and disposal to a licensed facility.

### **Monitor Well Elevation/Coordinate Survey**

A Land Surveyor licensed in the State of California, Virgil Chavez Land Surveying, will survey the grade elevation and the elevation of the top of casing (TOC; north side) of each newly-installed monitor well relative to Mean Sea Level (NGVD 29). The existing bench mark used for the previous monitoring well survey will be utilized to survey the new wells. In addition, the latitude, longitude, and coordinates of each well location will be surveyed relative to the California Coordinate System, Zone III (NAD83). GGTR will subsequently upload all survey data to the State Water Resources Control Board's GeoTracker Database System.

### **Purging and Sampling of New Monitor Wells**

Approximately 48 hours following development activities in each newly-installed well, GGTR will measure and record the depth to water and presence of sheen or free product in each existing and newly-installed well using a Keck® oil/water interface probe. GGTR will obtain all measurements relative to the approximate north side of the TOC, with an accuracy of 0.01 foot. GGTR will also measure the dissolved oxygen concentration in each well (insitu) using YSI®55 Dissolved Oxygen Meter and measure the oxidation-reduction potential. If non-aqueous phase liquid (NAPL) is present in the well, GGTR will collect a sample of the non-aqueous phase liquid (NAPL) for laboratory analysis of chemical composition, density, viscosity, and interfacial tension. No groundwater purging or sampling will occur if NAPL is present in the well. GGTR will remove any product using a disposable bailer and reduce it to sheen.

If no NAPL is present, GGTR will purge groundwater from each well and simultaneously monitor the pH, temperature and conductivity of the purge water to evaluate groundwater stabilization. GGTR will purge groundwater from each well using a peristaltic pump connected to disposable polyethylene tubing. Upon three consecutive measurements indicating groundwater stabilization, GGTR will cease purging activities. Stabilization is achieved when three successive measurements of pH, conductivity, and temperature of the purged water at 3 to 5 minute intervals following evacuation of one line volume vary by less than 0.1, 10%, and 3%, respectively. If stabilization is not achieved, GGTR will discontinue purging when 3 casing volumes have been removed from the well. The groundwater level was measured immediately after purging and just before sampling each well, in order to determine specific recharge rates.

After recharge of approximately 80% of the groundwater column in each well, GGTR will collect a groundwater sample from each well using either a disposable bailer or a peristaltic pump and clean polyethylene tubing. GGTR will collect the sample in each well by lowering the polyethylene tubing or the bailer to just below the water in each well casing. Subsequently, each sample is placed into the appropriate laboratory sample containers. All

VOA vials are sealed with a threaded cap, inverted, and checked to ensure that no entrapped air was present. Well Purging/Sampling Data Sheets are included in the monitoring report. The groundwater samples are labeled and immediately stored in a cooler chilled to 4°centigrade. GGTR transports the samples to a California-Certified analytical laboratory under formal chain-of-custody protocol. Between monitoring and purging activities in each well, all down-hole monitoring and purging equipment is decontaminated using an Alconox wash solution and doubled rinse with clean, potable water.

## 6.6 Laboratory Analyses of Samples

### Soil Sample Laboratory Analysis

A Chain-of-Custody form will be initiated by GGTR personnel at the time of sampling and will accompany the soil samples to Entech Analytical Labs Inc. (a State-certified environmental laboratory) using California Department of Health Services approved analytical methods. Soil samples will be analyzed using the following methods:

- Total Petroleum Hydrocarbons as Gasoline (TPH-Volatile: EPA 8015B)
- Total Petroleum Hydrocarbons as Diesel (TPH Extractable: EPA 8015M)
- Benzene, Toluene, Ethylbenzene and Total Xylenes (VOCs: EPA 8021B)
- Methyl Tertiary-Butyl Ether (VOCs: EPA 8021B)

### Groundwater Sample Analysis

The groundwater samples obtained from new monitor wells and grab groundwater samples from exploratory borings will be analyzed using the following California Department of Health Services approved methods:

- Total Petroleum Hydrocarbons as Gasoline (TPH-Purgeable: GC/MS)
- TPH as Diesel (TPH-Extractable: EPA 3510C / EPA method 8015B(M))
- Benzene, Toluene, Ethylbenzene and Total Xylenes (VOCs: EPA method 8260B)
- Methyl Tertiary-Butyl Ether (VOCs: EPA method 8260B)
- tert-Butanol Alcohol (TBA) (VOCs: EPA method 8260B)
- Other VOCs as reported by EPA method 8260B

A sample trip blank will accompany all groundwater samples to the State-certified laboratory, Entech in Santa Clara, California, and be analyzed for BTEX only. GGTR will request that all associated laboratory analytical reports be reported in Electronic Deliverable Format (State Assembly Bill 2886, Fall 2000) in general accordance with the State Water Resources Control Board's GeoTracker Database System. GGTR will subsequently upload all analytical data to the State Water Resources Control Board's GeoTracker Database System.

## 6.7 Waste Management

All waste soil cuttings or soil sample generated during soil boring, sample collection, and monitoring well installation activities will be transferred to a 55-gallon, D.O.T.-approved steel drum(s) for temporary storage onsite or at the GGTR facility in a secure area. GGTR will collect a four point composite soil sample from the drummed soil for analysis and waste disposal characterization. Pending receipt of the composite soil sample analysis, GGTR will subsequently profile and transport the waste to an appropriate licensed disposal facility under uniform waste manifest. Equipment wash, development/purge water, and rinse water generated from the decontamination of soil boring equipment and groundwater generated during well installation, development and purging operations will be transferred to 55-gallon, D.O.T.-approved liquid steel drum(s), labeled, and stored onsite or at the GGTR facility. The liquid waste will be profiled for disposal/recycling under uniform waste manifest following receipt of the laboratory results of groundwater sample analysis.

## 6.8 Report Preparation & Distribution

Following approval of this work plan by the ACEH, GGTR anticipates beginning the additional field activities within two to three weeks of receiving client authorization to proceed. Additional time may be required depending upon drilling contractor availability. The aforementioned report should be available within 30 days following receipt of all soil and groundwater analytical results. Following the completion of all field work and receipt of all analytical and survey data, GGTR will review all field / analytical data and prepare a technical report as required by the ACEH. The report will discuss the activities and findings of the investigation then present conclusions and recommendations. The report will be submitted to the State Water Resources Control Board's GeoTracker Database System and Alameda County government ftp site for regulatory review and comment on additional environmental action required at the site.

A copy of this Soil and Water Delineation Work Plan is submitted to the following site representatives:

Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577  
Attn: Mr. Barney Chan

(1 Electronic Copy via ACGOV FTP)  
(1 Electronic Copy via GeoTracker)

Alpine Rentals  
Mr. James Tracy  
878 W. Hayden Court  
Alpine, Utah 84004

(1 Copy; Bound)

## 7. LIMITATIONS & SIGNATURE

Due to budget and time constraints and the limited amount of soil sampling, water sampling and subsurface investigation, GGTR cannot have complete knowledge of the site conditions. 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 findings in the ESA are strictly applicable to the status of environmental regulations and the property conditions existing when GGTR performs the study. The opinions expressed herein are subject to revisions in light of new information. GGTR neither expresses nor implies any warranties concerning the environmental impairment at the site. GGTR warrants only that our services conform to generally accepted and existing environmental practices. Our liability is limited to the dollar amount of the work performed.

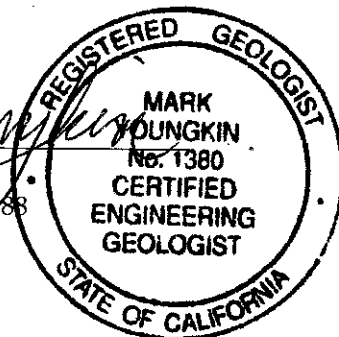
The scope of services conducted in execution of this investigation may not be appropriate to satisfy the needs of other users and any use or reuse of this document and any of its information presented herein is at sole risk of said user. All figures, plates, maps, photographs, and diagrams in this report are considered sketches or schematic drawings that are provided for illustrative purposes only. GGTR does not warranty the accuracy of these drawings and the drawings are not suitable for engineering, appraisal, remodeling or construction-related purposes whatsoever.

Thank you for your cooperation. If you have any questions, please call at (415) 512-1555.

Sincerely  
Golden Gate Tank Removal, Inc.



*Mark Youngkin*  
Mark Youngkin  
Registered Geologist #3888



*Brent A. Wheeler*  
Brent A. Wheeler  
Project Engineer

End of document GGTR fn: 8757\_1532 Peralta\_Work Plan\_Final.doc.



## **APPENDIX A**

### **FIGURES**

- Figure 1 – Well Survey Radius Map**
- Figure 2 - Site Plan**
- Figure 3 - Site Photographs**
- Figure 4 – Subsurface Utility Survey Map**
- Figure 5 – Soil Over-Excavation Data**
- Figure 6 – Soil Analytical Results from Borings**
- Figure 7 - Groundwater Map**
- Figure 8 - Historic 1931 Aerial Photograph**
- Figure 9 - Historic 1965 Aerial Photograph**
- Figure 10 - Historic 1912 Sanborn Fire Insurance Map**
- Figure 11 - Historic 1951 Sanborn Fire Insurance Map**
- Figure 12 - Historic 1970 Sanborn Fire Insurance Map**
- Figure 13 – Geologic Map**
- Figure 14 – Cross Section A-A'**
- Figure 15 – Cross Section B-B'**
- Figure 16 – Groundwater Monitoring Results**
- Figure 17 – Proposed Investigation Activities**
- Figure 18 – Well Construction Diagram**

## **SOIL & WATER DELINEATION WORK PLAN**

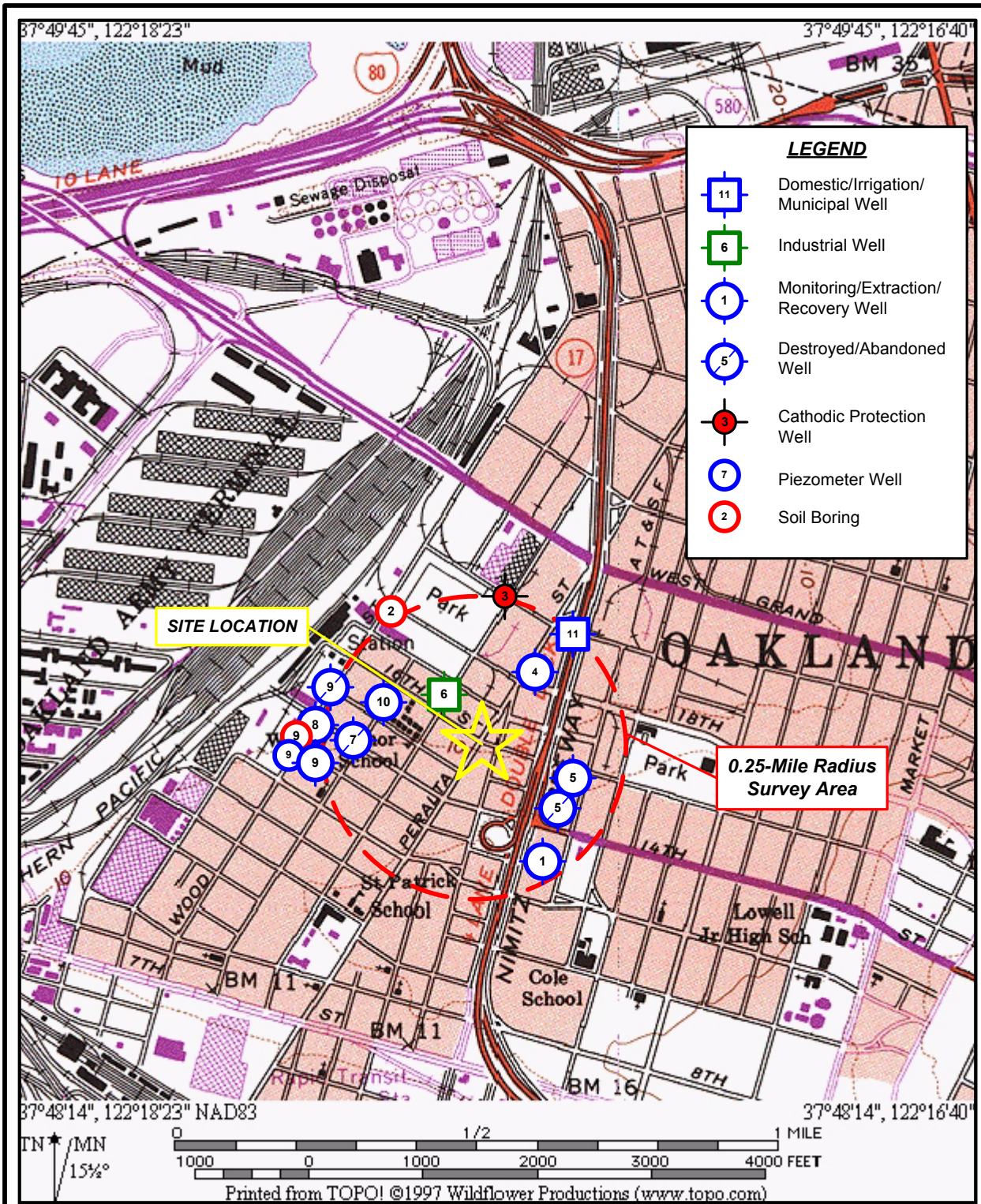
**1532 Peralta Street, Oakland, California 94607**

**Golden Gate Tank Removal, Inc**

**3730 Mission Street, San Francisco, CA 94110**

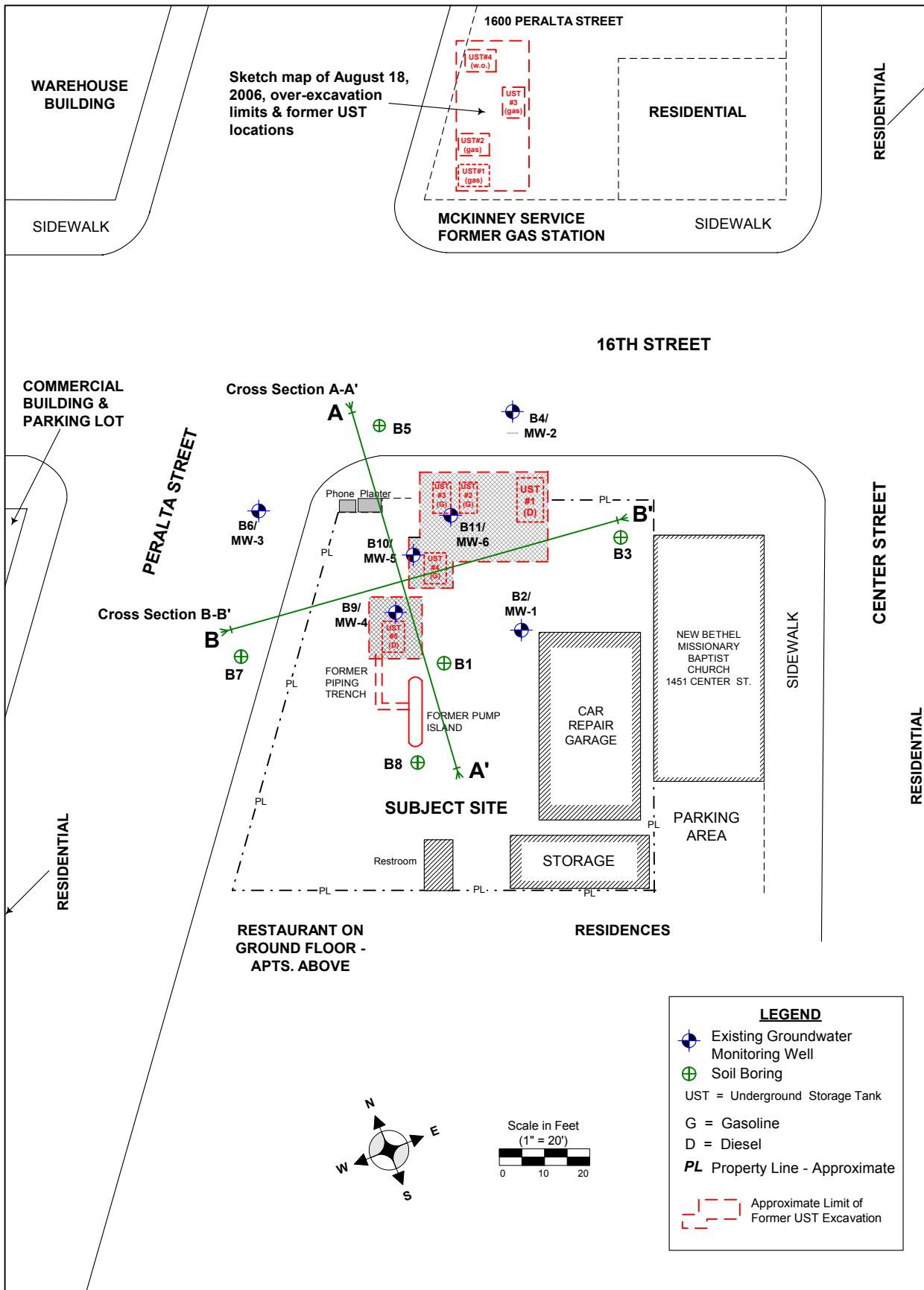
**GGTR Project No. 8757**





**GOLDEN GATE TANK REMOVAL**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**Well Survey Radius Map**  
 1532 Peralta Street, Oakland, California



**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**SITE PLAN**  
 1532 Peralta Street, Oakland, California

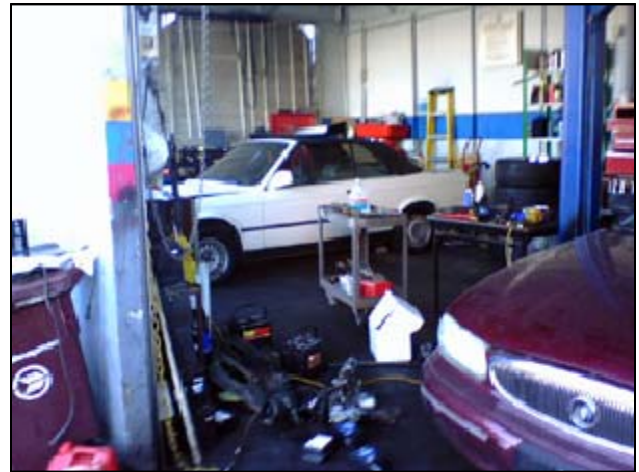
GGTR Project No. 8757      fn: 8757\_Fig 2\_Site Plan.vsd      Figure By: SM / MY      **Figure 2**





Photograph No. 1 - view southward of subject property and auto repair building from driveway at 16th Street. LBJ's Automotive Repair building to left of photo. Residences adjoin property at south boundary. Small building to right is bathroom with adjacent wash pad area. Small storage building at rear boundary.

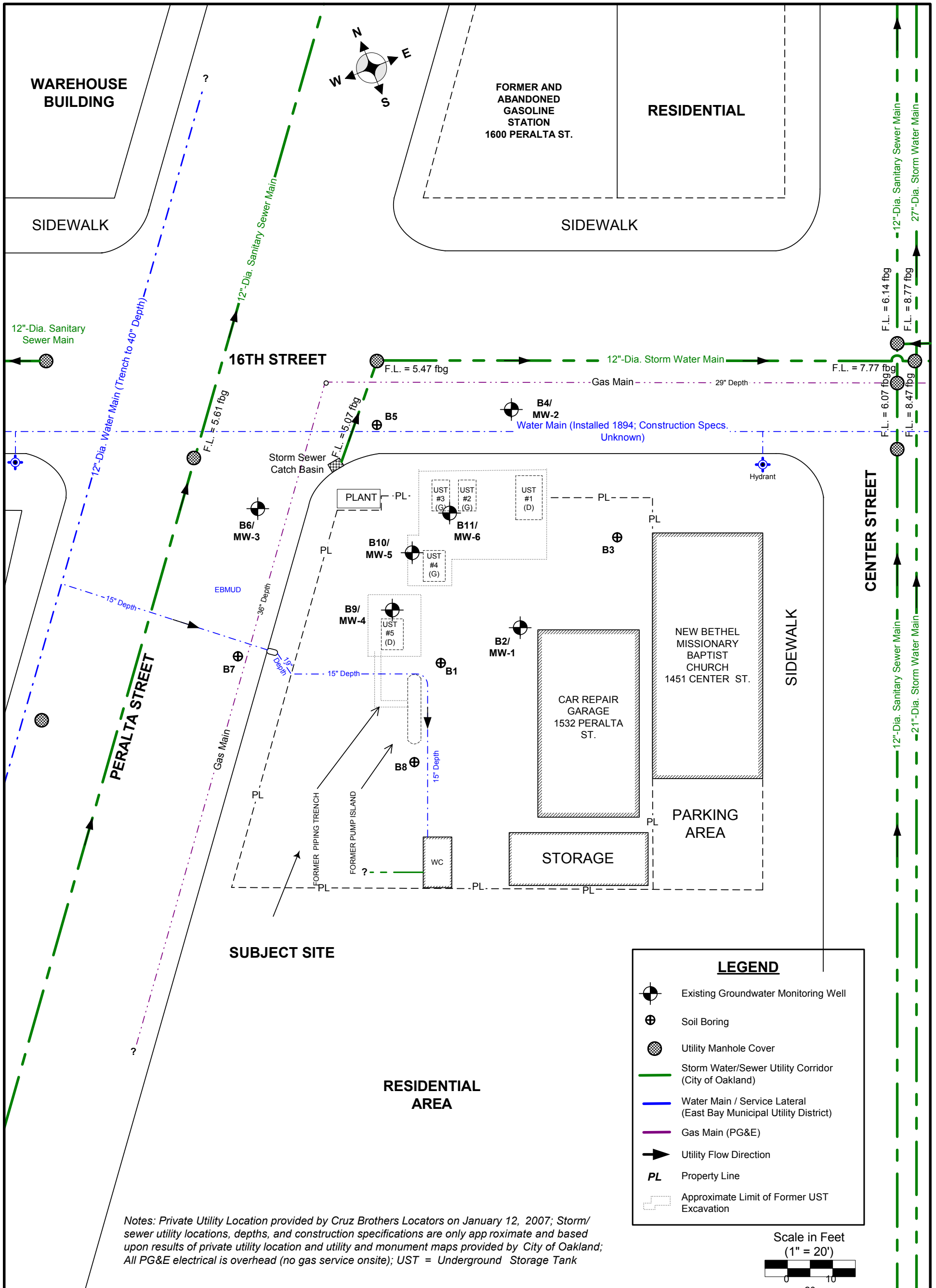
Photograph No. 2 - interior view of vehicle repair building. Aboveground hoist shown to right of photo.



Photograph No. 3 - exterior view south of vehicle repair area on wash pad.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**SITE PHOTOGRAPHS**  
 1532 Peralta Street, Oakland, California



**GOLDEN GATE TANK REMOVAL, INC.**  
3730 Mission Street, San Francisco, CA 94110  
Ph (415) 512-1555 Fx (415) 512-0964

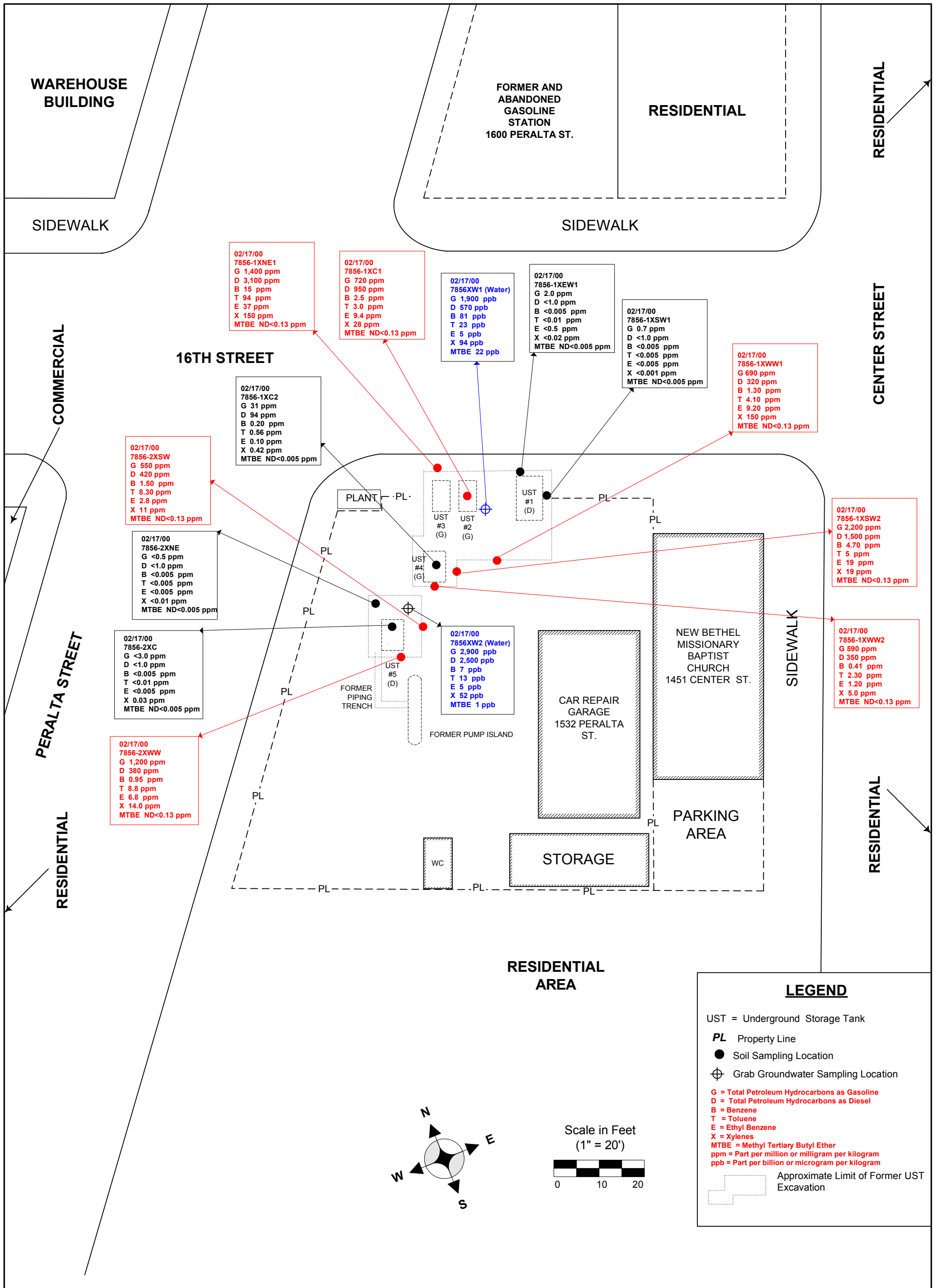
**SUBSURFACE UTILITY MAP**  
1532 Peralta Street, Oakland, California

GGTR Project No. 8757

Fn: 8757\_Fig 4\_Subsurface Utility Map.vsd

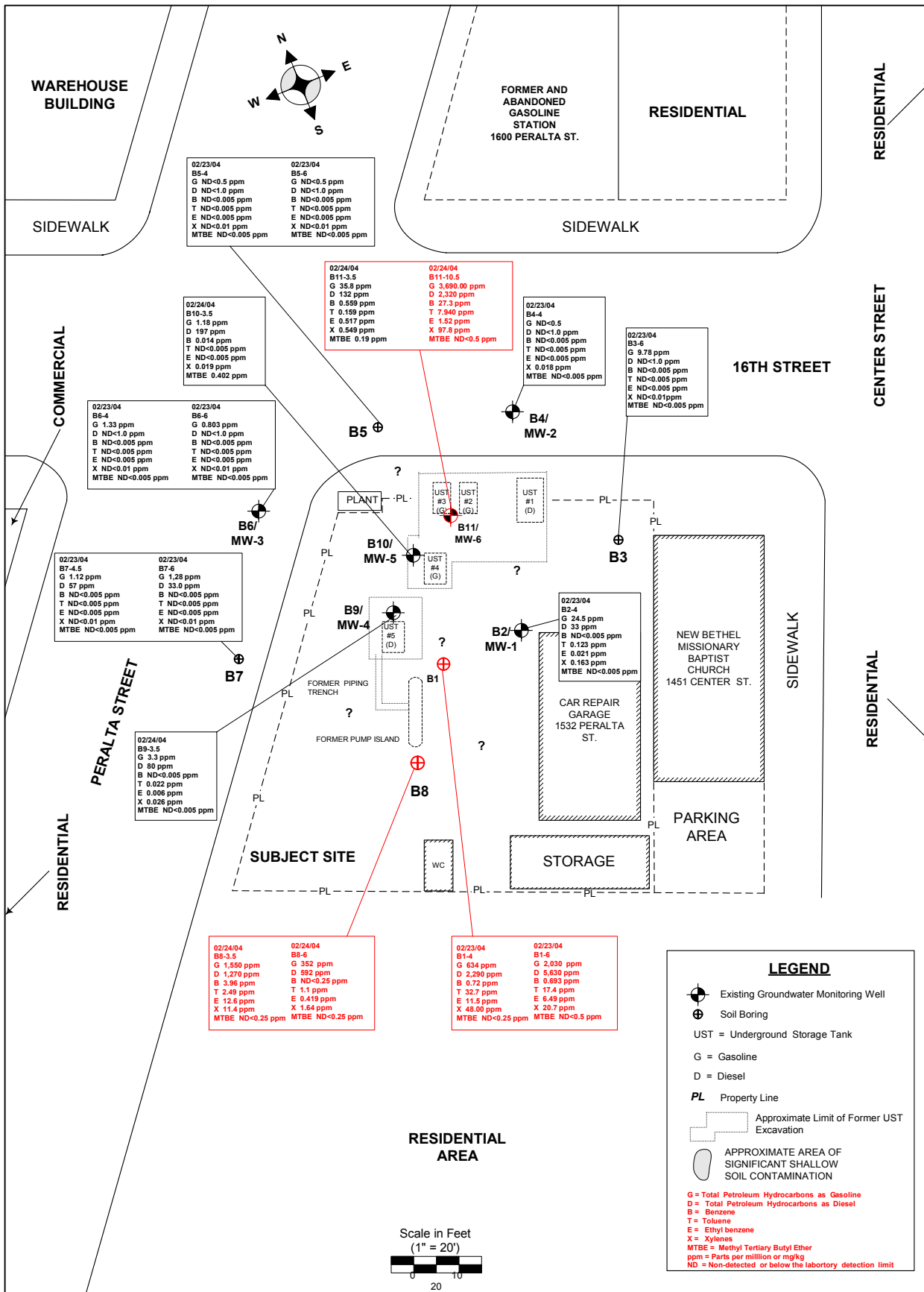
Figure By: baw (01/07)

**Figure 4**



**GOLDEN GATE TANK REMOVAL, INC.**  
3730 Mission Street, San Francisco, CA 94110  
Ph (415) 512-1555 Fx (415) 512-0964

**SOIL OVER-EXCAVATION DATA**  
1532 Peralta Street, Oakland, California



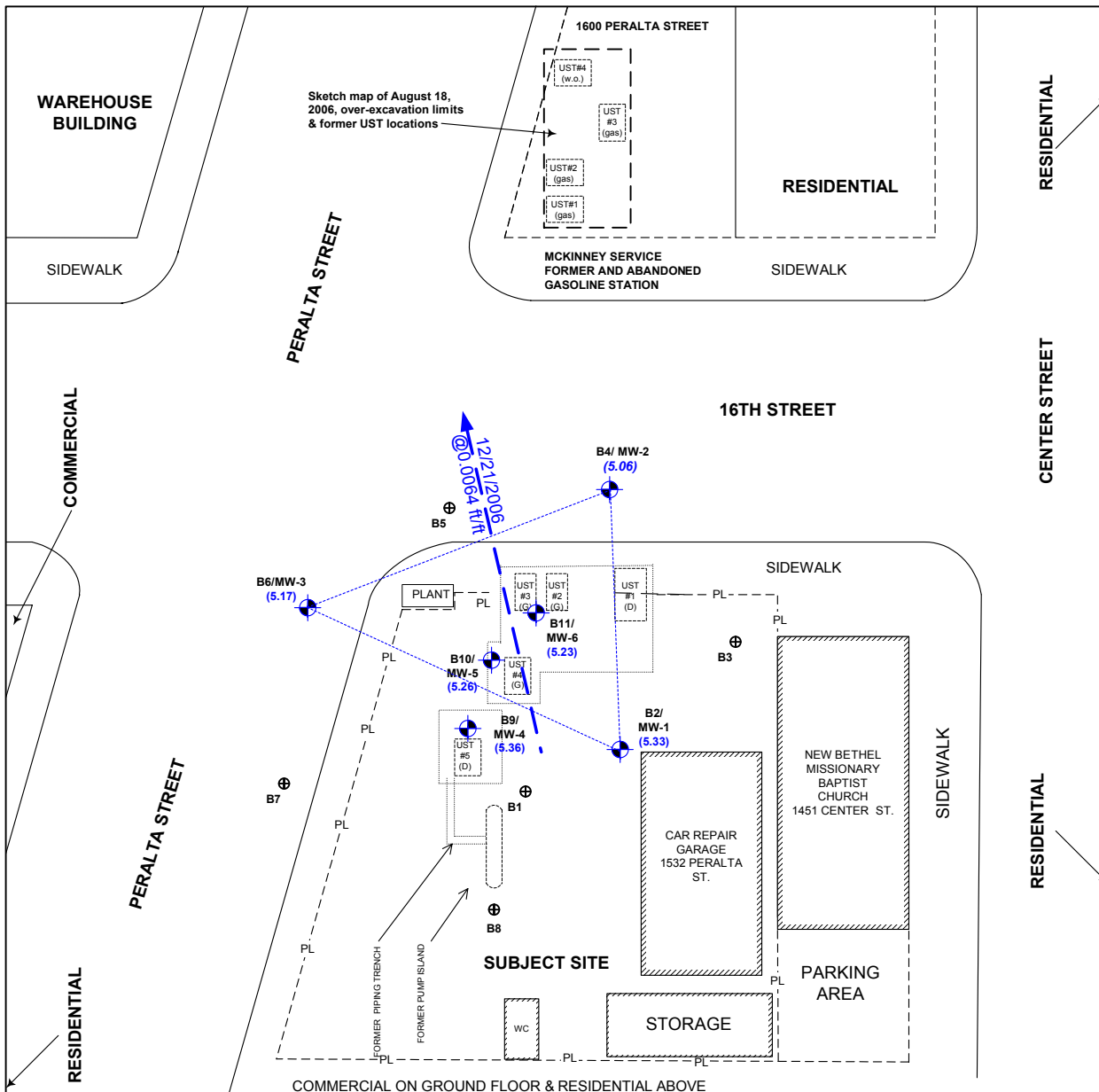
**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

GGTR Project No. 8757

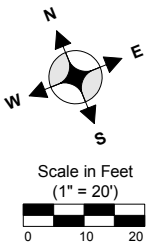
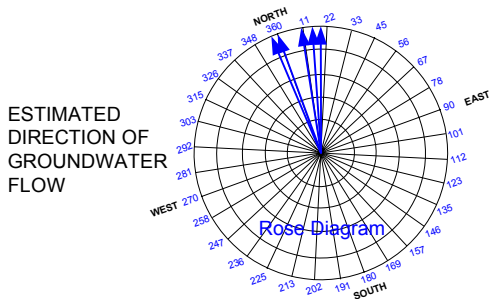
**SOIL ANALYTICAL RESULTS FROM SOIL BORINGS**  
 1532 Peralta Street, Oakland, California

Figure By: SM Revised MY 01-07

**Figure 6**



| DATE           | FLOW DIRECTION | GRADIENT     |
|----------------|----------------|--------------|
| March 5, 2004  | 15.95 degrees  | 0.0151 ft/ft |
| March 24, 2006 | 359.7 degrees  | 0.0126 ft/ft |
| June 22, 2006  | 357.6 degrees  | 0.0087 ft/ft |
| Sept. 25, 2006 | 19.19 degrees  | 0.0053 ft/ft |
| Dec. 21, 2006  | 11.42 degrees  | 0.0064 ft/ft |



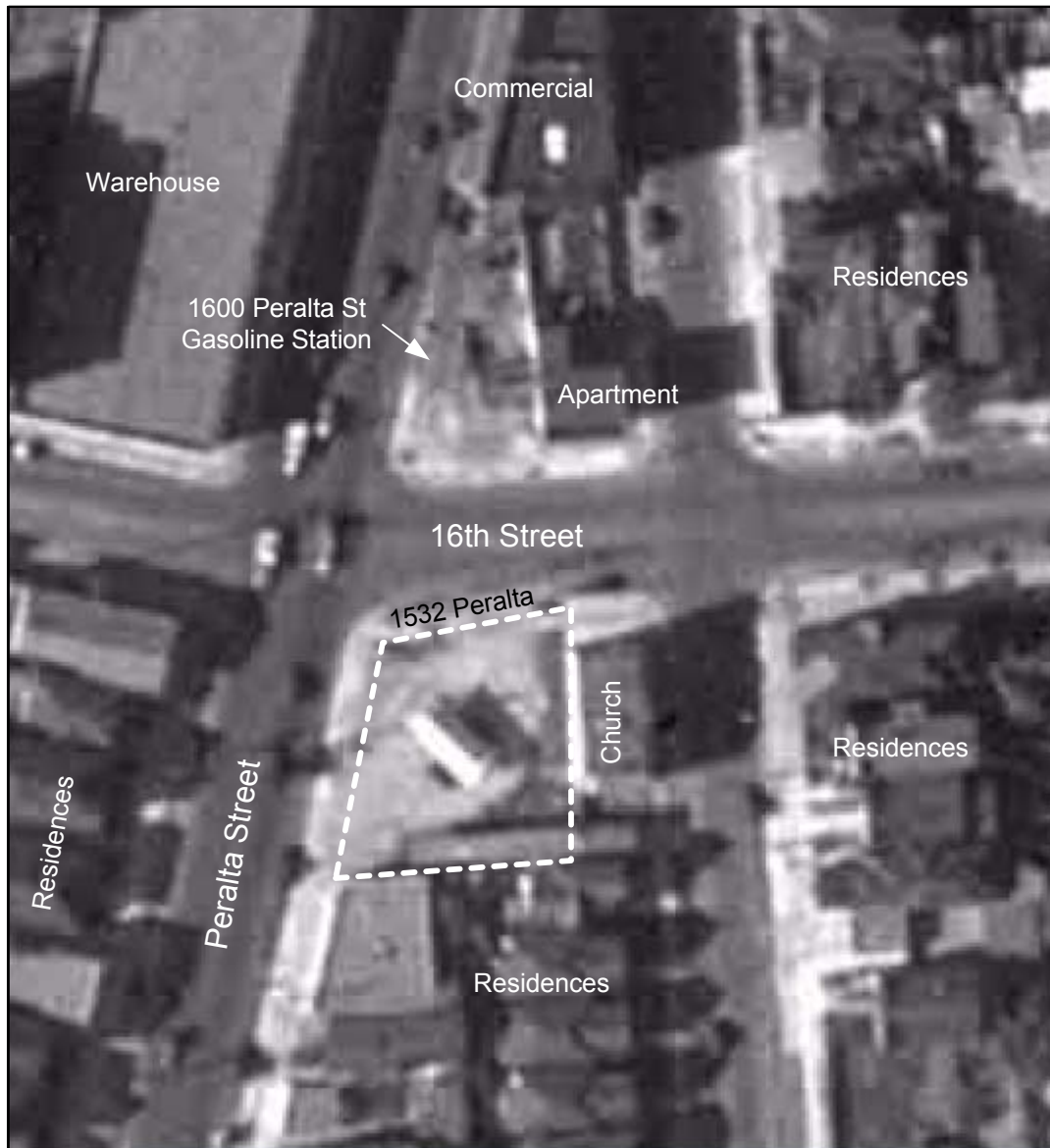
**LEGEND**

- Groundwater Monitoring Well, showing relative groundwater elevations in feet (MSL)
- Soil Boring
- UST = Underground Storage Tank
- G = Gasoline
- D = Diesel
- PL Property Line
- Approximate Limit of Former UST Excavation
- Approximate Groundwater Flow Direction - See rose diagram for summary of historical flow directions

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**GROUNDWATER GRADIENT MAP**  
 1532 Peralta Street, Oakland, California



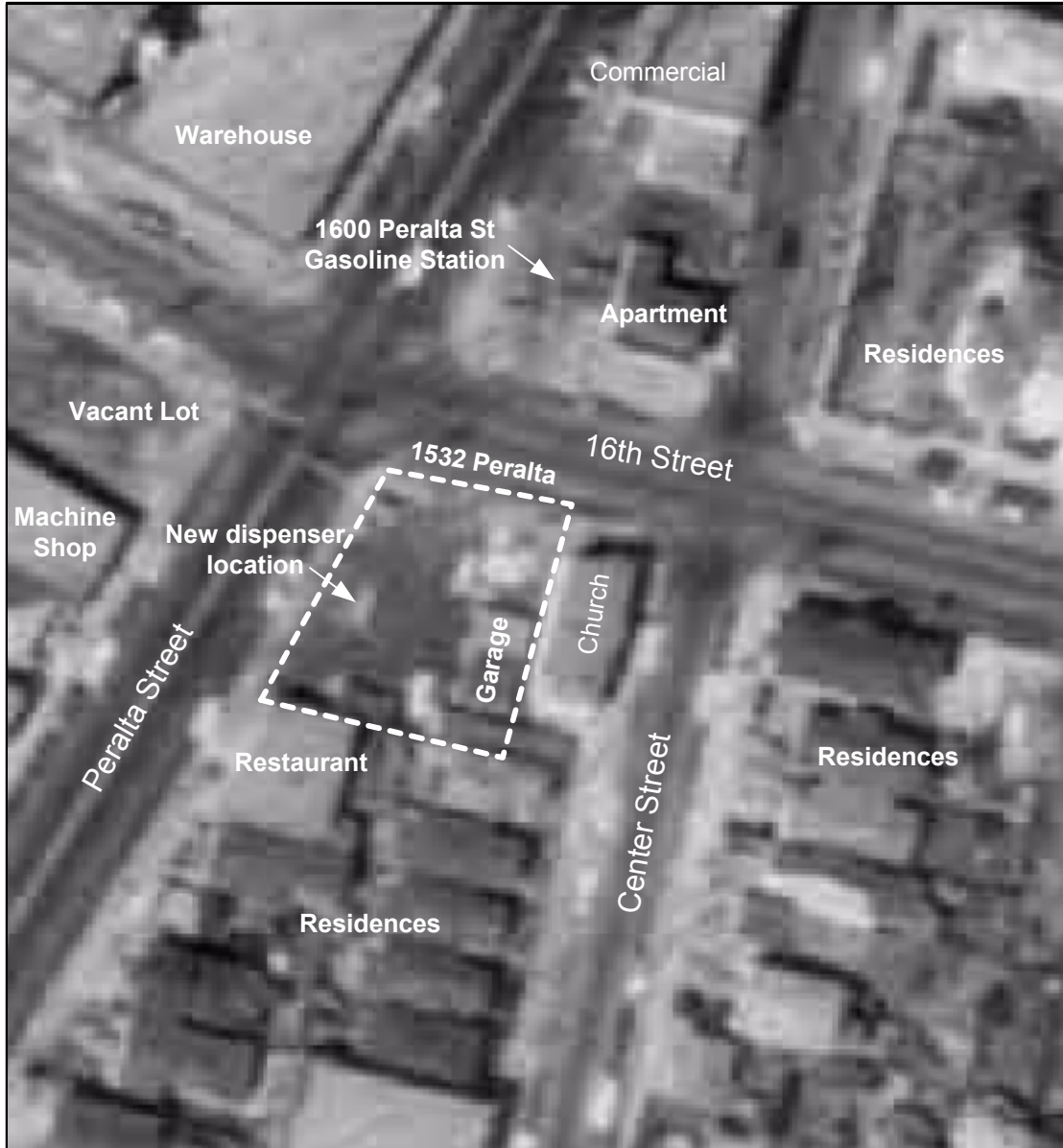


Enlarged historic aerial photograph dated 1931 at an original scale of 1"=266 feet by Fairchild. North is to top of photograph. Subject property at 1532 Peralta St. is shown by dashed line. Diagonal oriented canopy appears to be present over location of dispenser island with office, rest room and oil storage building present along south margin of site. Former gasoline station at 1600 Peralta St. appears present in this photo. Much of the surrounding neighborhood is similar to existing conditions. Aerial photo from The EDR Aerial Photo Decade Package dated January 9, 2007.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**HISTORIC 1931 AERIAL PHOTOGRAPH**  
 1532 Peralta Street, Oakland, California

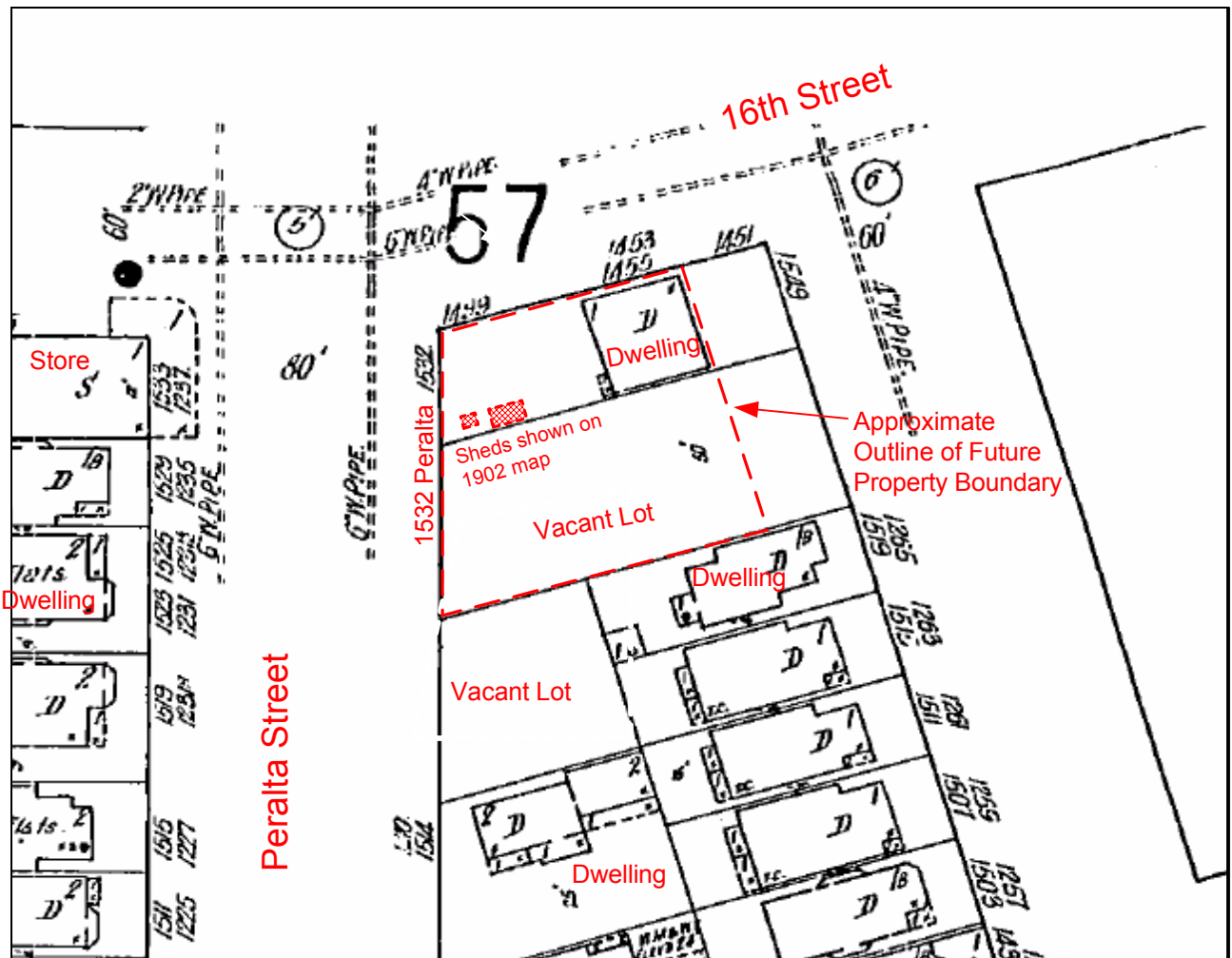




Enlarged historic aerial photograph dated 1965 at an original scale of 1"=333 feet by Fairchild. North is to top of photograph. Subject property at 1532 Peralta St. is shown by dashed line. No canopy present over new location of dispenser island displaced farther to the west to make room for new garage building. Existing office, rest room and oil storage building present along south margin of site. Former gasoline station at 1600 Peralta St. appears present in this photo. Much of the surrounding neighborhood is similar to existing conditions. Aerial photo from The EDR Aerial Photo Decade Package dated January 9, 2007.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

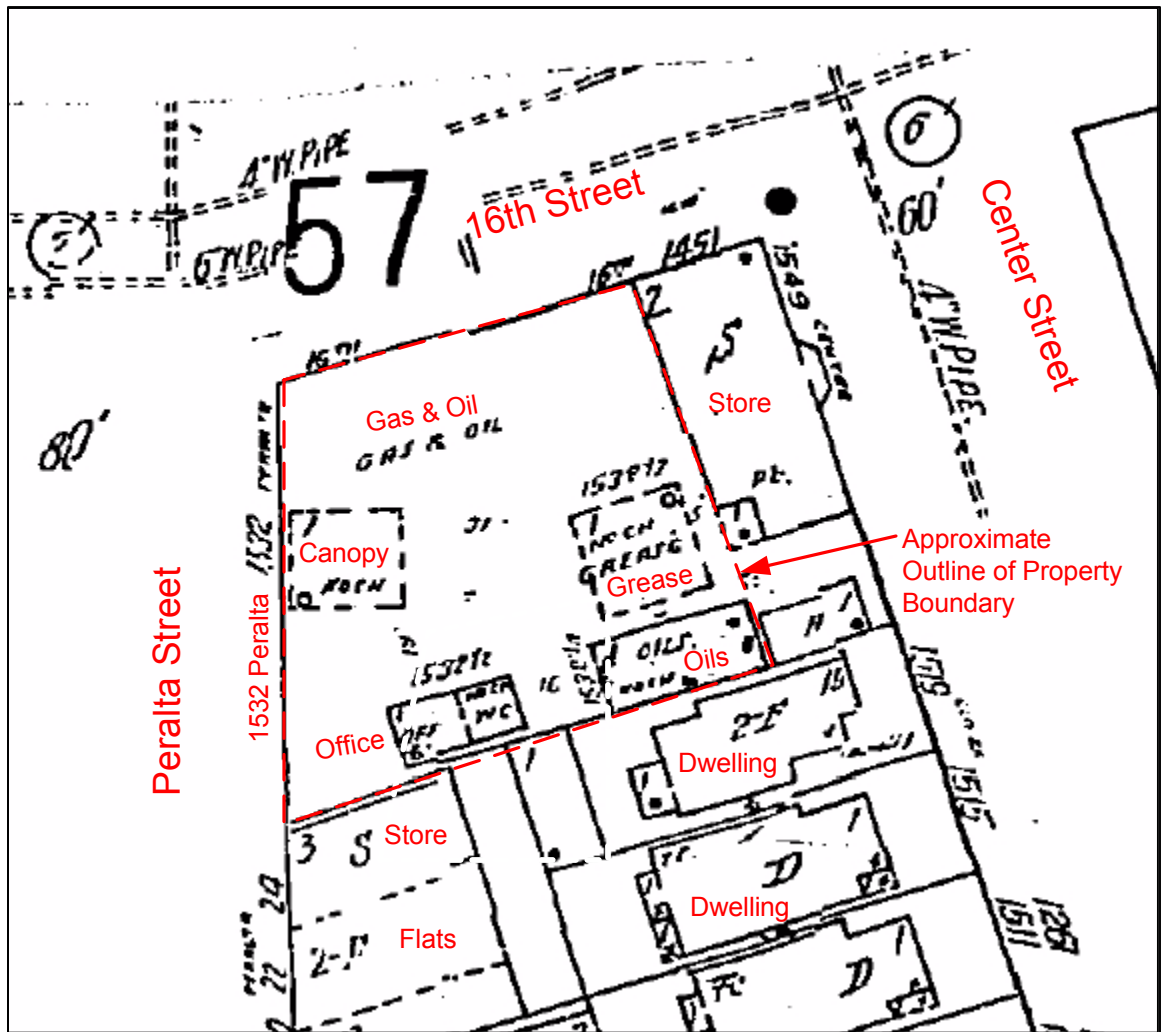
**HISTORIC 1965 AERIAL PHOTOGRAPH**  
 1532 Peralta Street, Oakland, California



Enlarged and annotated portion of historic Sanborn fire insurance map dated 1912. North is to top of map. Subject property at 1532 Peralta St. is shown in historical configuration with small dwelling on northern portion of future site. Vacant lot along south portion of future site. Much of the surrounding neighborhood is residential with a store across Peralta Street to the west. Map from The EDR Sanborn Map Report dated January 9, 2007. Two small sheds shown on 1902 Sanborn Map are also shown on this figure on the northwest corner of the site.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

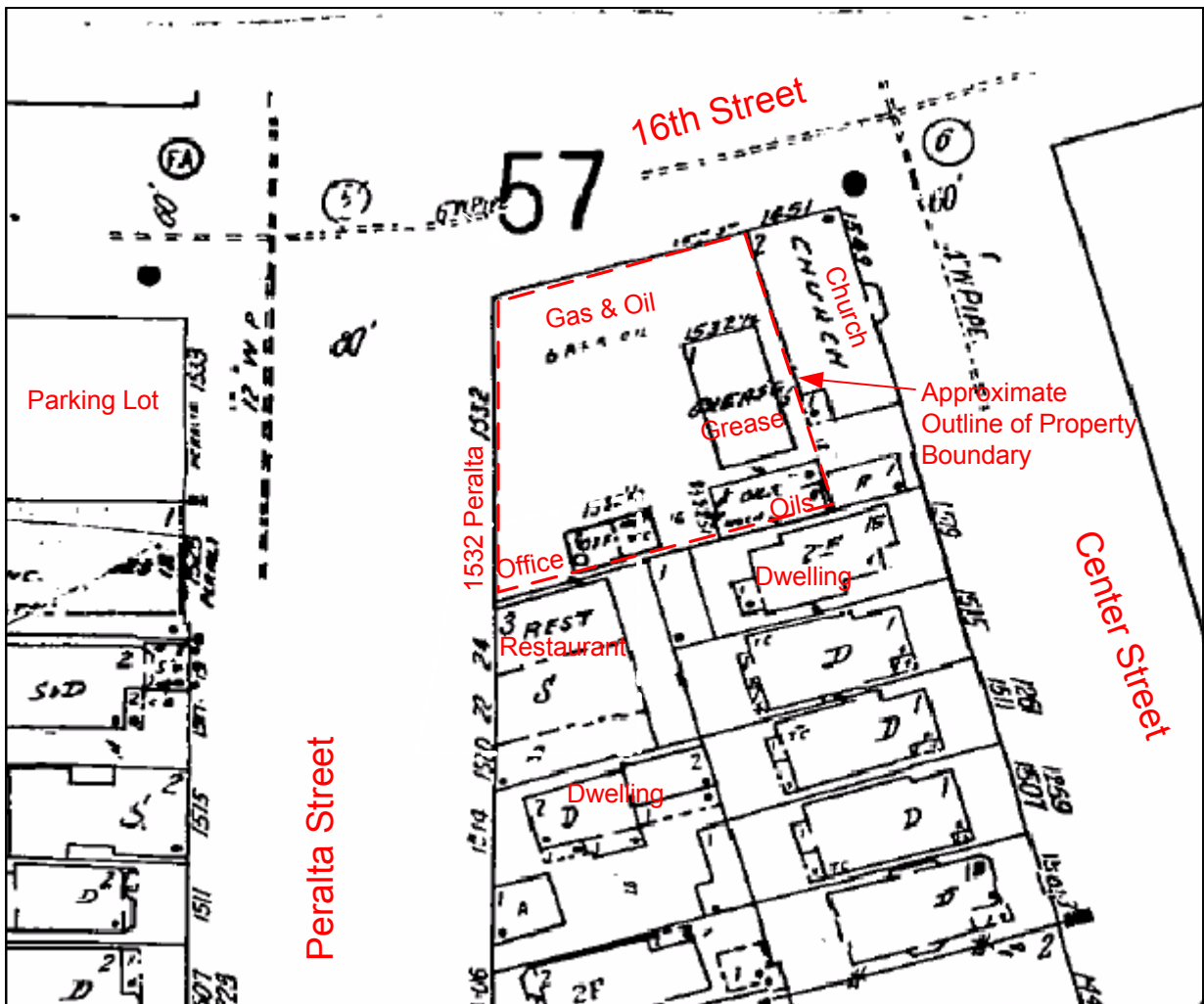
**HISTORIC 1912 SANBORN FIRE INSURANCE MAP**  
 1532 Peralta Street, Oakland, California



Enlarged and annotated portion of historic Sanborn fire insurance map dated 1951. North is to top of map. Subject property at 1532 Peralta St. is shown in largely existing configuration with exception of what appears to be a canopy over location of dispenser island along Peralta Street. Office, rest room and oil storage building present along south margin of site. Much of the surrounding neighborhood is similar to existing conditions. Map from The EDR Sanborn Map Report dated January 9, 2007.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**HISTORIC SANBORN FIRE INSURANCE MAP 1951**  
 1532 Peralta Street, Oakland, California

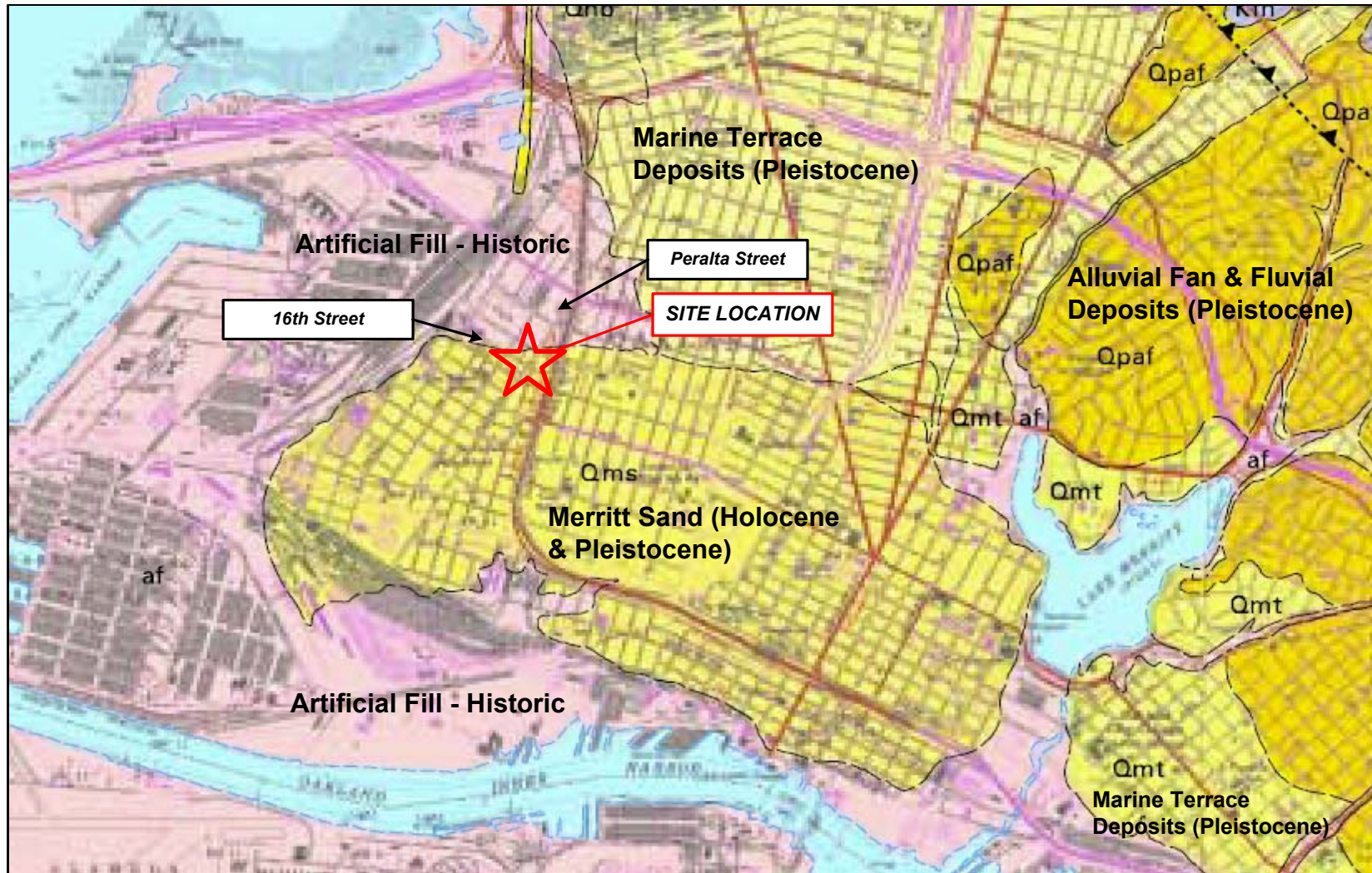


Enlarged and annotated portion of historic Sanborn fire insurance map dated 1970. North is to top of map. Subject property at 1532 Peralta St. is shown in largely existing configuration with exception of canopy over recent location of dispenser island. Office, rest room and oil storage building present along south margin of site. Much of the surrounding neighborhood is similar to existing conditions. Map from The EDR Sanborn Map Report dated January 9, 2007.

**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**HISTORIC 1970 SANBORN FIRE INSURANCE MAP**  
 1532 Peralta Street, Oakland, California





A portion of Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California, 2000, by R.W. Graymer, U.S. Geological Survey Misc. Field Studies MF-2342; North to top; See report text for explanation of geologic units shown on map; Scale about 3 inches per mile.

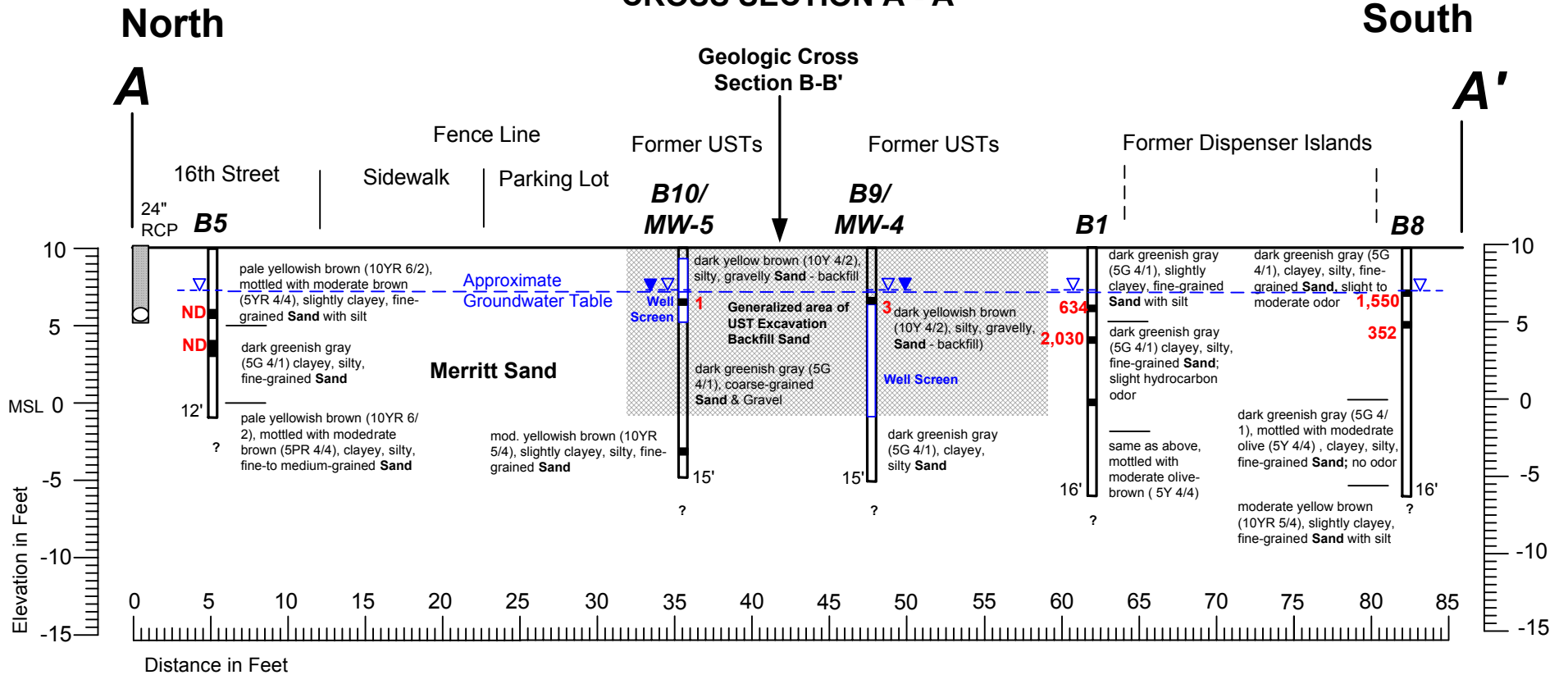
**GOLDEN GATE TANK REMOVAL, INC.**

3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**GEOLOGIC MAP**

1532 Peralta Street, Oakland, California

# CROSS SECTION A - A'

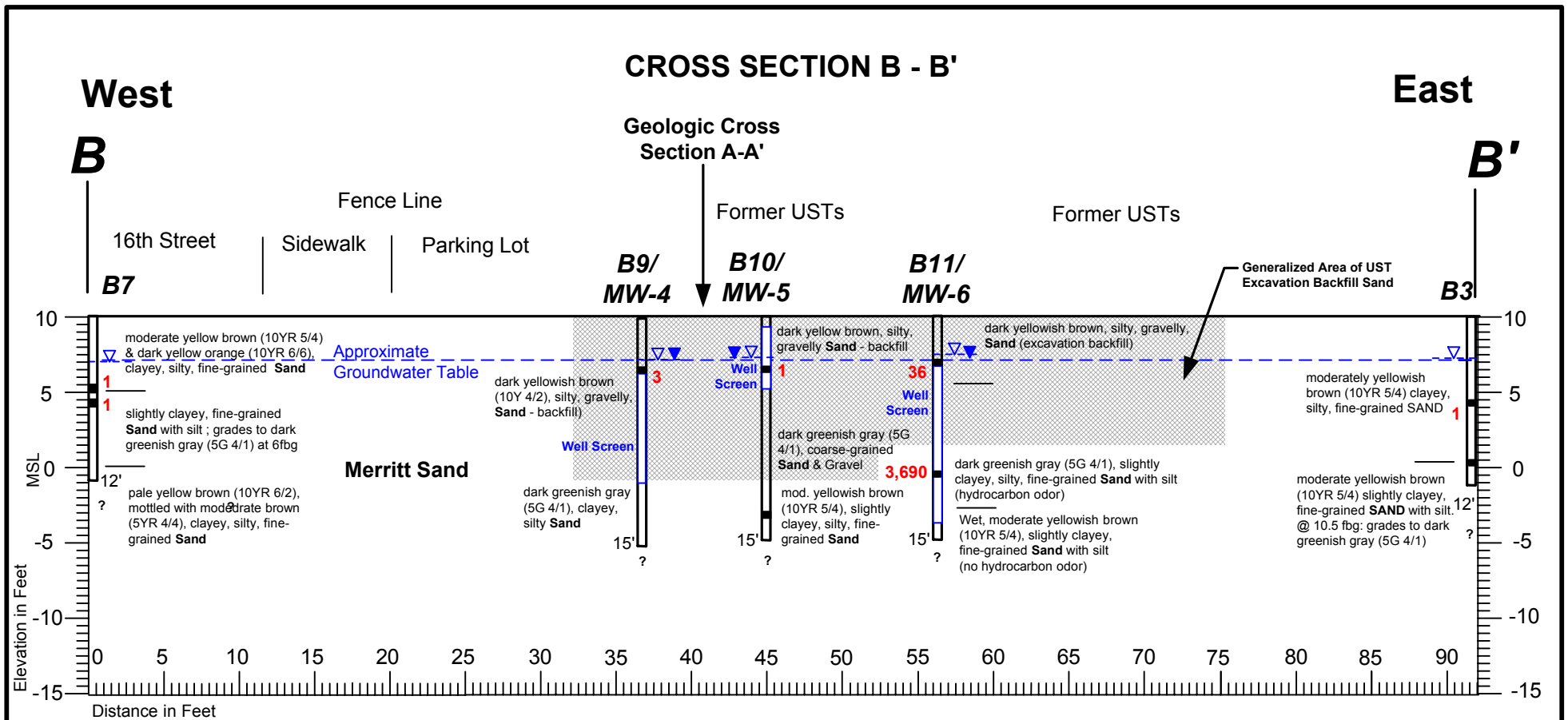


**2,030 - Concentration in ppm of TPH gasoline in soil sample as reported by analytical laboratory**

Horizontal Scale: 1 inch = 10 feet  
 Vertical Scale: 1 inch = 10 feet  
 Vertical exaggeration = x 1

*Notes: Location of Cross Section A-A' referenced in Figure 2; MSL = Mean Sea Level; fbg = feet below grade; Trench backfill and utility invert depths are approximate and based on information provided by city utility maps and site reconnaissance; Utility invert is estimated and should be verified: sketch drawing not for construction purposes - approximation only.*

|  |                                   |   |                  |
|--|-----------------------------------|---|------------------|
| <b>GOLDEN GATE TANK REMOVAL, INC.</b><br>3730 Mission Street, San Francisco, California 94110<br>Phone (415) 512-1555 Fax (415) 512-1555 |                                   | <b>CROSS SECTION A-A'</b><br>1532 Peralta Street, Oakland, California |                  |
| GGTR Project No. 8757  | File: 8757_Fig 14_X Sect A-A'.vsd | Figure By: my/01.07   | <b>FIGURE 14</b> |



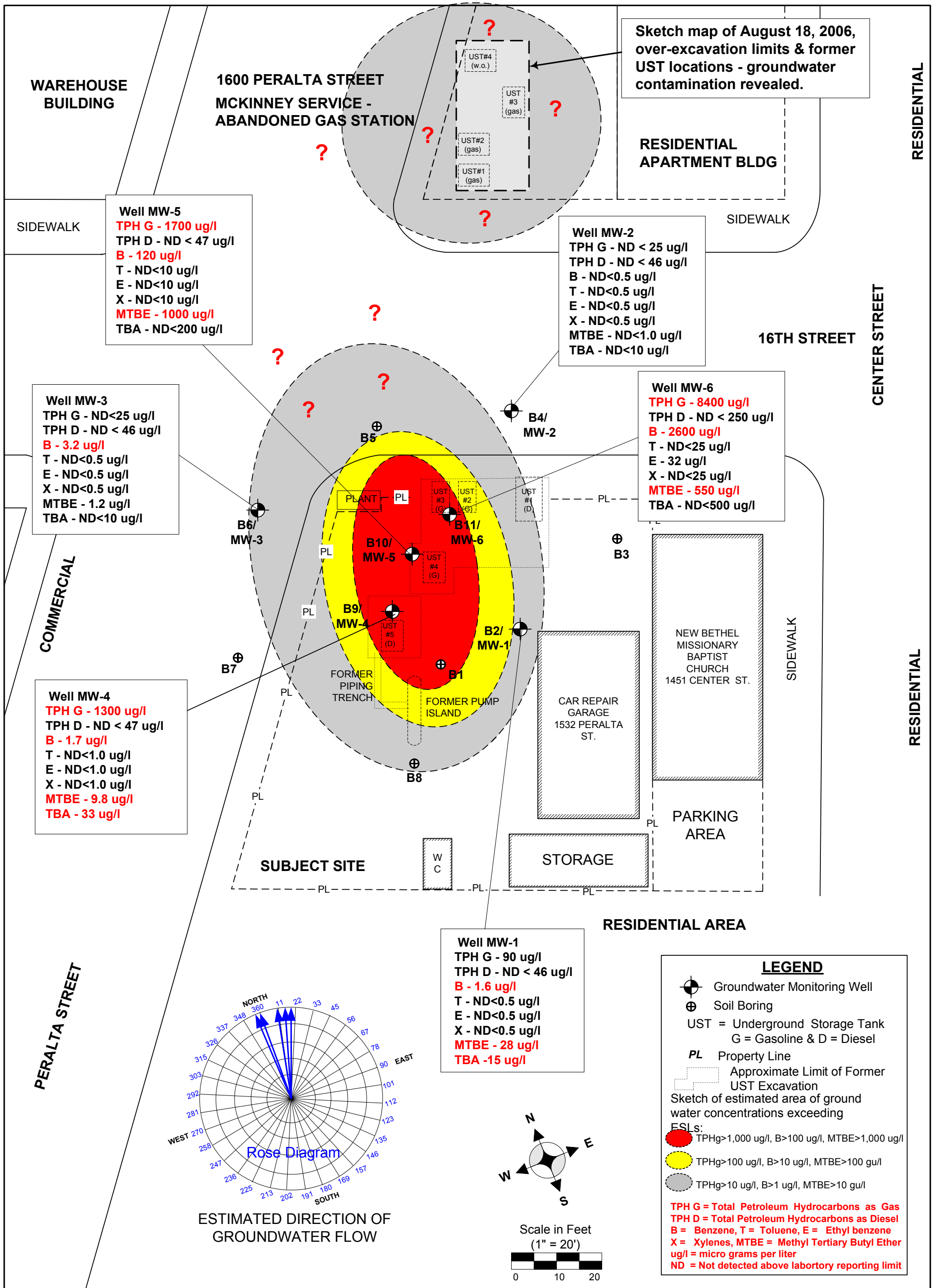
Horizontal Scale: 1 inch = 10 feet  
 Vertical Scale: 1 inch = 10 feet  
 Vertical exaggeration = x 1

**2,030 - Concentration in ppm of TPH gasoline in soil sample as reported by analytical laboratory**

Notes: Location of Cross Section A-A' referenced in Figure 2; MSL = Mean Sea Level; fbg = feet below grade; Trench backfill and utility invert depths are approximate and based on information provided by city utility maps and site reconnaissance; Utility invert is estimated and should be verified: sketch drawing not for construction purposes - approximate locations only.

|   |  |                     |                  |
|---|--|---------------------|------------------|
| <p><b>GOLDEN GATE TANK REMOVAL, INC.</b><br/>         3730 Mission Street, San Francisco, California 94110<br/>         Phone (415) 512-1555 Fax (415) 512-1555</p> | <p><b>CROSS SECTION B-B'</b><br/>         1532 Peralta Street, Oakland, California</p> |                     |                  |
| GGTR Project No. 8757   | File: 8757_Fig 15_X Sect B-B'.vsd  | Figure By: my/01.07 | <b>FIGURE 15</b> |

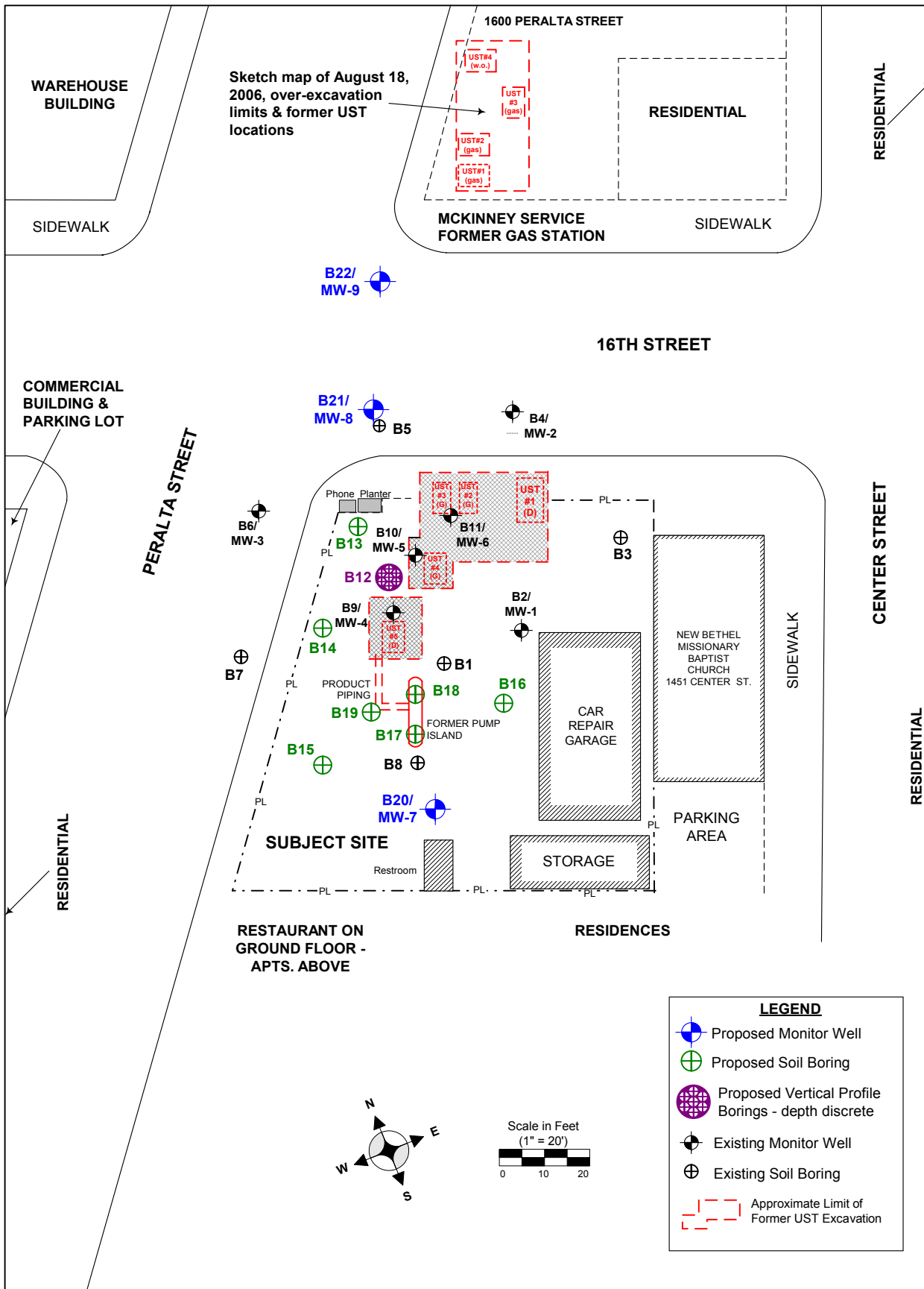




**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**ESTIMATED EXTENT OF PETROLEUM IMPACTED GROUNDWATER**  
**December 21, 2006 Monitoring Data**  
 1532 Peralta Street, Oakland, California



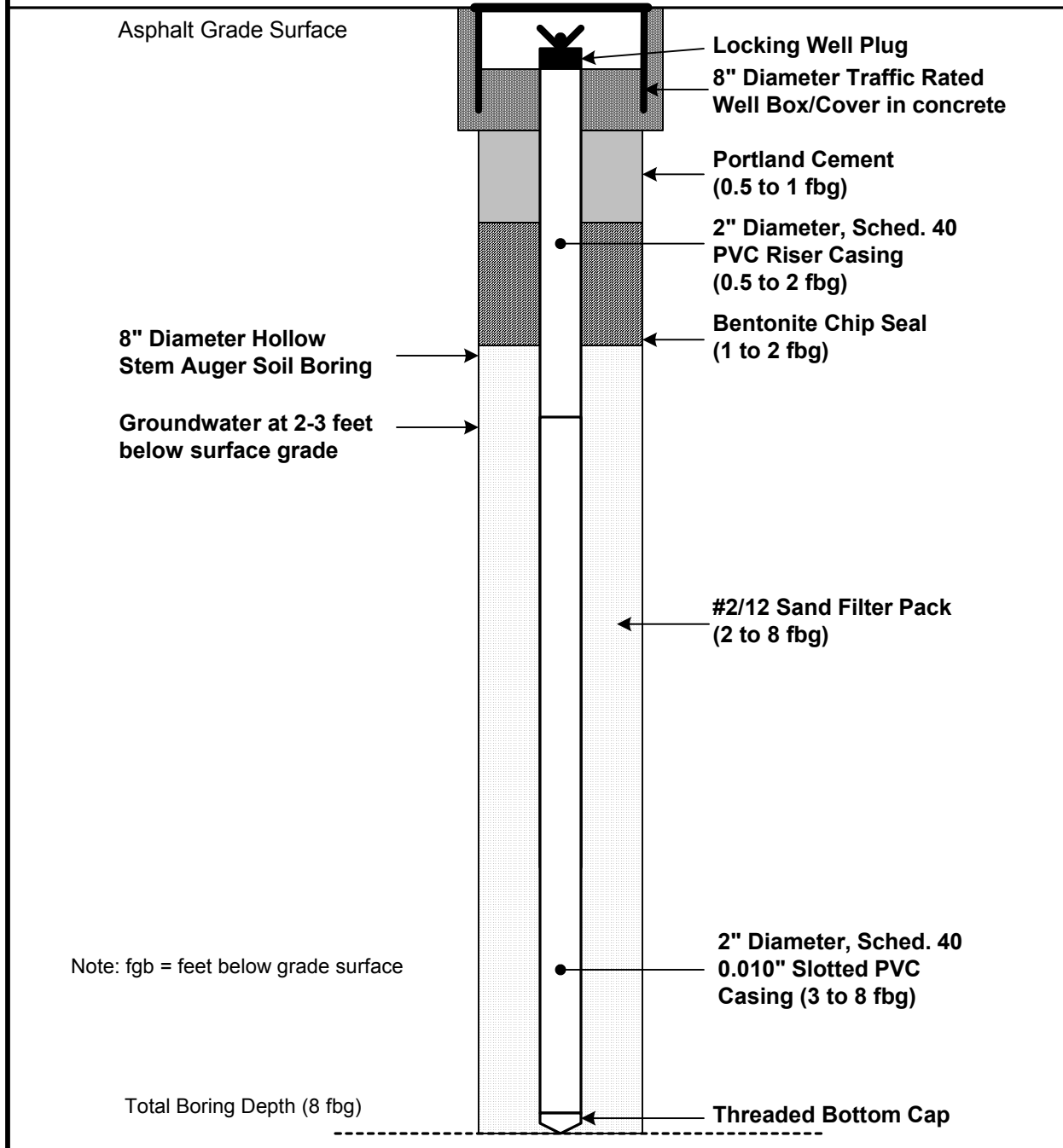


**GOLDEN GATE TANK REMOVAL, INC.**  
 3730 Mission Street, San Francisco, CA 94110  
 Ph (415) 512-1555 Fx (415) 512-0964

**PROPOSED INVESTIGATION ACTIVITIES**  
 1532 Peralta Street, Oakland, California

GGTR Project No. 8757      fn: 8757\_Fig 17\_Proposed Work.vsd      Figure By: SM / MY      **Figure 17**

## Groundwater Monitor Well Construction Specifications



Note: fgb = feet below grade surface

Total Boring Depth (8 fgb)

**GOLDEN GATE TANK REMOVAL, INC.**  
3730 Mission Street, San Francisco, CA 94110  
Ph (415) 512-1555 Fx (415) 512-0964

**WELL CONSTRUCTION DIAGRAM**  
1532 Peralta Street, Oakland, California

GGTR Project #8757

Rev: my/01.07

Not To Scale

Figure 18



## **APPENDIX B**

### **CHARTS & TABLES**

**Chart 1 – TPH Gasoline in Groundwater**

**Chart 2 – Benzene in Groundwater**

**Chart 3 – MTBE in Groundwater**

**Table 1 – Summary of Soil Sample Analytical Data**

**Table 2 – Summary of Grab Groundwater Sampling Analytical Data**

**Table 3 – Summary of Groundwater Monitoring Well Analytical Results**

**Table 4 – Groundwater Monitoring Well Measurements**

## **SOIL & WATER DELINEATION WORK PLAN**

**Fuel Leak Case RO0000117**

**1532 Peralta Street, Oakland, California 94607**

Prepared By:

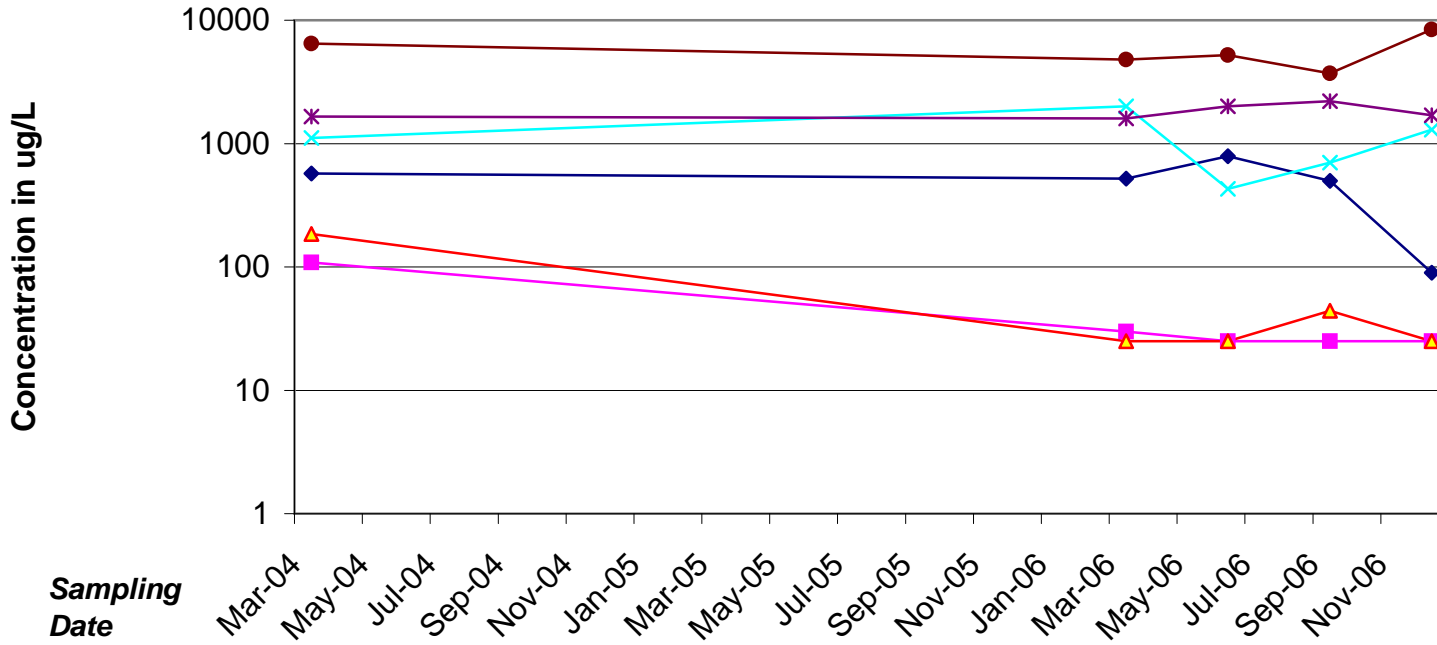
**Golden Gate Tank Removal, Inc**

3730 Mission Street, San Francisco, CA 94110

GGTR Project No. 8757

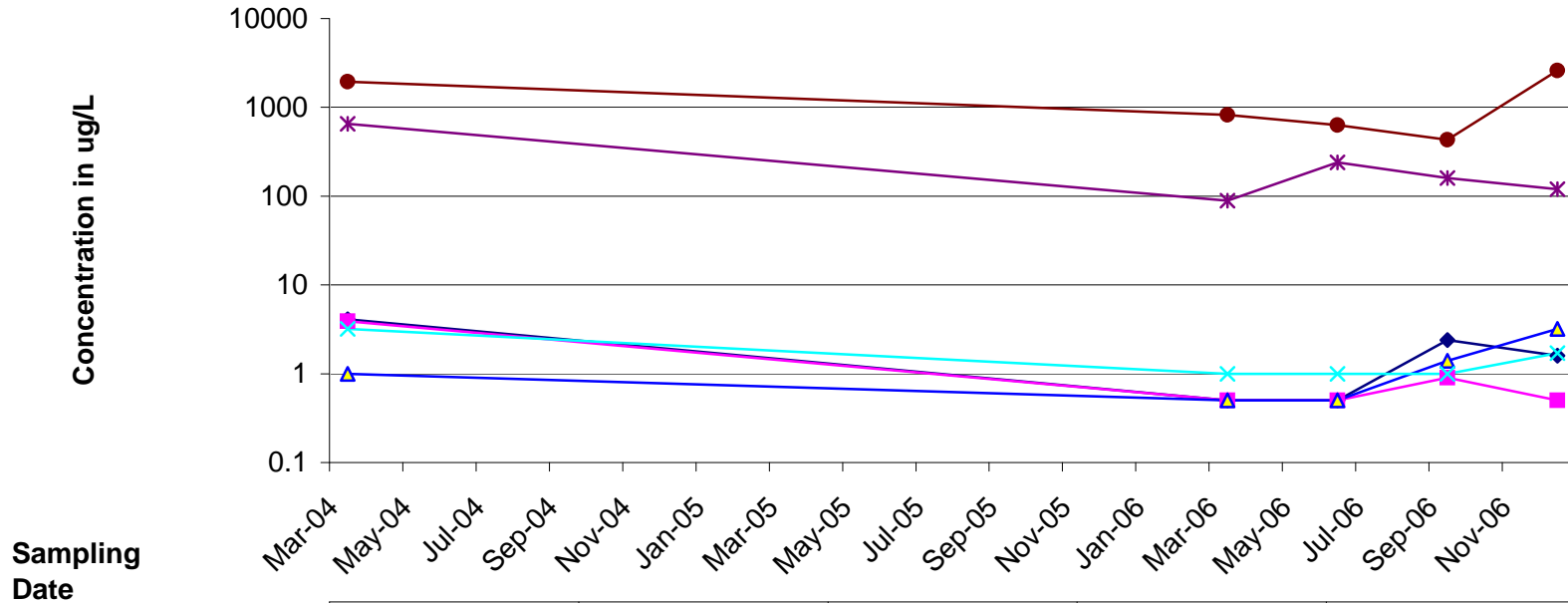
## TPH Gasoline in Groundwater

Historical Groundwater Monitoring of Wells MW1-MW6



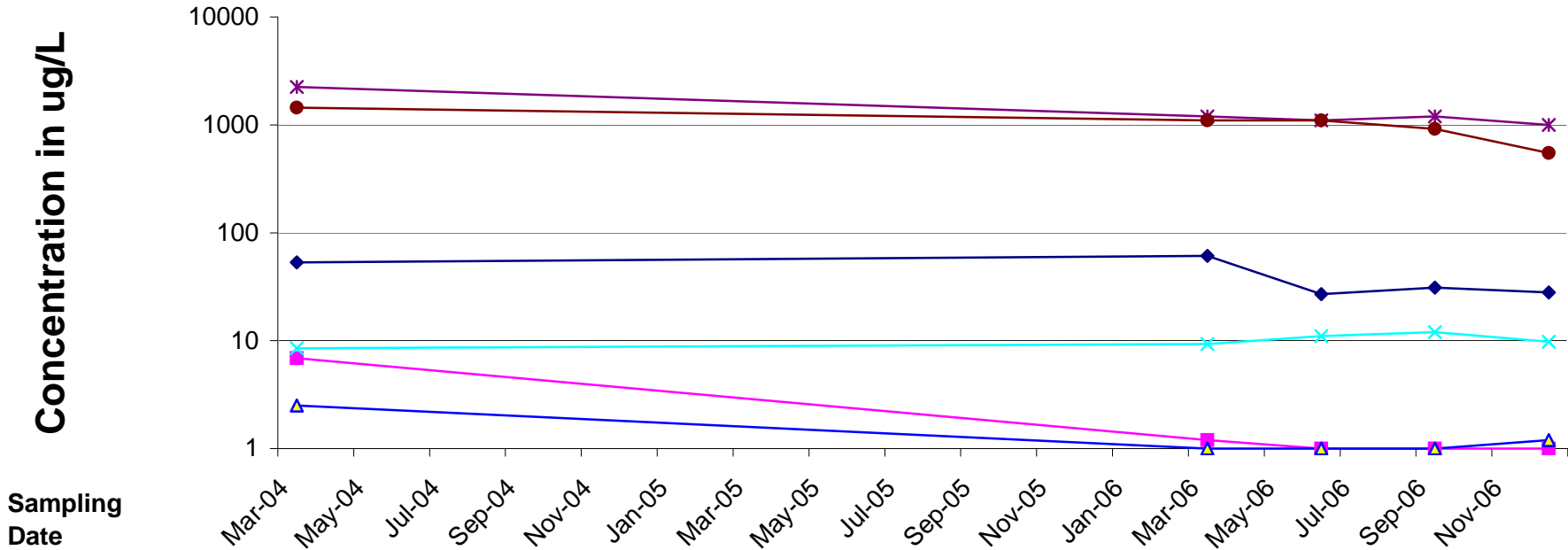
|       | 3/5/2004 | 3/27/2006 | 6/22/2006 | 9/25/2006 | 12/21/2006 |
|-------|----------|-----------|-----------|-----------|------------|
| ◆ MW1 | 571      | 520       | 790       | 500       | 90         |
| ■ MW2 | 109      | 30        | 25        | 25        | 25         |
| ▲ MW3 | 185      | 25        | 25        | 44        | 25         |
| × MW4 | 1110     | 2000      | 430       | 700       | 1300       |
| * MW5 | 1660     | 1600      | 2000      | 2200      | 1700       |
| ● MW6 | 6450     | 4800      | 5200      | 3700      | 8400       |

## Benzene in Groundwater



|       | 3/5/2004 | 3/27/2006 | 6/22/2006 | 9/25/2006 | 12/21/2006 |
|-------|----------|-----------|-----------|-----------|------------|
| ◆ MW1 | 4.1      | 0.5       | 0.5       | 2.4       | 1.6        |
| ■ MW2 | 3.9      | 0.5       | 0.5       | 0.9       | 0.5        |
| ▲ MW3 | 1        | 0.5       | 0.5       | 1.4       | 3.2        |
| ✕ MW4 | 3.2      | 1         | 1         | 1         | 1.7        |
| * MW5 | 650      | 89        | 240       | 160       | 120        |
| ● MW6 | 1950     | 820       | 630       | 430       | 2600       |

### MTBE in Groundwater



|       | 3/5/2004 | 3/27/2006 | 6/22/2006 | 9/25/2006 | 12/21/2006 |
|-------|----------|-----------|-----------|-----------|------------|
| ◆ MW1 | 53.2     | 61        | 27        | 31        | 28         |
| ■ MW2 | 6.9      | 1.2       | 1         | 1         | 1          |
| ▲ MW3 | 2.5      | 1         | 1         | 1         | 1.2        |
| × MW4 | 8.5      | 9.3       | 11        | 12        | 9.8        |
| * MW5 | 2250     | 1200      | 1100      | 1200      | 1000       |
| ● MW6 | 1440     | 1100      | 1100      | 920       | 550        |

**TABLE 1**  
**Summary of Soil Sample Analytical Data**  
*1532 Peralta Street, Oakland, CA*

| Sample ID  | Sample Date | TPH-G<br>(mg/Kg) | TPH-D<br>(mg/Kg) | B<br>(mg/Kg) | T<br>(mg/Kg) | E<br>(mg/Kg) | X<br>(mg/Kg) | MTBE<br>mg/Kg | Lead<br>(mg/Kg) |
|--|-------------|------------------|------------------|--------------|--------------|--------------|--------------|---------------|-----------------|
| <b>Tank Removal Analytical Data</b>  |             |                  |                  |              |              |              |              |               |                 |
| 7756-T3-N  | 12/08/99    | 2,600.00         | 1,400.00         | 9.10         | 62.00        | 21.00        | 86.00        | ND<0.13       | <1.0            |
| 7756-SP1   | 12/08/99    | 2,800.00         | 7,800.00         | 1.50         | 1.50         | 19.00        | 53.00        | ND<0.13       | 81.00           |
| 7756-SP2   | 12/08/99    | 1,700.00         | 1,800.00         | 6.50         | 40.00        | 43.00        | 150.00       | ND<0.13       | 18.00           |
| 7756-SP4   | 12/08/99    | 470.00           | 3,700.00         | 0.25         | 1.90         | 2.50         | 3.00         | ND<0.01       | 15.00           |
| 7756-SP5   | 12/08/99    | 110.00           | 320.00           | 0.08         | 0.15         | 0.84         | 0.74         | ND<0.01       | <1.0            |
| 7756-SP1A  | 12/08/99    | 150.00           | 370.00           | 0.12         | 0.93         | 1.20         | 3.20         | ND<0.01       | <1.0            |
| 7756-T2-C  | 12/08/99    | 13.00            | 23.00            | 0.75         | <0.02        | 0.03         | 0.05         | ND<0.02       | <1.0            |
| 7756-T1-C  | 12/08/99    | 58.00            | 93.00            | 0.71         | 2.30         | 0.55         | 2.80         | ND<0.13       | 20.00           |
| 7756-T1-SW   | 12/08/99    | 540.00           | 1,000.00         | 0.72         | 1.30         | 7.10         | 35.00        | ND<0.13       | <1.0            |
| 7756-T3-C  | 12/08/99    | 380.00           | 230.00           | 3.30         | 4.10         | 3.80         | 14.00        | ND<0.13       | <1.0            |
| 7756-T4-N  | 12/08/99    | 290.00           | 2,700.00         | 1.20         | 0.75         | 0.68         | 2.60         | ND<0.13       | <1.0            |
| 7756-T4-S  | 12/08/99    | 63.00            | 410.00           | 0.03         | 0.05         | 0.14         | 0.75         | <0.005        | <1.0            |
| 7756-T5-N  | 12/08/99    | 1,400.00         | 8,100.00         | 1.10         | 5.50         | 2.40         | 18.00        | ND<0.13       | <1.0            |
| 7756-T5-S  | 12/08/99    | 940.00           | 570.00           | 0.38         | 2.40         | 1.80         | 1.30         | ND<0.13       | <1.0            |
| <b>Confirmation Soil Sampling Analytical Data (Samples Collected After Soil Over-excavation)</b> |             |                  |                  |              |              |              |              |               |                 |
| 78561XC1   | 02/17/00    | 720.00           | 950.00           | 2.50         | 3.00         | 9.40         | 28.00        | ND<0.13       | NA              |
| 78561XC2   | 02/17/00    | 31.00            | 94.00            | 0.20         | 0.56         | 0.10         | 0.42         | <0.005        | NA              |
| 78561XWW1  | 02/17/00    | 690.00           | 320.00           | 1.30         | 4.10         | 9.20         | 150.00       | ND<0.13       | NA              |
| 78561XNE1  | 02/17/00    | 1,400.00         | 3,100.00         | 15.00        | 94.00        | 37.00        | 150.00       | ND<0.13       | NA              |
| 78561XEW1  | 02/17/00    | 2.00             | <1.0             | <0.005       | 0.01         | <0.5         | 0.02         | <0.005        | NA              |
| 78561XSW1  | 02/17/00    | 0.70             | <1.0             | <0.005       | <0.005       | <0.005       | <0.01        | <0.005        | NA              |
| 78561XSW2  | 02/17/00    | 2,200.00         | 1,500.00         | 4.70         | 5.00         | 19.00        | 19.00        | ND<0.13       | NA              |
| 78561XWW2  | 02/17/00    | 590.00           | 350.00           | 0.41         | 2.30         | 1.20         | 5.00         | ND<0.13       | NA              |
| 78562XC  | 02/17/00    | 3.00             | <1.0             | <0.005       | 0.01         | <0.005       | 0.03         | <0.005        | NA              |
| 78562XSW   | 02/17/00    | 550.00           | 420.00           | 1.50         | 8.30         | 2.80         | 11.00        | ND<0.13       | NA              |
| 78562XWW   | 02/17/00    | 1,200.00         | 380.00           | 0.95         | 8.80         | 6.80         | 14.00        | ND<0.13       | NA              |
| 78562XNE   | 02/17/00    | <0.5             | <1.0             | <0.005       | <0.005       | <0.005       | <0.01        | <0.005        | NA              |
| <b>Soil Boring Analytical Data</b>   |             |                  |                  |              |              |              |              |               |                 |
| B1-4   | 02/23/04    | 634.00           | 2,290.00         | 0.72         | 32.70        | 11.50        | 48.00        | ND<0.25       | NA              |
| B1-6   | 02/23/04    | 2,030.00         | 5,630.00         | 0.69         | 17.40        | 6.49         | 20.73        | ND<0.50       | NA              |
| B2-4   | 02/23/04    | 24.50            | 33*              | ND<0.005     | 0.12         | 0.02         | 0.16         | ND<0.005      | NA              |
| B3-6   | 02/23/04    | 0.98             | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B4-4   | 02/23/04    | ND<0.5           | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | 0.02         | ND<0.005      | NA              |
| B5-4   | 02/23/04    | ND<0.5           | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B5-6   | 02/23/04    | ND<0.5           | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B6-4   | 02/23/04    | 1.33             | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B6-6   | 02/23/04    | 0.80             | ND<1             | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B7-4.5   | 02/23/04    | 1.12             | 57.00            | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B7-6   | 02/23/04    | 1.28             | 33.00            | ND<0.005     | ND<0.005     | ND<0.005     | ND<0.01      | ND<0.005      | NA              |
| B8-3.5   | 02/24/04    | 1,550.00         | 1,270.00         | 0.40         | 2.49         | 12.60        | 11.40        | ND<0.25       | NA              |
| B8-6   | 02/24/04    | 352.00           | 592.00           | ND<0.25      | 1.10         | 0.42         | 1.64         | ND<0.25       | NA              |
| B9-3.5   | 02/24/04    | 3.30             | 80*              | ND<0.005     | 0.02         | 0.01         | 0.03         | ND<0.005      | NA              |
| B10-3.5  | 02/24/04    | 1.18             | 197*             | 0.01         | ND<0.005     | ND<0.005     | 0.02         | 0.402**       | NA              |
| B11-3.5  | 02/24/04    | 35.80            | 132*             | 0.56         | 0.16         | 0.52         | 0.55         | 0.19          | NA              |
| B11-10.5   | 02/24/04    | 3,690.00         | 2320*            | 27.30        | 7.94         | 15.20        | 97.80        | ND<0.5**      | NA              |
| CRWQCB February 2005 Tier 1 ESL  |             | 100              | 100              | 0.044        | 2.9          | 3.3          | 2.3          | 0.023         | 150             |

Table Notes on Following Page

**TABLE 1 (Cont'd)**  
**Summary of Soil Analytical Data**  
*1532 Peralta Street, Oakland, CA*

**NOTES:** TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 8020F)  
TPH-D = total petroleum hydrocarbons as diesel (CATFH Method)  
B, T, E, X = benzene, toluene, ethylbenzene, and total xylenes (EPA Methods 8015M/8021B)  
MTBE = methyl tertiary-butyl ether (EPA Methods 8015M/8021B)  
mg/Kg = Milligram per Kilogram  
ND = concentration less than the laboratory reporting limit;  
CRWQCB ESL = February 2005 Interim Final CRWQCB Tier 1 Environmental Screening Levels for shallow soils of depth less or equal to 10 meters below ground surface and where groundwater is a current or potential source of drinking water  
\*Does not match diesel pattern  
\*\* = analyzed by EPA Method 8260B



**TABLE 2**  
**Summary of Grab Groundwater Sampling Analytical Data**  
*1532 Peralta Street, Oakland, CA*

| Well ID   | Sample Date | TPH-G (ug/l) | TPH-D (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | Total Lead (mg/l) |
|---|-------------|--------------|--------------|----------|----------|----------|----------|-------------|-------------------|
| <b>Grab Groundwater Samples (Collected After Soil Excavation)</b> |             |              |              |          |          |          |          |             |                   |
| <b>7856XW1</b>  | 2/18/00     | 1,900.00     | 570.00       | 81.00    | 23.00    | 5.00     | 94.00    | 22.00       | NA                |
| <b>7856XW2</b>  | 2/18/00     | 2,900.00     | 2,500.00     | 13.00    | 13.00    | 7.00     | 52.00    | 1.00        | NA                |
| <b>Grab Groundwater Samples From Borings</b>                      |             |              |              |          |          |          |          |             |                   |
| <b>B1-W</b>   | 2/24/04     | 118,000.00   | 72,300.00    | 714.00   | 608.00   | 340.00   | 593.00   | ND<25       | 2.39              |
| <b>B3-W</b>   | 2/24/04     | 291.00       | 1960*        | ND<0.5   | 0.70     | 1.00     | 5.30     | 10.60       | 0.28              |
| <b>B5-W</b>   | 2/24/04     | 11,600.00    | 840*         | 5,460.00 | 58.50    | 41.80    | 63.00    | 787 **      | 2.26              |
| <b>B7-W</b>   | 2/24/04     | 1,210.00     | 7,560.00     | 105.00   | 1.40     | 0.60     | 3.80     | 4.20        | 0.31              |
| <b>B8-W</b>   | 2/24/04     | 3,370.00     | 21,200.00    | 1,190.00 | 16.90    | 24.90    | 14.60    | 6.30        | 3.09              |
| <b>CRWQCB February</b>  |             | 100          | 100          | 1        | 40       | 30       | 20       | 5           | 2.5               |

**NOTES:** TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 8020F)  
 TPH-D = total petroleum hydrocarbons as diesel (EPA Methods 3510/8015M)  
 B, T, E, X = benzene, toluene, ethylbenzene, and total xylenes (EPA Methods 8015M/8021B)  
 MTBE = methyl tertiary-butyl ether (EPA Methods 8015M/8021B)  
 mg/l = milligrams per Liter or parts per million (ppm); ug/l = micrograms per Liter or parts per billion (ppb)  
 ND = concentration less than the laboratory reporting limit  
 \*Does not match diesel pattern  
 \*\* = analyzed by EPA Method 8260B  
 CRWQCB ESL = February 2005 Interim Final CRWQCB Tier 1 Environmental Screening Levels (ESLs) where groundwater is a current or potential source of drinking water  
 No analysis of other fuel oxygenates besides MTBE was performed

**TABLE 3**  
**SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS**  
*1532 Peralta Street, Oakland, CA*

| Well ID                  | Sample Date | TPH-G (ug/l) | TPH-D (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | Other Fuel Oxygenates (ug/l) | Total Lead (mg/l) | Notes from Laboratory Report                   |
|--------------------------|-------------|--------------|--------------|----------|----------|----------|----------|-------------|------------------------------|-------------------|--|
| <b>MW-1</b>              | 3/5/2004    | 571          | 220          | 4.1      | 1.6      | 0.6      | 5.8      | 53.2        | NA                           | ND<0.05           | 67 ppb C9-C16 Hydrocarbons                     |
|                          | 3/27/2006   | 520*         | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | 61*         | 11(TBA)                      | NA                |  |
|                          | 6/22/2006   | 790          | NA           | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | 27          | 11(TBA)                      | NA                |  |
|                          | 9/25/2006   | 500**        | ND<50        | 2.4      | ND<0.5   | ND<0.5   | ND<0.5   | 31*         | 17(TBA)                      | NA                |  |
|                          | 12/21/2006  | 90**         | ND<46        | 1.6      | ND<0.5   | ND<0.5   | ND<0.5   | 28*         | 15(TBA)                      | NA                |  |
| <b>MW-2</b>              | 3/5/2004    | 109          | ND<50        | 3.9      | ND<0.5   | ND<0.5   | ND<1.0   | 6.9         | NA                           | ND<0.05           |  |
|                          | 3/27/2006   | 30*          | ND<62        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | 1.2*        | ND                           | NA                |  |
|                          | 6/22/2006   | ND<25*       | NA           | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND                           | NA                |  |
|                          | 9/25/2006   | ND<25**      | ND<50        | 0.9      | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND≤10 (TBA)                  | NA                |  |
|                          | 12/21/2006  | ND<25**      | ND<46        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND≤10 (TBA)                  | NA                |  |
| <b>MW-3</b>              | 3/5/2004    | 185          | 200          | 1        | 1        | ND<0.5   | 1.3      | 2.5         | NA                           | NA                |  |
|                          | 3/27/2006   | ND<25*       | ND<72        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND                           | NA                |  |
|                          | 6/22/2006   | ND<25*       | NA           | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND                           | NA                |  |
|                          | 9/25/2006   | 44**         | ND<50        | 1.4      | ND<0.5   | ND<0.5   | ND<0.5   | ND<1.0*     | ND≤10 (TBA)                  | NA                |  |
|                          | 12/21/2006  | ND>25**      | ND<46        | 3.2      | ND<0.5   | ND<0.5   | ND<0.5   | 1.2*        | ND≤10 (TBA)                  | NA                |  |
| <b>MW-4</b>              | 3/5/2004    | 1110         | 370          | 3.2      | 3.9      | 1        | 3.3      | 8.5         | NA                           | ND<0.05           | 560 ppb C9-C24 Hydrocarbons                    |
|                          | 3/27/2006   | 2000*        | ND<50        | ND<1.0   | 1        | ND<1.0   | 1.1      | 9.3*        | 33(TBA)                      | NA                |  |
|                          | 6/22/2006   | 430*         | NA           | ND<1.0   | 1        | ND<0.5   | 1.3      | 11*         | 28(TBA)                      | NA                |  |
|                          | 9/25/2006   | 700**        | ND<50        | ND<1.0   | ND<0.5   | ND<0.5   | ND<0.5   | 12*         | 34(TBA)                      | NA                |  |
|                          | 12/21/2006  | 1300**       | ND<47        | 1.7      | ND<1.0   | ND<1.0   | ND<1.0   | 9.8*        | 33(TBA)                      | NA                |  |
| <b>MW-5</b>              | 3/5/2004    | 1660         | NA           | 650      | 7.6      | 1.6      | 7.1      | 2250*       | NA                           | ND<0.05           | TDS = 570 mg/L<br>420 ppb C9-C32               |
|                          | 3/27/2006   | 1600*        | ND<50        | 89       | 5.6      | ND<5.0   | 8.7      | 1200*       | 170(TBA)                     | NA                |  |
|                          | 6/22/2006   | 2000         | NA           | 240      | 11       | ND<10    | ND<10    | 1100        | ND<200 (TBA)                 | NA                |  |
|                          | 9/25/2006   | 2200**       | ND<50        | 160      | ND<10    | ND<10    | ND<10    | 1200        | ND<200 (TBA)                 | NA                |  |
|                          | 12/21/2006  | 1700**       | ND<47        | 120      | ND<10    | ND<10    | ND<10    | 1000        | ND<200 (TBA)                 | NA                |  |
| <b>MW-6</b>              | 3/5/2004    | 6450         | 800          | 1,950    | 29.6     | 52.7     | 54.6     | 1440        | NA                           | ND<0.05           | TDS = 520 mg/L<br>2900 ppb C9-C16 Hydrocarbons |
|                          | 3/27/2006   | 4800*        | ND<50        | 820      | 14       | 12       | 22       | 1100*       | 180(TBA)                     | NA                |  |
|                          | 6/22/2006   | 5200         | NA           | 630      | 12       | 14       | 13       | 1100*       | ND<200 (TBA)                 | NA                |  |
|                          | 9/25/2006   | 3700**       | ND<50        | 430      | ND<10    | ND<10    | ND<10    | 920*        | ND<200 (TBA)                 | NA                |  |
|                          | 12/21/2006  | 8400**       | ND<250       | 2600     | ND<25    | 32       | ND<25    | 550*        | ND≤500 (TBA)                 | NA                |  |
| <b>CRWQCB Tier 1 ESL</b> |             | 100          | 100          | 1        | 40       | 30       | 20       | 5           | 12(TBA)                      | 2.5               | NC   |

**NOTES:** TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 8015M/8021B)  
 TPH-D = total petroleum hydrocarbons as diesel (EPA Methods 3510C/8015M)  
 B, T, E, X = benzene, toluene, ethylbenzene, and total xylenes (EPA Methods 8015M/8021B)  
 MTBE = methyl tertiary-butyl ether (EPA Methods 8015M/8021B)  
 Total Dissolved Solids June 22, 2006: MW-5 = 570 & MW-6 = 520 mg/L  
 Other Fuel oxygenates by EPA method 8260B; including tert-amyl methyl-ether (TAME), di-isopropyl ether (DIPE), tert-butanol (TBA), and ethanol  
 mg/l = milligrams per Liter or parts per million (ppm); ug/l = micrograms per Liter or parts per billion (ppb)  
 ND = concentration less than the laboratory reporting limit

NA = Sample not analyzed for this chemical constituent or not applicable; NC = No criteria established

\* = analyzed by EPA Method 8260B |

\*\* = analyzed as TPH-Purgeable: GC/MS

CRWQCB ESL = February 2005 Interim Final CRWQCB Tier 1 Environmental Screening Levels where groundwater is a current or potential source of drinking water

Other Fuel oxygenates not tabulated above were either not detected or not included in the analysis |

**TABLE 4**  
**SUMMARY OF GROUNDWATER MONITORING WELL MEASUREMENTS**  
*1532 Peralta Street, Oakland, CA*

| Parameter Measured                     | Date       | Monitoring Well Number |      |      |      |      |             |
|--|------------|------------------------|------|------|------|------|-------------|
|  |            | MW-1                   | MW-2 | MW-3 | MW-4 | MW-5 | MW-6        |
| Elevation of TOC from MSL (feet)       | 4/13/2006  | 9.87                   | 8.66 | 8.29 | 9.74 | 9.4  | 9.02        |
| DTW (Feet Below TOC)                   | 3/5/2004   | 3.18                   | 2.73 | 2.1  | 2.85 | 2.83 | 2.5         |
|  | 3/24/2006  | 2.72                   | 2.11 | 1.74 | 2.64 | 2.41 | 2.08        |
|  | 6/22/2006  | 3.53                   | 2.73 | 2.38 | 3.43 | 3.17 | 2.85        |
|  | 9/25/2006  | 4.54                   | 3.6  | 3.12 | 4.38 | 4.14 | 3.79        |
|  | 12/21/2006 | 4.05                   | 3.16 | 2.71 | 4.09 | 3.79 | 3.41        |
| Groundwater Elevation (Feet Above MSL) | 3/5/2004   | 6.69                   | 5.93 | 6.19 | 6.89 | 6.57 | 6.52        |
|  | 3/24/2006  | 7.15                   | 6.55 | 6.55 | 7.1  | 6.99 | 6.94        |
|  | 6/22/2006  | 6.34                   | 5.93 | 5.91 | 6.31 | 6.23 | 6.17        |
|  | 9/25/2006  | 5.33                   | 5.06 | 5.17 | 5.36 | 5.26 | 5.23        |
|  | 12/21/2006 | 5.82                   | 5.5  | 5.58 | 5.65 | 5.61 | 5.61        |
| Product Thickness (Inches)             | NA         | NA                     | NA   | NA   | NA   | NA   | NA          |
|  | 3/24/2006  | 0.00                   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00        |
|  | 6/22/2006  | 0.00                   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00        |
|  | 9/25/2006  | 0.00                   | 0.00 | 0.00 | 0.00 | 0.00 | <b>0.10</b> |
|  | 12/21/2006 | 0.00                   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00        |

|                      |            |            |            |            |            |            |
|----------------------|------------|------------|------------|------------|------------|------------|
| TOC Northing (feet): | 2123268.15 | 2123315.93 | 2123315.62 | 2123289.04 | 2123298.15 | 2123300.74 |
| TOC Easting (feet):  | 6043826.01 | 6043842.34 | 6043780.64 | 6043794.52 | 6043808.28 | 6043820.86 |

| DATE      | FLOW DIRECTION        | GRADIENT     | AVG.ELEV. | AVG. DTW |
|-----------|-----------------------|--------------|-----------|----------|
| 5-Mar-04  | 15.95 (North 16 East) | 0.0151 ft/ft | 6.27      | 2.67     |
| 24-Mar-06 | 359.7 (North 00 East) | 0.0126 ft/ft | 6.75      | 2.19     |
| 22-Jun-06 | 357.6 (North 02 West) | 0.0087 ft/ft | 6.06      | 2.88     |
| 25-Sep-06 | 19.19 (North 19 East) | 0.0053 ft/ft | 5.19      | 3.75     |
| 21-Dec-06 | 11.42 (North 11 East) | 0.0064 ft/ft | 5.63      | 3.30     |

**NOTES:**

DTW = depth to water from TOC

NA = not applicable at time of measurement

MSL = Mean Sea Level

TOC = Top of well casing elevation and State coordinates from well survey dated April 20, 2006, by Virgil D. Chavez, PLS 6323



**APPENDIX C  
ADDITIONAL DOCUMENTATION**

**ACEH Regulatory Correspondence dated November 29, 2006  
Assessor's Parcel Map  
Oakland Fire Prevention Bureau Documents  
DWR Agency Release Agreement  
Alameda County Well Completion Report Release Agreement**

**SOIL & WATER DELINEATION WORK PLAN**

**Fuel Leak Case RO0000117  
1532 Peralta Street, Oakland, California 94607**

Prepared By:

**Golden Gate Tank Removal, Inc**  
3730 Mission Street, San Francisco, CA 94110

GGTR Project No. 8757

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

November 29, 2006

Mr. James Tracy  
878 W. Hayden Ct.  
Alpine, UT 84004

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

Dear Mr. Tracy:

Subject: Fuel Leak Case RO0000117, 1532 Peralta Street, Oakland, CA 94607

Alameda County Environmental Health (ACEH) staff has received and reviewed the September 14, 2006 Site Characterization and Groundwater Monitoring Report for the subject site prepared by Golden Gate Tank Removal. As noted, significant delay has occurred at your site as a result in the change of ownership of the property. We now expect that future requests will be responded to in a much more timely fashion. The referenced report is a cumulative report of all past activities, some of which are first time submittals to the County. Although we appreciate that the investigation continued during the ownership change process, reports should have been submitted on a much more frequent basis, typically quarterly, to allow County review and comment.

Upon review of the referenced report our office has the following technical comments and requests you submit the technical reports requested below.

#### TECHNICAL COMMENTS

1. Residual Soil and Groundwater Contamination- We concur with the observations in the referenced report ie residual soil and groundwater concentrations exceeding Tier 1 ESLs remain at the site and are undefined laterally and vertically. Your consultant recommends submitting a work plan to perform an expedited subsurface investigation consisting of 2 to 3 CPT borings, determining the lateral and vertical extent of contamination with direct-push borings and the installation of additional monitoring wells. We agree that a work plan should be submitted to accomplish this work, however, we believe that the vertical extent of contamination can be determined using conventional direct-push (Geoprobe) technology. Depth discrete soil and groundwater samples should be collected to make this determination. Please submit your work plan as requested below.
2. Chemical Analysis- We request that you continue to analyze groundwater samples for TPHd in addition to TPHg, BTEX and MTBE during your quarterly monitoring events. The absence of the detection of TPHd in a monitoring event can be due to numerous things, ie changes in depth to groundwater or migration of contaminant, instead of the absence of this contaminant in soil and groundwater. Groundwater monitoring reports should be submitted as requested below.

3. Conduit Study-The purpose of the conduit study is to locate potential migration pathways and potential conduits and determine the probability of the plume encountering preferential pathways and conduits that could spread the contamination. Of particular concern is the identification of abandoned wells and improperly-destroyed wells that can act as conduits to deeper water bearing zones.

We request that you perform a conduit study that details the potential migration pathways and potential conduits (utilities, storm drains, etc.) that may be present in the vicinity of the site. Provide a map showing the location and depth of all utility lines and trenches including sewers and storm drains within and near the plume area.

The conduit study shall include a detailed well survey of all wells (monitoring and production wells: active, inactive, standby, destroyed (sealed with concrete), abandoned (improperly destroyed); and dewatering, drainage, and cathodic protection wells) within a ¼ mile radius of the subject site. As part of your detailed well survey, please perform a background study of the historical land uses of the site and properties in the vicinity of the site. Use the results of your background study to determine the existence of unrecorded/unknown (abandoned) wells, such as old deep agricultural wells, that can act as pathways for migration of contamination at and/or from your site. Please review historical maps such as Sanborn maps, aerial photos, etc., when performing the background study. Provide a map(s) showing the location of all wells identified in your study, use data tables to report the data collected as part of your survey, and include prints of historic aerial photos used as part of your study.

Using the results of your conduit study and data from previous investigations at the site you are to develop the initial three-dimensional conceptual model of site conditions. You are to use this initial conceptual model to determine the appropriate configuration for sampling points in the Soil and Water Investigation phase of work at this site and propose these in your work plan. Discuss your analysis and interpretation of the results of the conduit study (including the detailed well survey) and report your results in your work plan. You shall also evaluate the probability of the MTBE plume encountering preferential pathways and conduits that could spread the contamination, particularly in the vertical direction to deeper drinking water aquifers and discuss this in the work plan. Describe your initial conceptual model of site conditions and explain your rationale for the configuration of sampling points in the work plan requested below.

#### TECHNICAL REPORT REQUEST

Please submit the following technical reports according to the following schedule:

- January 15, 2007- Work Plan for lateral and vertical contamination delineation
- January 15, 2007- Conduit Study (to be included in the work plan)
- January 15, 2007- 4<sup>th</sup> Q 2006 Groundwater Monitoring Report
- April 15, 2007- 1<sup>st</sup> Q 2007 Groundwater Monitoring Report
- July 15, 2007- 2<sup>nd</sup> Q 2007 Groundwater Monitoring Report
- October 15, 2007- 3<sup>rd</sup> Q 2007 Groundwater Monitoring Report

### ELECTRONIC SUBMITTAL OF REPORTS

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.swrcb.ca.gov/ust/cleanup/electronic\\_reporting](http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting)).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at [barney.chan@acgov.org](mailto:barney.chan@acgov.org).

### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and



Mr. James Tracy  
RO 117, 1532 Peralta St., Oakland, CA  
Page 4 of 4

recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

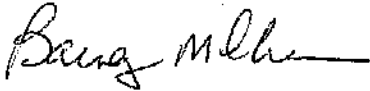
Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 567-6765.

Sincerely,



Barney M. Chan  
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: files, D. Drogos

Mr. Sami Malaeb, Golden Gate Tank Removal, Inc., 255 Shipley St., San Francisco,  
CA, 94107

Mr. Sunil Ramdass, SWRCB, 1001 I St., 17<sup>th</sup> Floor, Sacramento, CA 95814-2828

11\_29\_06 1532 Peralta St

ASSESSOR'S MAP 5

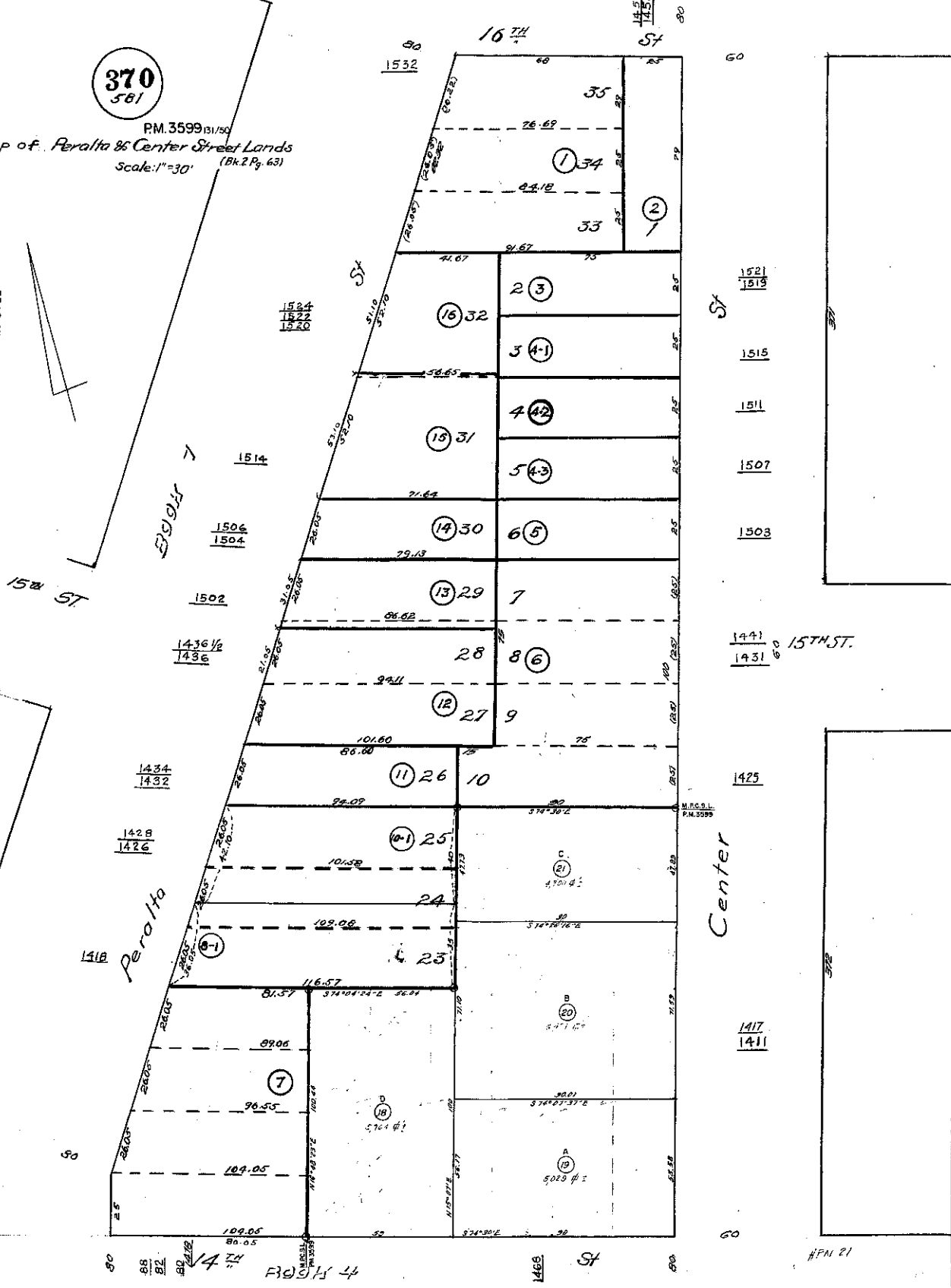
396 Code Area No. 17-046

5

370  
561

PM. 3599 (B1/50)  
Map of Peralta 86 Center Street Lands  
Scale: 1" = 30' (Bk. 2 Pg. 63)

REV: 5-13-78 (P.M.A.),  
4-17-82 (P.A.),  
4-29-04 (L.L.)



**OAKLAND FIRE DEPARTMENT/FIRE PREVENTION BUREAU  
HAZARDOUS MATERIALS UNIT**

VJ  
9/25

250 FRANK OGAWA PLAZA, SUITE 3341, OAKLAND, CA 94612-2032 • (510) 238-3927

**HAZARDOUS MATERIALS INSPECTION REPORT**

| Site Number | Facility Name  | Facility Address | Zip Code |
|-------------|----------------|------------------|----------|
|             | LBJ Automotive | 1532 Rialta      | 07       |

**Inspection Report**

PERMISSION TO INSPECT GRANTED

Activity: Auto Repair

Purpose of Activity i.e. Reason for Visit: Responded to Complaint  
i.e., Fluids streaming into storm drain

No evidence of releases to storm drain was identified  
3 - 55 gallon drums of waste oil - containers unlabeled  
and in poor condition - drums must be labeled and dry on  
the O/S surface .. must provide secondary containment

2 - open containers - 5 gal bucket full of oil  
Obtain EPA ID# + Pan full of oil

All containers must be closed @ all times except during  
filling or withdrawal of fluid

Absorbent material must be cleanup after usage for  
spill cleanups

Reduce total volume of Auto Fluids below 29 gallons to avoid  
HMRF program

Corrective Action Req'd w/i 30 days

|                              |               |  |          |
|------------------------------|---------------|--|----------|
| Facility Contact/Print Name: | Inspected By: | <input type="checkbox"/> Insp. Griffin             | 238-7759 |
| <i>Jack Hardy</i> 253-7692   | <i>Km</i>     | <input checked="" type="checkbox"/> Insp. Matthews | 238-2396 |
| Facility Contact/Signature:  | 238-3927      | <input type="checkbox"/> Insp. Kupers              | 238-7054 |
| <i>Jack Hardy</i>            |               | <input type="checkbox"/> Insp. Gomez               | 238-7253 |
|                              | Date:         | <i>23 June 06</i>                                  |          |

## HAZARDOUS WASTE GENERATOR INSPECTION REPORT

FACILITY NAME: LBI Auto Motive EPA I.D.#: \_\_\_\_\_

ADDRESS: 1532 Peralta DATE: 23 June 06

|  | CODE SECTION | COMPLIANCE |    |     |  | CODE SECTION | COMPLIANCE |    |     |
|--|--------------|------------|----|-----|--|--------------|------------|----|-----|
|  |              | YES        | NO | N/A |  |              | YES        | NO | N/A |

|   |               |   |   |   |   |               |                      |   |   |
|---|---------------|---|---|---|---|---------------|----------------------|---|---|
| <b>1. IDENTIFICATION NUMBER</b>             |               |   |   | <b>6. CONTINGENCY/BUSINESS PLAN</b>           |   |               |                      |   |   |
| (a) Obtained EPA I.D. Number                | 66262.12(a)   |   | X |   | (a) Contingency Plan Complete   | 66265.52(a-f) |                      | X |   |
| (b) Transporter and TSDF Have EPA I.D.#     | 66265.12(c)   | X |   |   | (b) Copy of Plan on Site  | 66265.53      |                      | X |   |
| <b>2. PRE-TRANSPORT REQUIREMENTS</b>        |               |   |   | (c) Contingency/Business Plan Submitted       |   |               |                      |   |   |
| (a) HW Containers Labeled                   | 66262.31      |   | X |   | (d) Plan Amended as Necessary   | 66265.54      |                      | X |   |
| (b) HW Label Properly Filled Out            | 66262.32(14)  |   | X |   | (e) ER Coordinator Familiar w/Plan                                    | 66265.55      |                      | X |   |
| (c) HW Accumulation of Time Not Exceeded    | 66262.34 (c)  |   | X |   | <b>7. PREPAREDNESS AND PREVENTION</b>                                 |               |                      |   |   |
| (d) Accumulation Date Indicated             | 66262.34(f)   |   | X |   | (a) Internal Commun./Alarm Provided                                   | 66265.32(a)   | X                    |   |   |
| (e) Description of HW Contents              | 66262.34(f)   |   | X |   | (b) A Device to Call Outside Provided                                 | 66265.32(b)   | X                    |   |   |
| (f) HW Containers in Good Condition         | 66265.171     |   | X |   | (c) Spill Control Systems Available                                   | 66265.32(c)   | X                    |   |   |
| (g) HW Compatible with Containers           | 66265.172     | X |   |   | (d) Maintain ER Equipment   | 66265.33      | X                    |   |   |
| (h) HW Containers Closed/Sealed             | 66265.173     |   | X |   | (e) Security Measure  | 66265.14      | X                    |   |   |
| (i) HW Storage Area Inspected Weekly        | 66265.174     |   | X |   | (f) Maintain Adequate Aisle Space                                     | 66265.35      | X                    |   |   |
| (j) Tank & Tank Equip. Inspected Daily      | 66265.195     |   |   | X   | (g) Arrangements w/Local Agencies                                     | 66235.37      |                      |   | X |
| (k) Incompatible HW in Separate Containers  | 66265.199     |   |   | X   | <b>8. EMERGENCY PROCEDURES</b>  |               |                      |   |   |
| (l) Proper Management of Used Oil Filters   | 66266.130     | X |   |   | (a) Character/Source/Extent of ER Determined                          | 66265.56      |                      |   | X |
| <b>3. RECORDKEEPING AND REPORTING</b>       |               |   |   | (b) Proper Agencies Notified of Health Hazard |   |               |                      |   |   |
| (a) HW Analysis Kept 5 Yrs./Land Disposal   | 66262.11      | X |   |   | (c) ER Data Submitted to DTSC & LIA                                   | 66265.56      |                      |   | X |
| (b) Biennial Report Submitted to State      | 66262.41      |   |   | X   | (d) Uncontrol. Release HW Property Handled                            | 66235.56      |                      |   | X |
| <b>4. MANIFEST/RECEIPTS</b>                 |               |   |   | <b>9. WASTE STREAMS</b>                       |   |               |                      |   |   |
| (a) HW Shipped with Proper Manifest         | 66262.20      |   |   | X   | (a) Waste Oil   |               | X                    |   |   |
| (b) Manifests Kept for Last 3 Years         | 66262.40(a)   |   |   | X   | (b) Non-Halogenated Solvents/Parts Cleaner                            |               |                      |   | X |
| (c) HW Analysis Kept for 3 Years            | 66262.40(c)   |   |   | X   | (c) Ethylene Glycol/Antifreeze  |               |                      |   | X |
| (d) Manifests Received from TSDF            | 66262.42      |   |   | X   | (d) Oily Sludges  |               |                      |   | X |
| <b>5. TRAINING</b>                          |               |   |   | (e) Other:                                    |   |               |                      |   |   |
| (a) Training Program Provided               | 66265.16      |   | X |   | (f) Other:  |               |                      |   |   |
| (b) Personnel Trained & Supervised          | 66265.16(b)   |   | X |   | (g) Other:  |               |                      |   |   |
| (c) HW Personnel Trained within 6 Months    | 66265.16(b)   |   | X |   | (h) Other:  |               |                      |   |   |
| (d) Training Records Kept on Site           | 66265.16(d)   |   | X |   | All above code sections refer to the California Code of Reg. Title 22 |               |                      |   |   |
| (e) Training Records Maintained for 3 Years | 66265.16(e)   |   | X |   |   |               |                      |   |   |
| (f) Training Records Complete               | 66265.16(1,2) |   | X |   |   |               |                      |   |   |
| Source Reduction Plan Completed             | 25244.19      |   | X |   | Pollution Prevention  |               | Health & Safety Code |   |   |

REMARKS: Call or go online DTSC web  
Waste oil disposed @ auto zone 20 gallons  
as time as accumulated  
All waste must be secondarily contained  
Reduce total volume of fluid to < 29 Gal- on site

# OAKLAND FIRE DEPARTMENT/FIRE PREVENTION BUREAU HAZARDOUS MATERIALS UNIT

250 FRANK OGAWA PLAZA, SUITE 3341, OAKLAND, CA 94612-2032 • (510) 238-3927

## HAZARDOUS MATERIALS INSPECTION REPORT

| Site Number | Facility Name                       | Facility Address    | Zip Code  |
|-------------|-------------------------------------|---------------------|-----------|
|             | <i>Property<br/>Mahamed Moseley</i> | <i>1600 Peralta</i> | <i>07</i> |

Arrived  
*13:00*

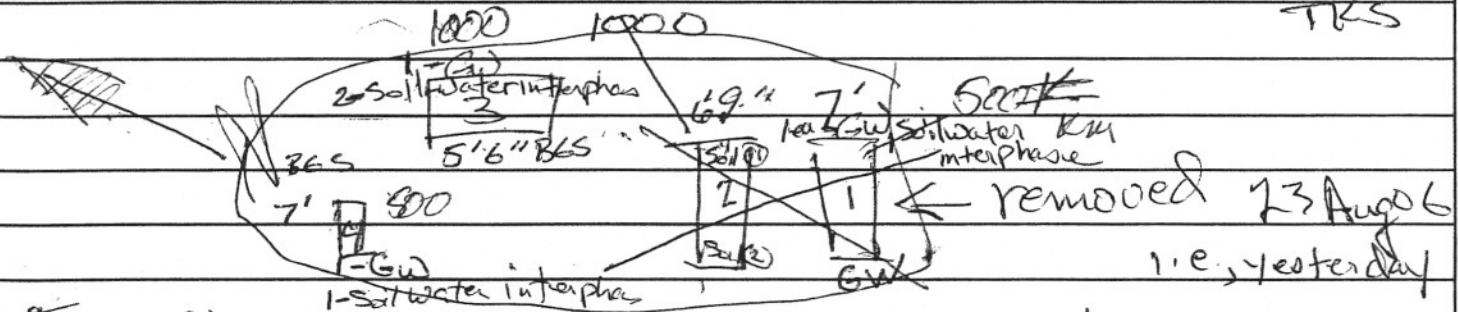
### Inspection Report

PERMISSION TO INSPECT GRANTED

*Project: 1600 Peralta*

*Activity: UST removal*

*Re: Continuation of UST Removal i.e., 5, SW Steel TKS*



*Former*

*Contents - TK1 Gasoline, TK2, TK3, TK4 Waste Oil*

*LEL TK.3 @ 13:30 1% LEL*

*TK's 3 & 4 Loaded on Transport Truck @ 14:10 + 14:40 respectively*

*Water i.e. ground Water encountered (GW)*

*Work Area + Perimeter 0% LEL @ 16:05*

*All piping Hazardous last 2TKs i.e., TK4 & TK3*

*16:15*

Facility Contact/Print Name:

*MAK MCKENZIE*

Facility Contact/Signature:

Inspected By:

*KM*  
238-3927

- Insp. Griffin 238-7759
- Insp. Kupers 238-7054
- Insp. Matthews 238-2396
- Insp. Gomez 238-7253

*3850552* Date: *24-Aug-06*  
*2070134*



**OAKLAND FIRE DEPARTMENT, OES  
UNDERGROUND STORAGE TANK CLOSURE/REMOVAL FIELD INSPECTION REPORT**

|  |  |
|--|--|
| Site Address: <u>1600 Peratta St (94607)</u>   | Name of Facility: <u>Mohamed Moseby Property</u>   |
| Inspector: <u>Keith Matthews</u>               | Contact on site: <u>Mark McKenzie</u>              |
| Date and Time of Arrival: <u>13:05 8-23-06</u> | Contractor/Consultant: <u>Morgan Environmental</u> |

| General Requirements                   | Yes | No | N/A |
|--|-----|----|-----|
| Approved closure plan on site.         | ✓   |    |     |
| Changes to approved plan noted.        | ✓   |    |     |
| Residuals properly stored/transported. |     |    | ✓   |
| Receipt for adequate dry ice noted.    | ✓   |    |     |

| General Requirements                  | Yes | No | N/A |
|---------------------------------------|-----|----|-----|
| Site Safety Plan properly signed.     |     |    |     |
| 40B:C fire extinguisher on site.      |     |    |     |
| "No Smoking" signs posted.            |     |    |     |
| Gas detector challenged by inspector. |     |    |     |

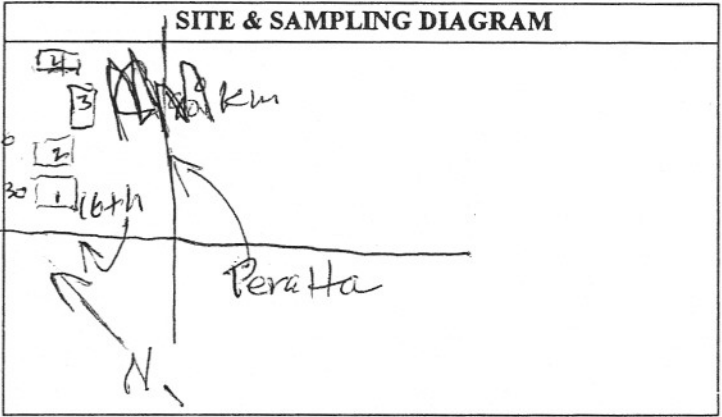
| Tank Observations   | T #1 | T #2 | T #3 | T #4   |
|---|------|------|------|--------|
| Tank Capacity (gallons)   | 1000 | 1000 | 1000 | 1000   |
| Material last stored  | Gas  | Gas  | Gas  | D.O.C. |
| Dry ice used (pounds)   | 50   | 50   | 50   | 50     |
| Combustible gas concentration as %LEL. (Note time & sampling point) |      |      |      |        |
| (1)   | 20   | 0    | 0    | 0      |
| (2)   | 4    | 0    | 0    | 0      |
| (3)   |      |      |      |        |
| Oxygen concentration as % volume. (Note time & sampling point.)     |      |      |      |        |
| (1)   |      |      |      |        |
| (2)   |      |      |      |        |
| (3)   |      |      |      |        |
| Tank Material   |      |      |      |        |
| Wrapping/Coating, if any  |      |      |      |        |
| Obvious holes?  |      |      |      |        |

| Tank Observations               | T #1          | T #2          | T #3 | T #4 |
|---------------------------------|---------------|---------------|------|------|
| Obvious corrosion?              |               |               |      |      |
| Obvious odors from tank?        | Y             | Y             |      |      |
| Seams intact?                   | Y             | Y             |      |      |
| Tank bed backfill material      | Y             | X             |      |      |
| Obvious discoloration?          | Y             | Y             |      |      |
| Obvious odors ex tank bed?      | Y             | Y             |      |      |
| Water in excavation?            |               |               |      |      |
| Sheen/product on water?         |               |               |      |      |
| Tank tagged by transporter?     | Y             | Y             |      |      |
| Tank wrapped for transport?     | Y             | X             |      |      |
| Tank plugged w/ vent cap?       |               |               |      |      |
| Date/time tank hauled off?      | 17:30<br>8/25 | 17:30<br>8/23 |      |      |
| No. of soil samples taken?      |               |               |      |      |
| Depth of soil samples (ft. bgs) |               |               |      |      |

| Piping Removal                                      | Yes | No | N/A |
|---|-----|----|-----|
| All piping removed hauled off w/ tanks?             | ✓   |    |     |
| Obvious holes on pipes?                             |     | ✓  |     |
| Obvious odors from pipes?                           |     | ✓  |     |
| Obvious soil discoloration in piping trench?        |     |    |     |
| Obvious odors from piping trench?                   |     |    |     |
| Water in piping trench?                             |     |    |     |
| Number & depth of soil samples from piping trench?  |     |    |     |
| Number & depth of water samples from piping trench? |     |    |     |

| General Observations                          | Yes | No | N/A |
|---|-----|----|-----|
| Leak from any tank suspected?                 | X   |    |     |
| "Leak Report" form given to the operator?     |     | X  |     |
| Obviously contaminated soil excavated?        | X   |    |     |
| Soil stockpile sampled?                       | X   |    |     |
| Stockpile lined AND covered?                  | X   |    |     |
| Water in excavation sampled?                  |     |    |     |
| Number/depth of water samples taken?          |     |    |     |
| All samples properly preserved for transport? |     |    |     |

| Additional Observations   | Yes | No | N/A |
|---|-----|----|-----|
| Soil/water sampling protocols acceptable?   | X   |    |     |
| Sampling "chain of custody" noted?  | X   |    |     |
| Tank pit filled in or covered?  |     |    | X   |
| Tank pit fenced or barricaded?  | X   |    |     |
| Transporter a registered HW hauler?   | X   |    |     |
| Uniform HW Manifest completed?  | X   |    |     |
| Contractor/Consultant reminded of complete UST Removal Report due within 30 days? | X   |    |     |
| Date/Time removal/closure operations completed?                                   |     |    |     |
| OT hours or additional charges due from contractor?                               |     |    |     |



**Notes/Comments:** No holes were found on piping, but tape was surrounding all joints during over excavation of tank pit in prep for removal of T1 & T2 strong gas odors came from pit

**OAKLAND FIRE DEPARTMENT, OES  
UNDERGROUND STORAGE TANK CLOSURE/REMOVAL FIELD INSPECTION REPORT**

|  |  |
|--|--|
| Site Address: <i>1600 Peralta St. 94607</i>      | Name of Facility: <i>Mohamad Moshleh Property</i>  |
| Inspector: <i>Keith Matthews</i>                 | Contact on site: <i>Akuro Sopon</i>                |
| Date and Time of Arrival: <i>09:15 18 Aug 06</i> | Contractor/Consultant: <i>Morgan Environmental</i> |

| General Requirements                   | Yes | No | N/A |
|--|-----|----|-----|
| Approved closure plan on site.         | X   |    |     |
| Changes to approved plan noted.        | X   |    |     |
| Residuals properly stored/transported. | X   |    |     |
| Receipt for adequate dry ice noted.    |     |    |     |

| General Requirements                  | Yes | No | N/A |
|---------------------------------------|-----|----|-----|
| Site Safety Plan properly signed.     | X   |    |     |
| 40B:C fire extinguisher on site.      | X   |    |     |
| "No Smoking" signs posted.            | X   |    |     |
| Gas detector challenged by inspector. | X   |    |     |

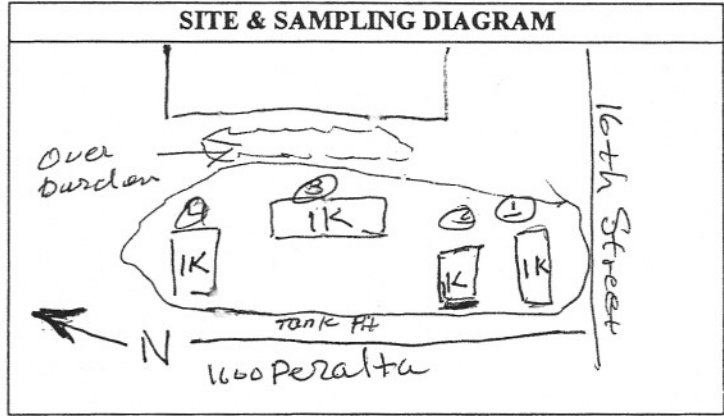
| Tank Observations   | T #1        | T #2        | T #3        | T #4        |
|---|-------------|-------------|-------------|-------------|
| Tank Capacity (gallons)   | <i>1000</i> | <i>1000</i> | <i>1000</i> | <i>1000</i> |
| Material last stored  | <i>Gas</i>  | <i>Gas</i>  | <i>Gas</i>  | <i>W/C</i>  |
| Dry ice used (pounds)   | <i>50</i>   | <i>50</i>   | <i>50</i>   | <i>NA</i>   |
| Combustible gas concentration as %LEL. (Note time & sampling point) |             |             |             |             |
| (1)   | <i>25</i>   | <i>25</i>   | <i>25</i>   | <i>0</i>    |
| (2)   | <i>10</i>   | <i>10</i>   | <i>10</i>   | <i>0</i>    |
| (3)   |             |             |             |             |
| Oxygen concentration as % volume. (Note time & sampling point.)     |             |             |             |             |
| (1)   | <i>21.8</i> | <i>21.8</i> | <i>21.8</i> | <i>21.8</i> |
| (2)   |             |             |             |             |
| (3)   |             |             |             |             |
| Tank Material   |             |             |             |             |
| Wrapping/Coating, if any  |             |             |             |             |
| Obvious holes?  |             |             |             |             |

| Tank Observations               | T #1 | T #2 | T #3 | T #4 |
|---------------------------------|------|------|------|------|
| Obvious corrosion?              |      |      |      |      |
| Obvious odors from tank?        |      |      |      |      |
| Seams intact?                   |      |      |      |      |
| Tank bed backfill material      |      |      |      |      |
| Obvious discoloration?          |      |      |      |      |
| Obvious odors ex tank bed?      |      |      |      |      |
| Water in excavation?            |      |      |      |      |
| Sheen/product on water?         |      |      |      |      |
| Tank tagged by transporter?     |      |      |      |      |
| Tank wrapped for transport?     |      |      |      |      |
| Tank plugged w/ vent cap?       |      |      |      |      |
| Date/time tank hauled off?      |      |      |      |      |
| No. of soil samples taken?      |      |      |      |      |
| Depth of soil samples (ft. bgs) |      |      |      |      |

| Piping Removal                                      | Yes | No | N/A |
|---|-----|----|-----|
| All piping removed hauled off w/ tanks?             |     |    |     |
| Obvious holes on pipes?                             |     |    |     |
| Obvious odors from pipes?                           |     |    |     |
| Obvious soil discoloration in piping trench?        |     |    |     |
| Obvious odors from piping trench?                   |     |    |     |
| Water in piping trench?                             |     |    |     |
| Number & depth of soil samples from piping trench?  |     |    |     |
| Number & depth of water samples from piping trench? |     |    |     |

| General Observations                          | Yes | No | N/A |
|---|-----|----|-----|
| Leak from any tank suspected?                 |     |    |     |
| "Leak Report" form given to the operator?     |     |    |     |
| Obviously contaminated soil excavated?        |     |    |     |
| Soil stockpile sampled?                       |     |    |     |
| Stockpile lined AND covered?                  |     |    |     |
| Water in excavation sampled?                  |     |    |     |
| Number/depth of water samples taken?          |     |    |     |
| All samples properly preserved for transport? |     |    |     |

| Additional Observations   | Yes | No | N/A |
|---|-----|----|-----|
| Soil/water sampling protocols acceptable?   | X   |    |     |
| Sampling "chain of custody" noted?  |     |    |     |
| Tank pit filled in or covered?  |     |    |     |
| Tank pit fenced or barricaded?  |     |    |     |
| Transporter a registered HW hauler?   | X   |    |     |
| Uniform HW Manifest completed?  |     |    |     |
| Contractor/Consultant reminded of complete UST Removal Report due within 30 days? | X   |    |     |
| Date/Time removal/closure operations completed?                                   |     |    |     |
| OT hours or additional charges due from contractor?                               |     |    |     |



**Notes/Comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CENTRAL DISTRICT  
3251 S Street  
Sacramento, CA 95816  
(916) 227-7632  
(916) 227-7600(Fax)

NORTHERN DISTRICT  
2440 Main Street  
Red Bluff, CA 96080  
(530) 529-7300  
(530) 529-7322 (Fax)

SAN JOAQUIN DISTRICT  
3374 East Shields Avenue  
Fresno, CA 93726  
(559) 230-3300  
(559) 230-3301 (Fax)

SOUTHERN DISTRICT  
770 Fairmont Avenue  
Glendale, CA 91203  
(818) 543-4600  
(818) 543-4604 (Fax)

**WELL COMPLETION REPORT RELEASE AGREEMENT-AGENCY**  
(Government and Regulatory Agencies and their Authorized Agents)

Project/Contract No. 1532 PERALTA ST., OAKLAND County (ALAMEDA)

Township, Range, and Section \_\_\_\_\_ Radius \_\_\_\_\_

(Must include entire study area and a map that shows the area of interest.)

Under California Water Code Section 13752, the agency named below requests permission from Department of Water Resources to inspect or copy, or for our authorized agent named below to inspect or copy, Well Completion Reports filed pursuant to Section 13751 to (check one):

Make a study, or,

Perform an environmental cleanup study associated with an unauthorized release of a contaminant within a distance of 2 miles.

In accordance with Section 13752, information obtained from these reports shall be kept confidential and shall not be disseminated, published, or made available for inspection by the public without written authorization from the owner(s) of the well(s). The information shall be used only for the purpose of conducting the study. Copies obtained shall be stamped **CONFIDENTIAL** and shall be kept in a restricted file accessible only to agency staff or the authorized agent.

GOLDEN GATE TANK REMOVAL ALAMEDA COUNTY HEALTH CARE  
ENVIRONMENTAL HEALTH SERVICES

Authorized Agent

Government or Regulatory Agency

3730 MISSION ST.

1131 HARBOR BAY PKWY, STE 250

Address

Address

SAN FRANCISCO, CA 94110

ALAMEDA, CA 94502-6577

City, State, and Zip Code

City, State, and Zip Code

Signature B. Wheeler  
(BRET WHEELER)

Signature

Title PROJECT ENGINEER

Title HAZARDOUS MATERIALS SPEC.

Telephone (415) 512-1555

Telephone (510) 527-6765

Fax (415) 512-0964

Fax (510) 337-9335

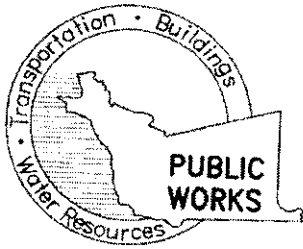
Date 12/22/01

Date

E-mail B.WHEELER@DWR.COM

E-mail BARNEY.CHAN@ACGOV.CA





**COUNTY OF ALAMEDA  
PUBLIC WORKS AGENCY  
WATER RESOURCES SECTION**  
399 Elmhurst Street, Hayward, CA 94544-1395  
James Yoo PH: (510) 670-6633 FAX: (510) 782-1939  
FOR GENERAL DRILLING PERMIT INFO:  
[www.acgov.org/pwa/wells](http://www.acgov.org/pwa/wells)

**WELL COMPLETION REPORT RELEASE AGREEMENT—AGENCY**  
(Government and Regulatory Agencies and their Authorized Agents)

WTR PROJECT # 8757

Project No/ Site Address. 1532 RESALTA STREET City OAKLAND

Township, Range, and Section SEE ATTACHED MAP Radius 0.25-MILE  
(Must include entire study area and a map that shows the area of interest.)

Under California Water Code Section 13752, the agency named below requests permission from Department of Water Resources to inspect or copy, or for our authorized agent named below to inspect or copy, Well Completion Reports filed pursuant to Section 13751 to (check one):

Make a study, or,

Perform an environmental cleanup study associated with an unauthorized release of a contaminant within a distance of 2 miles.

In accordance with Section 13752, information obtained from these reports shall be kept confidential and shall not be disseminated, published, or made available for inspection by the public without written authorization from the owner(s) of the well(s). The information shall be used only for the purpose of conducting the study. Copies obtained shall be stamped **CONFIDENTIAL** and shall be kept in a restricted file accessible only to agency staff or the authorized agent.

GOLDEN GATE TANK REMOVAL  
Authorized Agent

3730 MISSION ST.  
Address

SAN FRANCISCO, CA 94110  
City, State, and Zip Code

[Signature]  
Signature

PROJECT ENGINEER  
Title

Telephone ( ) (415) 512-1555

Fax ( ) (415) 512-0964

1/3/07  
Date

L. WHEELER@WTR.COM  
E-mail

ALAMEDA COUNTY HEALTH CARE ENVIRONMENTAL HEALTH SERVICES  
Government or Regulatory Agency

1131 HARBOR BAY PKWY, STE. 250  
Address

ALAMEDA, CA 94502-6577  
City, State, and Zip Code

[Signature]  
Signature

HAZARDOUS MATERIALS SPEC.  
Title

Telephone ( ) (510) 5267-6765

Fax ( ) (510) 337-9335

[Signature]  
Date

BARNEY.CHAN@ACGOV.ORA  
E-mail