WICKLAND
Corporation

August 14, 2007

Mr. Jerry Wickham, P.G.
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Submittal of *Preliminary Site Assessment/Soil, Soil Gas and Groundwater Investigation Work Plan*
Former Regal Station #120, LOP Case No. RO0002875
3875 Telegraph Avenue, Oakland, California

Dear Mr. Wickham:

Pursuant to your request, please find attached the *Preliminary Site Assessment/Soil, Soil Gas and Groundwater Investigation Work Plan* (*Work Plan*), prepared by West Environmental Services & Technology, Inc. (WEST) on behalf of Wickland Corporation (Wickland) for the former Regal Station #120 (Local Oversight Program Case No. RO0002875), located at 3875 Telegraph Avenue in Oakland, California.

On August 1, 2007, the Alameda County Environmental Health (ACEH) declined our July 9, 2007 request to name additional responsible parties, i.e., ConocoPhillips, Four Star Oil and Gas Company, Shell Oil Company and the Bay Area Rapid Transit District. The ACEH declined the request to name these additional responsible parties due to the lack of documentation of unauthorized releases associated with their historical operations on and near the Site. However, the attached *Work Plan* presents data that clear and separate unauthorized releases have occurred at and adjacent to the Site associated with the operations of the additional responsible parties. The data indicate that the separate unauthorized releases occurred apart from Wickland's historical operations at the Site. Therefore, we request that the ACEH revisit its previous consideration for naming these additional responsible parties.

In accordance with the Alameda County Health Care Services Agency, Environmental Health Services requirements, 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.

Please contact me at 916/978-2460, if you have any questions or wish to discuss this further.

Sincerely,

Dan Hall

Daniel E. Hall
President

Attachment

cc: Lori J. Gualco, Attorney-at-Law

PRELIMINARY SITE ASSESSMENT/
SOIL, SOIL GAS AND GROUNDWATER
INVESTIGATION WORK PLAN
Former Regal Station #120
LOP Case No. RO0002875
3875 Telegraph Avenue
Oakland, California

August 2007

Prepared for

Wickland Corporation
P.O. Box 13648
Sacramento, California 95853

Prepared by

WEST
Environmental Services & Technology
711 Grand Avenue, Suite 220
San Rafael, California 94901
415/460-6770 Fax 415/460-6771
main@westenvironmental.com

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

SIGNATURE PAGE

All engineering information, conclusions and recommendations contained in this report have been prepared by a California Professional Engineer. All hydrogeologic and geologic information, conclusions and recommendations contained in this report have been prepared by a California Professional Geologist.

Peter M. Krasnoff
California Registered Civil Engineer (44031)

8/14/09
Date

Peter E. Morris
California Professional Geologist (7084)

8/14/09
Date

1.0 INTRODUCTION

This *Preliminary Site Assessment/Soil, Soil Gas and Groundwater Investigation Work Plan* ("*Work Plan*") has been prepared on behalf of Wickland Corporation by West Environmental Services & Technology, Inc., (WEST) for the former Regal Service Station No. 120 (referenced as Local Oversight Program No. RO0002875) located at 3875 Telegraph Avenue in Oakland, California ("the Site;" Figure 1-1). This *Work Plan* outlines the scope-of-work to conduct an investigation of the lateral and vertical extent of petroleum hydrocarbons in soil and groundwater at the Site, as well as collect data to evaluate the potential threat to indoor air from vapors at the Site. The proposed investigations include: soil sampling; soil gas sampling; and groundwater sampling.

This *Work Plan* was prepared in accordance with the: California Code of Regulations, *Title 23, Division 3, Chapter 16, Underground Storage Tank Regulations* (CCR, 2001); the Tri-Regional Board Staff *Recommendations for Preliminary Investigations and Evaluation of Underground Storage Tank Sites* (Regional Board, 2003); the State Water Resources Control Board (SWRCB) *Leaking Underground Storage Tank Field Manual* (SWRCB, 1989); and SWRCB *Resolution 92-49 – Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* (SWRCB, 1996).

1.1 BACKGROUND

The approximately 0.9-acre Site is located at 3875 Telegraph Avenue in Oakland, California to the east of the Bay Area Rapid Transit District (BART) MacArthur Station parking lot. Between 1928 and 1935, Associated Oil Company was a tenant on the Site (Fidelity, 2007). In the 1930s, the Site was used for: an automobile parking lot; and two gasoline stations near the southwest corner (3855 Telegraph Avenue) and the northern portion (3881 Telegraph Avenue) of the Site (Figure 2-1; HLA, 1992). By the 1940s, the two gasoline stations had been removed.

In the 1950s, the southern portion of the Site was occupied by a tamale factory and restaurant; and the northern portion was occupied by another gasoline service station. Features of the gasoline service station included: a service station building; pump islands; a cashier's office; and two 200-gallon underground storage tanks (USTs) and one 400-gallon UST. Between 1961 and 1971, Regal Petroleum Corporation leased the northern portion of the Site and operated the gasoline service station. In the mid-1970s, one 8,000-gallon UST, one 5,000-gallon UST, one 2,500-gallon UST and one 10,000-gallon UST were permitted for use at the Site.

In June 1984, as part of the pre-construction evaluations, Harding Lawson Associates (HLA) drilled four borings for collection of soil samples for geotechnical testing. HLA noted the soil cores collected from approximately 15 feet below ground surface contained "gasoline odor." In December 1984, the four USTs, associated service station buildings and pump islands were removed (HLA, 1992). Prior to their removal, the four USTs were reportedly pressure tested (HLA, 1992). The findings of the pressure testing indicated that the USTs were integral, i.e., capable of handling the applied pressure without indication of leakage. Following removal of the USTs, the excavation was backfilled with imported material.

In early 1985, the Site was purchased by East Bay Outpatient Surgery for development as a surgery center. In May 1985, as part of the surgery center construction, the UST excavation backfill material was removed. The former UST excavation was subsequently over-excavated to a depth of approximately 15 feet below ground surface with approximately 1,070 cubic yards of soil being removed for offsite disposal.

In 2001, Terracon conducted soil and groundwater investigation at the Site for Healthsouth Corporation of Birmingham, Alabama to ascertain if there had been a release of petroleum hydrocarbons or other hazardous materials on the Site. Terracon's investigation included advancing six borings, B-1 to B-6, to a depth of approximately 25-feet below ground surface for the collection of soil and groundwater samples.

In January 2005, Gribi Associates (Gribi) collected 18 soil and 5 groundwater samples from borings advanced offsite within the BART parking lot to the west; and onsite within the southern parking lot. Subsequently, between February 2005 and June 2005, Ninyo & Moore, on behalf of BART, conducted investigations near the Site as part of the MacArthur BART Transit Village redevelopment project (N&M, 2005). The investigations included the collection of soil and groundwater samples from 27 borings (February 2005) and soil gas samples from 15 borings (June 2005) advanced within: 39th Street; 40th Street; Apgar Street; and the BART parking lot.

The soil and groundwater investigations revealed indications of separate releases of petroleum hydrocarbons both on- and offsite. Soil investigations reported the presence of total petroleum hydrocarbons (TPH) in soil up to 90 milligrams per kilogram (mg/kg) onsite (B-4) and up to 2,700 mg/kg in samples collected offsite in the BART parking lot (B-16). Groundwater samples collected from temporary borings advanced on and near the Site have revealed the presence of TPH as gasoline (TPHg) up to 140,000 micrograms per liter (µg/l) onsite (B-4) and offsite up to 280,000 µg/l in samples collected from the BART parking lot (B-16).

BART concluded in 2006, that the TPHg detected at B-16 "originates from an on-site [BART property] source" and not due to migration from the Site, i.e., a separate unauthorized release. In addition, the onsite detection of TPHg at 130,000 µg/l (B-5), near the former service station at 3855 Telegraph Avenue (1930s) also indicates a separate onsite unauthorized release. The groundwater samples analyzed for benzene revealed the highest concentration onsite from boring B-4 at 21,000 µg/l and from offsite boring B-16 at 47,000 µg/l. Investigations also revealed the presence of TPH as diesel (TPHd) up to 530,000 µg/l in the sample collected upgradient of the Site in 39th Street also indicates another unauthorized release not originating from the Site.

Due to the reported detections of TPH and petroleum related volatile organic compounds (VOCs), e.g., benzene, Alameda County Environmental Health Services (ACEHS) as the Local Oversight Program (LOP) for investigation and remediation of releases from USTs has requested a work plan to "define the extent of soil and groundwater contamination." In addition, the

ACEHS has requested the investigation include the collection of samples to assess the potential for vapor intrusion into structures on the Site.

This *Work Plan* has been prepared to present the details of the proposed soil, soil gas and groundwater sampling designed to characterize the extent of petroleum hydrocarbons at and emanating from the Site. In addition, the *Work Plan* includes the collection of soil gas samples and related testing to develop data to perform an assessment of the threat to indoor air posed by VOCs in soil gas at the Site.

1.2 WORK PLAN ORGANIZATION

Details of the scope-of-work are presented in this *Work Plan*. The *Work Plan* has been organized as follows:

- Site Description (Section 2.0);
- Summary of Investigations (Section 3.0);
- Data Evaluation (Section 4.0); and
- Field Sampling Plan (Section 5.0).

2.0 SITE DESCRIPTION

The approximately 0.9-acre Site is located at 3875 Telegraph Avenue in Oakland, California at an elevation of approximately 80 feet above Mean Sea Level (Figure 2-1; Gribi, 2005). Site features include: an approximately 10,000-square foot single story building; a courtyard; an outdoor mechanical area; and paved parking areas. An outpatient medical surgery center is operated on the Site by the East Bay Surgery Center.

The Site is bounded by: 39th Street to the north; Telegraph Avenue to the east; Apgar Street to the south and the parking lot for the BART MacArthur Station parking lot to the west. The BART parking lot is approximately 10 feet lower in elevation adjacent to the west side of the Site. Commuter access to the BART parking lot is through Apgar Street.

The Site is located within a mixed residential/commercial neighborhood. Commercial operations include: auto detailing to the north across 39th Street; a church to the east across Telegraph Avenue; and the BART commuter parking lot to the west. Residences are located south of Apgar Street.

2.1 REGIONAL GEOLOGIC AND HYDROGEOLOGIC SETTING

The Site is located within the East Bay Plain Groundwater Basin within the Coast Ranges Geomorphic province (HLA, 1992). The regional geology is composed of Holocene alluvial and fluvial deposits containing unconsolidated and interbedded clays, silts, sands and gravels underlain by Jurassic, Cretaceous and Tertiary-age bedrock units of the Franciscan Complex and Great Valley Sequence (Regional Board, 1999). The Hayward Fault is located approximately one-mile to the east-northeast.

The Site is located within the Oakland Sub-Area of the San Francisco Basin portion of the East Bay Plain (Regional Board, 1999). Water supply wells in the Oakland Sub-Area groundwater basin have been constructed within the alluvial and fluvial deposits at depths of approximately

200 feet below ground surface. Groundwater flow direction generally flows along the topographic slope to the west toward the San Francisco Bay.

2.2 SITE GEOLOGY

The geology observed in borings drilled at the Site is composed of: fine-grained silty and sandy clays; and discontinuous interbedded coarse-grained clayey to silty sands and clayey gravels, to a depth of approximately 30-feet below ground surface (HLA, 1992). Silty to sandy clays are present between the ground surface and approximately 10-feet below ground surface. A coarse-grained silty/clayey sand to clayey gravel layer is present between approximately 10-feet and 15-feet below ground surface (Figure 2-2). Fill materials have also been noted within the upper four feet of the Site containing rubble and gravel base rock (HLA, 1984).

2.3 SITE HYDROGEOLOGY

Groundwater was encountered in borings advanced at the Site between approximately 1-foot to 20-feet below ground surface (Gribi, 2005). Groundwater flow direction near the Site is to the west-southwest toward the San Francisco Bay with a gradient of approximately 0.02 feet per foot (Cambria, 2005). The San Francisco Bay is located approximately two-miles to the west.

2.4 HISTORICAL SITE USE

The Site has been developed since at least 1911 (HLA, 1992). Residences occupied a portion of the Site in 1911. Between 1928 and 1935, Associated Oil Company was as a tenant on the southern portion of the Site (Fidelity, 2007; Appendix A). In the 1930s, a service station was identified on the southwest corner of the Site at 3855 Telegraph Avenue and a service station located at 3881 Telegraph Avenue on the northern portion of the Site (HLA, 1992). In the mid-1930s, the gasoline service station on the southwest portion of the Site (3855 Telegraph Avenue) was no longer in business. In the 1940s, the two gasoline service stations had been removed and the automobile parking lot occupied the northern portion of the Site (HLA, 1992).

In the 1950s, the southern portion of the Site was occupied by a tamale factory and restaurant; and the northern portion was occupied by another gasoline service station. Features of the gasoline service station included: a service station building; pump islands; a cashier's office; and two 200-gallon USTs and one 400-gallon UST (HLA, 1992). Between 1961 and 1971, Regal Petroleum Corporation leased the northern portion of the Site for operation of a gasoline service station (Appendix A). In the mid-1970s, one 8,000-gallon UST, one 5,000-gallon UST, one 2,500-gallon UST and one 10,000-gallon UST were permitted for use at the Site.

In 1984, the four USTs, associated service station buildings and pump islands were removed (HLA, 1992). In 1985, the Site was purchased by East Bay Outpatient Surgery for development as surgery center. Between 1985 and 2007, the East Bay Outpatient Surgery has occupied the Site.

3.0 SUMMARY OF INVESTIGATIONS

Since 1984, investigations have been conducted at the Site and on the neighboring properties. The investigations have included: UST removal; soil sampling; soil gas sampling; and groundwater sampling. A summary of the investigations is presented below.

3.1 GEOTECHNICAL SOIL INVESTIGATION – 1984

In June 1984, as part of the surgery center construction, HLA conducted geotechnical testing at the Site (HLA, 1984). Four borings, Borings 1 to 4, were drilled to depths ranging between 25-feet and 30-feet below ground surface. HLA noted the soil cores collected from approximately 15-feet below ground surface contained "gasoline odor." The locations of the geotechnical borings are depicted on Figure 3-1.

3.2 UST REMOVAL – 1984

In December 1984, four USTs ranging from 2,500-gallons to 10,000-gallons were removed from the Site. Prior to their removal, the four USTS were reportedly pressure tested. The findings of the pressure testing indicated that the USTs were integral, i.e., capable of handling the applied pressure without indication of leakage. Following removal of the USTs, the excavation was backfilled with imported material.

In May 1985, as part of the surgery center construction, the UST excavation backfill material was removed. The former UST excavation was subsequently overexcavated to a depth of approximately 15-feet below ground surface. During the overexcavation activities, a 36-inch diameter sump was uncovered outside the edge of the former UST excavation. The sump appeared to extend to a depth of approximately 25-feet below ground surface and contained a "dark fluid" (HLA, 1992). The fluid level was estimated to be approximately 16-feet below ground surface. Approximately 1,070 cubic yards of soil were removed during the overexcavation activities and transported offsite. The overexcavation included the area

surrounding the sump. In May 1985, approximately 300-gallons of fluid were also removed from the sump and transported offsite for disposal by Erickson Trucking of Richmond, California (HLA, 1992).

Prior to backfilling the UST excavation, a four-inch diameter slotted pipe was placed in the area of the former sump. A solid pipe was outfitted to the slotted portion and angled to the ground surface outside the building foundation footprint and along the northwest side of the building to facilitate future access (HLA, 1992).

3.3 PHASE I PRELIMINARY HAZARDOUS MATERIALS SITE ASSESSMENT – 1992

In 1992, HLA conducted an assessment for Sutter Ambulatory Care Corporation, a potential purchaser of the property to identify the potential presence of "hazardous/toxic materials on or beneath" the Site (HLA, 1992). The findings of the review revealed that three former gasoline service stations operated on the Site i.e., 3855 Telegraph Avenue (southwest corner, 1930s); Signal Service Station, 3881 Telegraph Avenue (northern portion, 1930s to 1940s); and 3875 Telegraph Avenue (northern portion, 1950s to 1980s). A 1951 City of Oakland Engineer's Office records identified two 200-gallon and one 400-gallon USTs on the northern portion of the Site. The disposition of the three 1951 tanks was not identified. The City of Oakland Fire Department records identified that a permit was issued in 1975 for use of three USTs on the Site (one 8,000-gallon, one 5,000-gallon, and one 2,500-gallon). Subsequently, in 1977 a permit was issued for use of one 10,000-gallon UST.

The assessment revealed that the residential neighborhood, located to the west, was demolished for construction of the BART MacArthur Station and parking lots in the 1960s. An auto detailing facility, Lee's Auto Laundry, was also noted to have operated to the north of the Site on the southwest corner of 39th Street and Telegraph Avenue. The investigation also revealed that there had been a release of petroleum hydrocarbons to soil and groundwater from the former Shell Oil Station (500 40th Street), located approximately 500 feet to the north of the Site (HLA, 1992).

Based on the findings, HLA recommended conducting invasive sampling to characterize the potential for petroleum hydrocarbons to be present in soil and groundwater beneath the Site.

3.4 SOIL AND GROUNDWATER INVESTIGATION – TERRACON 2001

In 2001, Terracon conducted a soil and groundwater investigation at the Site for Healthsouth Corporation of Birmingham, Alabama to ascertain if there had been a release of petroleum hydrocarbons or other hazardous materials on the Site (Terracon, 2001). Terracon's investigation included advancing six borings, B-1 to B-6, to a depth of approximately 25-feet below ground surface for the collection of soil and groundwater samples (Figures 3-1 and 3-2). Six soil samples were collected from the six borings, B-1 to B-6, between approximately 15-feet and 20-feet below ground surface. Six groundwater samples were collected from the six borings, B-1 to B-6, between approximately 17-feet and 22-feet below ground surface.

3.4.1 Soil Analytical Results

Laboratory analysis of the soil samples collected from borings B-1 to B-6 revealed the presence of petroleum related aromatic VOCs. The highest concentrations were found in the sample collected in the southern portion of the Site from boring B-1 at 15-feet below ground surface with: benzene up to 420 micrograms per kilogram (µg/kg); toluene up to 86 µg/kg; ethyl benzene up to 4,700 µg/kg; and xylenes up to 16,500 µg/kg (Table 3-1 and Figure 3-1). Other petroleum-related VOCs were also reported in the soil samples including: 1,2,4-trimethylbenzene (1,2,4-TMB) up to 22,000 µg/kg (B-2); 1,3,5-TMB up to 12,000 µg/kg (B-2); n-butylbenzene up to 6,800 µg/kg (B-2); sec-butylbenzene 2,000 µg/kg (B-2); isopropyl benzene up to 3,800 µg/kg (B-2); p-isopropyl toluene 1,000 µg/kg (B-2); up to naphthalene 4,200 µg/kg (B-2); n-propyl benzene 14,000 µg/kg (B-2); 1,2,3-trichlorobenzene up to 6.6 µg/kg (B-3); and 1,2,4-trichlorobenzene up to 7.3 µg/kg (B-3). A summary of the soil sample analytical results is presented in Table 3-1 and included on Figure 3-1.

3.4.2 Groundwater Analytical Results

Laboratory analysis of the groundwater samples collected from borings B-1 to B-6 revealed: benzene up to 11,000 micrograms per liter (µg/l); toluene up to 760 µg/l; ethyl benzene up to 2,600 µg/l; xylenes up to 9,300 µg/l in the sample collected from boring B-1 (Table 3-2 and Figure 3-2). Other petroleum-related VOCs were also reported in the groundwater samples including: 1,2,4-TMB up to 2,300 µg/l (B-1); 1,3,5-TMB up to 600 µg/l (B-1); sec-butylbenzene up to 23 µg/l (B-3); isopropyl benzene up to 74 µg/l (B-3); naphthalene up to 640 µg/l (B-1); and n-propyl benzene up to 560 µg/l (B-1). A summary of the groundwater sample analytical results is presented in Table 3-2 and included on Figure 3-2.

3.5 PHASE II ESA – GRIBI 2005

In January 2005, Gribi Associates (Gribi) conducted a Phase II Environmental Site Assessment at and near the Site for the current owner, The Surgery Center (Gribi, 2005). Gribi's investigation included the collection of 18 soil and 5 groundwater samples from borings advanced: offsite, B-1 to B-3 within the BART parking lot to the west; and onsite, B-4 and B-5 within the southern parking lot. The soil samples were collected between approximately 7-feet and 19-feet below ground surface. The groundwater samples were collected from between approximately one-foot and 16-feet below ground surface.

3.5.1 Soil Sample Analytical Results

Laboratory analysis of the soil samples collected from the offsite borings B-1 to B-3 revealed: TPHg up to 670 mg/kg (B-2 at 14-feet below ground surface); TPHd up to 90 mg/kg (B-2 at 14-feet below ground surface); benzene up to 440 µg/kg (B-2 at 14-feet below ground surface); toluene up to 1,800 µg/kg (B-3 at 11.5-feet below ground surface); ethyl benzene up to 4,100 µg/kg (B-2 at 7-feet below ground surface); xylenes up to 14,800 µg/kg (B-3 at 11.5-feet below

ground surface); and methyl tertiary butyl ether (MTBE) up to 370 µg/kg (B-3 at 11.5-feet below ground surface).

Laboratory analysis of the soil samples collected from the onsite borings B-4 and B-5 revealed lower concentrations than those found in offsite borings. The highest onsite concentrations were found in the sample from B-4 collected at 19.5-feet below ground surface, which contained TPHg up to 90 mg/kg; toluene up to 1,100 µg/kg; ethyl benzene up to 2,000 µg/kg; xylenes up to 9,300 µg/kg; and MTBE up to 180 µg/kg in the sample collected from boring. However, analysis of the onsite soil samples revealed higher concentrations of benzene (up to 1,400 µg/kg; B-4). A summary of the soil sample analytical results is presented in Table 3-1 and included on Figure 3-1.

3.5.2 Groundwater Analytical Results

The laboratory analysis of the groundwater sample collected from the inferred downgradient direction from the former UST pit (B-1) revealed TPHg up 240 µg/l, but did not reveal benzene, ethyl benzene, xylenes or MTBE above the laboratory-reporting limit of 1.0 µg/l. The laboratory results for the sample collected from the inferred downgradient direction of the former fuel islands (B-2) revealed: TPHg at 14,000 µg/l; benzene at 230 µg/l; ethyl benzene up 380 µg/l; xylenes at 540 µg/l and MTBE at 34 µg/l. The groundwater sample collected west of the southern portion of the Site (B-3) revealed the highest concentration in the offsite groundwater samples with: TPHg at 80,000 µg/l; benzene at 3,800 µg/l; toluene at 1,700 µg/l; ethyl benzene at 5,400; and xylenes at 21,800 µg/l.

The onsite groundwater sample B-4, collected from the southwestern portion of the Site revealed higher concentrations than those found in offsite samples with: TPHg at 140,000; benzene at 21,000 µg/l; toluene at 1,700 µg/l; ethyl benzene at 8,500 µg/l; and xylenes at 33,600 µg/l. The laboratory analysis of the groundwater sample collected from onsite boring B-5, located near the southern property boundary, revealed lower concentrations than B-4, with the notable absence of

benzene and toluene being reported above the laboratory-reporting limit of 1.0 µg/l. The groundwater sample collected from boring B-5 which was advanced near the former service station located on the southwest portion of the Site contained: TPHg at 130,000 µg/l; ethyl benzene at 8,000 µg/l, xylenes at 6,680 and MTBE at 390 µg/l. A summary of the groundwater sample analytical results is presented in Table 3-2 and included on Figure 3-2.

3.6 LIMITED PHASE II ESA – BART 2005

During February through June 2005, Ninyo & Moore, on behalf of BART, conducted investigations to the west of the Site in the BART parking lot as part of the MacArthur BART Transit Village redevelopment project (N&M, 2005). The investigations included the collection of soil gas samples from 15 borings (June 2005) advanced within: 39th Street; 40th Street; Apgar Street; and the BART parking lot and soil and groundwater samples from 27 borings (February 2005). A summary of the analytical results for the samples collected from borings B-4, B-5, B-6, B-16, B-20, B-22 and B-25 advanced adjacent to the Site is presented below.

3.6.1 Soil Gas Sample Analytical Results

In June 2005, 15 soil gas samples (SG-1 to SG-15) were collected from borings advanced near the Site. Laboratory analysis of the 15 soil gas samples SG-1 to SG-15 revealed the maximum concentration of: benzene at 140,000 micrograms per cubic meter (µg/m^3); toluene at 4,800 µg/m^3; ethyl benzene at 1,900 µg/m^3; and xylenes at 1,500 µg/m^3, in the sample collected from boring SG-5.

Laboratory analysis of the 15 soil gas samples SG-1 to SG-15 also revealed the maximum concentration of: tetrachloroethene (PCE) at 220 µg/m^3 (SG-12); trichloroethene (TCE) up to 12 µg/m^3 (SG-12); Freon 134a at 690 µg/m^3 (SG-8); acetone at 13,000 µg/m^3 (SG-1); 2-propanol at 78,000 µg/m^3 (SG-1); carbon disulfide at 10,000 µg/m^3 (SG-1); cyclohexane at 16,000 µg/m^3 (SG-1); 2-butanone (MEK) at 45 µg/m^3 9SG-13); hexane at 4,300 µg/m^3 (SG-1); ethanol at 130

μg/m^3 (SG-13); tetrahydrofuran at 360 μg/m^3 (SG-2); heptane at 5,000 μg/m^3 (SG-5); 1,3-butadiene at 95 μg/m^3 (SG-3); 1,2,4-TMB at 8.8 μg/m^3 (SG-11); propylbenzene at 20 μg/m^3 (SG-8); and 4-ethyltoluene at 10 μg/m^3 (SG-13).

3.6.2 Soil Sample Analytical Results

Laboratory analysis of the 16 soil samples collected from borings B-4, B-5, B-6, B-16, B-20, B-22 and B-25 revealed higher concentrations than those found in onsite investigations. The sample collected from boring B-16 at approximately 5-feet below ground surface was reported to contain: TPHg at 2,700 mg/kg; TPHd at 240 mg/kg; benzene at 5,700 μg/kg; toluene at 26,000 μg/kg; ethyl benzene at 49,000 μg/kg; and xylenes at 150,000 μg/kg (Table 3-1 and Figure 3-1).

Laboratory analysis of the 16 soil samples collected from borings B-4, B-5, B-6, B-16, B-20, B-22 and B-25 also revealed: TPH as motor oil (TPHmo) up to 470 mg/kg (B-25 at 5-feet below ground surface); arsenic up to 74 mg/kg (B-20 at 2-feet below ground surface); and lead up to 10 mg/kg (B-16 at 2-feet below ground surface).

3.6.3 Groundwater Sample Analytical Results

Laboratory analysis of the nine groundwater samples collected from borings B-4, B-5, B-6, B-16, B-20, B-22 and B-25 revealed higher concentrations than had been found in onsite investigations. The groundwater sample collected from boring B-16 revealed higher concentrations than those found closer to the Site in boring B-3, with: TPHg at 280,000 μg/l; benzene at 47,000 μg/l; toluene at 48,000 μg/l; ethyl benzene at 6,500 μg/l; xylenes at 34,300 μg/l and 1,2,4-TMB at 6,200 μg/l (Table 3-2 and Figure 3-2). BART concluded in 2006, that the TPHg detected at B-16 originates from the BART property and had not migrated in groundwater from the Site (BART, 2006a,b; Appendix A).

Laboratory analysis of the nine groundwater samples collected from borings B-4, B-5, B-6, B-16, B-20, B-22 and B-25 also revealed anomalously higher TPH concentrations in the sample

collected from within 39th Street (B-4) with: TPHd at 530,000 µg/l and TPHmo up to 39,000 µg/l. Groundwater samples were also reported to contain: 1,3,5-TMB up to 320 µg/l (B-5); n-butylbenzene up to 60 µg/l (B-21); sec-butylbenzene up to 29 µg/l (B-21); isopropyl benzene up to 72 µg/l (B-5); naphthalene up to 160 µg/l (B-5); and n-propyl benzene up to 250 µg/l (B-5).

4.0 DATA EVALUATION

Investigations at and near the Site have revealed the presence of petroleum hydrocarbons and VOCs in soil, soil gas and groundwater. The assessment of the potential risks to human health and the environment associated with the presence of the petroleum hydrocarbons and VOCs in the subsurface at the Site requires the development of a conceptual site model (CSM) and comparison with appropriate evaluation criteria.

The CSM presents a narrative and graphical description of Site characteristics to provide a foundation for understanding the Site. The CSM identifies the general physical conditions at the Site that influenced contaminant transport. The CSM incorporates: the Site geology and hydrogeology; properties of the chemicals; chemical usage; identified sources; and transport mechanisms to explain the distribution of chemicals found at and downgradient of the Site (Figure 4-1). The CSM is also used in identifying potential receptors to allow for selection of appropriate evaluation criteria. Through a comparison of Site data to applicable criteria, the CSM is used to assess the adequacy of the Site characterization and identify whether more information is required to make decisions regarding the conditions at the Site, i.e., data gaps. The CSM and an evaluation of the data are presented below.

4.1 CONCEPTUAL SITE MODEL

Pursuant to SWRCB guidelines (Executive Order D-5-99 and Senate Bill 989), a CSM has been developed for the Site. The decision-making framework for Site investigations centers on the development and continual modification of the CSM. The CSM was developed based on: known historical operations at the Site; subsurface geology and hydrogeology; Site investigation data; chemical properties; suspected chemical release and transport mechanisms; and potential exposure scenarios, to identify the general physical conditions that influence contaminant transport. The CSM representing the environmental conditions at the Site is depicted on Figure 4-1.

The CSM for the Site describes the distribution of petroleum hydrocarbons and related VOCs in soil and groundwater at the Site as originating from releases from the operation of the former service stations and indicates contributions from upgradient sources, e.g., potential releases of Stoddard solvent from former dry cleaning operations and potential releases in the downgradient BART parking lot. The CSM does not adequately describe the source(s) of the TPH and related VOCs found onsite, TPHd in groundwater to the north and TPH and VOCs in soil and groundwater to the west. In addition, the CSM does not adequately describe soil gas conditions, as samples have not been collected onsite.

4.1.1 Historical TPH Use and Releases

A thorough review was conducted of documents regarding historical TPH use and releases in developing the CSM, including: regulatory correspondence; literature and online information; environmental databases; operational records; and reports of investigations. A review of the historical operations associated with TPH use at and near the Site revealed:

- Three separate service stations operated on the properties constituting the Site;
- The USTs from the former Regal Service Station No. 120 were removed and approximately 1,070 cubic yards of soil were overexcavated from beneath the former USTs;
- The removal of the USTs from the other two service stations has not been confirmed; and
- There has been a documented release of TPH from the Shell Service Station located to the north of the Site.

4.1.2 Groundwater Fate and Transport

Laboratory analytical results for the groundwater samples collected at and near the Site have been evaluated with respect to the CSM. Based on the distribution and relative concentration of TPH and the aromatic hydrocarbons, i.e., benzene, toluene, ethyl benzene and xylenes (BTEX), the presence of TPH in groundwater at the Site does not appear wholly attributable to onsite sources. The bases for this conclusion are presented below.

- TPHd has been reported at its highest concentration (530,000 µg/l) to the north of the Site, the inferred upgradient groundwater direction;

- TPHg and benzene in groundwater have been reported at higher concentrations offsite to the west of the Site (280,000 µg/l of TPH and 47,000 µg/l of benzene in B-16) than in onsite samples (140,000 µg/l of TPHg and 21,000 µg/l of benzene in B-4);

- The concentrations of TPHg and benzene in groundwater decrease between the highest onsite and offsite sample locations (80,000 µg/l of TPH and 3,800 µg/l of benzene in B-3); and

- Onsite groundwater samples display different BTEX ratios despite containing relatively similar TPHg concentrations, i.e., benzene was not reported in groundwater from onsite boring B-5 but TPHg was reported at 130,000 µg/l.

Further analysis of the significance of the BTEX components in characterizing Site conditions is presented below.

4.1.3 Aromatic Hydrocarbon Distribution Analysis

The relative distribution of benzene, toluene, ethyl benzene and xylenes in groundwater is a function of their physical and chemical properties, e.g., soil organic carbon-water partition

coefficient (K_{oc}). The estimated K_{oc} values for benzene of 98 milliliters per gram (ml/g), toluene of 178 ml/g, ethyl benzene of 164 ml/g and xylenes of 204 ml/g were used to estimate the relative velocities of these chemicals in groundwater. The K_{oc} value for xylenes of 204 ml/g is more than twice the K_{oc} value for benzene of 98 ml/g. Therefore, xylenes travel at approximately one-half the velocity of benzene. Formulations of regular unleaded gasoline and super unleaded gasoline typically contained B+T/E+X concentration ratios of approximately 3.5 and 7, respectively (API, 1989).

Therefore, the absence of benzene and a B+T/E+X ratio of approximately 7E-5 in the groundwater sample from B-5 indicate a much older release than the gasoline found in B-4, where benzene was reported at 21,000 µg/l and a B+T/E+X ratio of approximately 0.5. Similarly, there are different distributions of the BTEX components in the groundwater samples from B-3 and B-16. The B+T/E+X ratio of the groundwater sample from B-3 is 0.2. Farther to the west and in the reported downgradient groundwater direction, the sample from B-16 reveals a B+T/E+X ration of approximately 2.0. Given the physical properties of the aromatic hydrocarbons, the variation in the concentration and distribution of the BTEX components in groundwater samples can only reasonably be explained as having originated from multiple sources. However, more data are needed to distinguish the source(s).

4.2 SCREENING LEVEL ASSESSMENT

A screening level assessment was performed to assist in assessing the adequacy of the existing data. The screening level assessment consisted of three components: (1) identification of potential exposure pathways; (2) identification of appropriate screening levels for each media; and (3) a comparative analysis. The screening level assessment has been used to evaluate conditions of potential concern and identify areas for additional investigations, i.e., data gaps.

The screening levels are not necessarily cleanup goals, but have been selected to evaluate Site conditions and identify the necessity for additional characterization. The screening levels are conservatively calculated threshold values below which particular chemicals are believed to "be

below thresholds of concern for risks to human health." The presence of a chemical at concentrations in excess of a screening level does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation of potential human health concerns is warranted.

Based on the identified exposure pathways, screening levels were identified for chemicals in soil, soil gas and groundwater. Chemical-specific screening levels were developed from: concentrations based on published environmental screening criteria. The screening levels that were considered include the California Regional Water Quality Control Board – San Francisco Bay Region (Regional Board) Environmental Screening Levels (ESLs); and numerical water quality objectives identified in the *Water Quality Control Plan for the San Francisco Bay Basin* or Basin Plan (Regional Board, 2006).

4.2.1 Exposure Pathways Evaluation

Exposure pathways for petroleum hydrocarbons and petroleum-related VOCs at the Site have been evaluated to assess the potential impacts to human health and environment. Based on the analysis presented in the CSM, it has been concluded that potential human exposure to petroleum hydrocarbons and petroleum-related VOCs is limited to soil and groundwater. In addition, while direct exposure to VOCs in soil was not identified as a likely complete exposure pathway under current Site use, the petroleum-related VOCs in soil and groundwater have the potential to: volatize and migrate to indoor air; and/or leach and impact groundwater. Direct exposure to petroleum hydrocarbons and petroleum-related VOCs in groundwater at the Site was identified as a complete exposure pathway due to the designation of the groundwater at the Site as a potential drinking water source. A summary of the potential exposure pathways is presented on Figure 4-2.

4.2.1.1 Exposure Concentrations

Where sample data were limited, the maximum-detected concentrations of the petroleum hydrocarbons and petroleum-related VOCs were used to estimate the reasonable maximum exposure (RME) point concentration for comparison with screening levels used to compare with the screening levels pursuant to the California Environmental Protection Agency (CalEPA) and the United States Environmental Protection Agency (USEPA) guidance (CalEPA, 1996). USEPA recommends that maximum beneficial uses of a property be the basis for evaluation, e.g., residential. Therefore, conditions in soil and groundwater at the Site have been screened using the methods described below based on a commercial exposure scenario.

4.2.2 Identification of Screening Criteria

Based on the identified exposure pathways, screening levels have been selected for chemicals in soil, soil gas and groundwater. The selected screening levels have been selected based on a review of published screening levels including: CalEPA California Human Health Screening Levels (CHHSLs or "Chisels"); Regional Board Basin Plan numerical water quality objectives; California Department of Health Services (DHS) maximum contaminant levels (MCLs); and the Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goals (PHGs).

When considering screening levels, the CalEPA recommends that maximum beneficial uses of a Site be used for evaluation. The current and anticipated future use of the Site is commercial. However, properties downgradient of the Site are used for residential purposes. Therefore, commercial screening criteria are used for onsite exposures and residential screening criteria are used for downgradient potential exposures, e.g., ingestion of groundwater.

4.2.2.1 Regional Board Environmental Screening Levels

The Regional Board has identified Tier 1 ESLs for petroleum hydrocarbons in soil, soil gas and groundwater (Regional Board, 2005). The Regional Board ESLs "are considered to be very

conservative [and] the presence of a chemical at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health and the environment." While a chemical may be measured at concentrations above the Regional Board ESL, it "does not necessarily indicate that adverse impact to human health or the environment are occurring, [it] simply indicates that potential for adverse impacts may exist and that additional evaluation is warranted."

In developing the ESLs, the Regional Board has considered exposure pathways to humans, including dermal contact, inhalation, migration of soil leachate to groundwater, ingestion and urban area eco-toxicity criteria. The Regional Board used a depth of 3 meters (10 feet) to delineate between surface soil and subsurface soil. The Regional Board ESLs for surface soil in commercial/industrial land use areas protective of human health and where groundwater is a potential drinking water resource have been used to evaluate the chemicals at the Site (Regional Board, 2005). The Regional Board ESLs include: 100 mg/kg for TPHg; and 100 mg/kg for TPHd.

4.2.2.2 CALIFORNIA HUMAN HEALTH SCREENING LEVELS

The CHHSLs are concentrations of hazardous chemicals in soil or soil gas that CalEPA considers to be below thresholds of concern for risks to human (CalEPA, 2005b). CHHSLs combine standard exposure assumptions and chemical toxicity values published by the USEPA and CalEPA, to estimate soil, soil gas and indoor air concentrations considered to be below thresholds of concern for risks to human health (CalEPA, 2005b). The presence of a chemical at concentrations in excess of a CHHSL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation of potential human health concerns is warranted.

4.2.2.3 STATE WATER RESOURCES CONTROL BOARD RESOLUTION 92-49

Pursuant to SWRCB Resolution No. 92-49, groundwater containing concentrations above applicable numerical water quality objectives must obtain the requisite level of water quality within a reasonable timeframe. In general, target cleanup levels for groundwater are based on the numerical water quality objectives as designated in the Basin Plan (Regional Board, 2006). The Basin Plan also includes narrative water quality objectives that require that waters "shall not contain taste- or odor-producing substances in concentrations that…adversely affect beneficial uses."

The groundwater beneath the Site has been designated to have the potential beneficial use of municipal and domestic water supply (MUN). The Basin Plan identifies the drinking water MCLs as numerical water quality objectives for the MUN beneficial use. The California DHS has set MCLs for: benzene, toluene, ethyl benzene and xylenes in drinking water of 1 µg/l, 150 µg/l, 700 µg/l, and 1,750 µg/l, respectively (Cal. Code of Regs., tit. 22, § 64444). The California OEHHA has established a PHG for benzene at 0.15 µg/l and isopropyl benzene of 0.8 µg/l (OEHHA, 2006).

The State of California has also set notification levels for n-butylbenzene at 260 µg/l; naphthalene at 17 µg/l; 1,2,4-trimethylbenzene 330 µg/l; 1,3,5-trimethylbenzene at 330 µg/l; sec-butylbenzene at 260 µg/l; and n-propylbenzene at 260 µg/l. Notification levels are health-based advisory levels for chemicals in drinking water that lack MCLs. Detections of contaminants above notification levels prompt certain notification requirements.

The Basin Plan also includes narrative water quality objectives that require that waters "shall not contain taste- or odor-producing substances in concentrations that…adversely affect beneficial uses." The threshold odor concentration of commercial gasoline (measured as TPHg) in water is commonly accepted to be 5 µg/l, with 10 µg/l giving a strong odor (Marshack, 2003). Based on the taste and odor threshold, the applicable groundwater numerical water quality objective for

TPHg, toluene, ethyl benzene, xylenes and 1,3,5-TMB are 5 µg/l, 40 µg/l, 29 µg/l, 17 µg/l and 15 µg/l respectively, equivalent to three threshold odor numbers (TON), the USEPA secondary MCL for nuisance odor.

4.3 EVALUATION OF FINDINGS

Laboratory analytical results for the soil and groundwater samples have been compared to the identified evaluation criteria to assist in identifying conditions of concern. The comparison criteria and the analytical results are summarized in Tables 3-1 and 3-2 and are discussed below.

4.3.1 Soil Gas Conditions

Petroleum hydrocarbon-related VOCs are present in soil and groundwater at the Site and in soil gas offsite. However, without additional Site data, it is not possible to adequately evaluate soil gas conditions at the Site.

4.3.2 Soil Conditions

Laboratory analysis of the onsite soil sample analytical data revealed the presence of TPHg up to 670 mg/kg and TPHd up to 190 mg/kg, above their respective resource protection screening criteria of 100 mg/kg and 100 mg/kg. Benzene was detected in soil samples collected at the Site up to 1,400 µg/kg, above its resource protection-screening criterion of 44 µg/kg. Toluene was detected in soil samples collected at the Site up to 1,100 µg/kg, below its resource protection-screening criterion of 2,900 µg/kg. Ethyl benzene was detected in soil samples collected at the Site up to 4,700 µg/kg, above its resource protection-screening criterion of 3,300 µg/kg. Xylenes were detected in soil samples collected at the Site up to 16,500 µg/kg, above its resource protection-screening criterion of 2,300 µg/kg. MTBE was detected in soil samples collected at the Site up to 180 µg/kg, above its resource protection-screening criterion of 23 µg/kg (Table 3-1).

Laboratory analysis of the soil samples collected from the Site also revealed other petroleum-related VOCs including: 1,2,4-TMB up to 22,000 µg/kg; 1,3,5-TMB up to 12,000 µg/kg; n-butylbenzene up to 6,800 µg/kg; sec-butylbenzene up to 2,000 µg/kg; isopropyl benzene up to 3,800 µg/kg; p-isopropyl toluene up to 1,000 µg/kg; naphthalene up to 4,200 µg/kg; p-propyl benzene up to 14,000 µg/kg; 1,2,3-trichlorobenzene up to 6.6 µg/kg; and 1,2,4-trichlorobenzene up to 7.3 µg/kg (Table 3-1). Applicable screening criteria have not been established to evaluate the onsite soil conditions associated with the petroleum-related VOCs with the exception of: naphthalene at 4,200 µg/kg, which is above its resource protection screening criterion of 1,500 µg/kg; and 1,2,4-trichlorobenzene at 7.3 µg/kg, which is below its resource protection screening criterion of 1,000 µg/kg.

4.3.3 Groundwater Conditions

Laboratory analysis of the groundwater samples collected from the Site have revealed TPH and petroleum-related VOCs above their respective numerical water quality objectives. TPHd was reported in groundwater to the north of the Site at 530,000 µg/l, above its organoleptic threshold of 100 µg/l. TPHg was detected in the groundwater samples collected at the Site up to 140,000 µg/l, above its taste and odor threshold of 5 µg/l. Benzene was detected in the groundwater samples colleted at the Site up to 21,000 µg/l, above its numerical water quality objective of 0.15 µg/l. Toluene was detected in the groundwater samples colleted at the Site up to 1,700 µg/l, above its numerical water quality objective of 40 µg/l. Ethyl benzene was detected in the groundwater samples colleted at the Site up to 8,500 µg/l, above its numerical water quality objective of 29 µg/l. Xylenes were detected in the groundwater samples collected at the Site up to 33,600 µg/l, above its numerical water quality objective of 17 µg/l.

MTBE was detected in the groundwater samples colleted at the Site up to 390 µg/l, above its numerical water quality objective of 5 µg/l. 1,3,5-TMB was detected in the groundwater samples collected at the Site up to 600 µg/l, above its numerical water quality objective of 15

µg/l. Naphthalene was detected in groundwater at the Site up to 640 µg/l, above its numerical water quality objective of 14 µg/l. Isopropyl benzene was detected in the groundwater samples colleted at the Site up to 74 µg/l, above its PHG of 0.8 µg/l (Table 3-2).

Laboratory analysis of the groundwater samples collected at the Site also revealed the presence of other petroleum-related VOCs above their respective California DHS notification levels including: 1,2,4-TMB up to 2,300 µg/l, above its notification level of 330 µg/l; n-propyl benzene up to 560 µg/l, above its notification level of 260 µg/l (Table 3-2).

4.4 DATA GAP ANALYSIS

The CSM does not adequately describe the distribution of TPH and petroleum-related VOCs at the Site. In addition, the screening level assessment has identified areas where additional data are required to evaluate potential exposures, i.e., soil gas vapor intrusion to indoor air.

Based on the data evaluation, the following data gaps were identified:

- Soil gas conditions and the threat to indoor air from vapor intrusion;
- Extent of residual source material remaining onsite;
- Contributions of separate onsite and offsite releases to Site groundwater; and
- Lateral and vertical extent of TPH and petroleum-related VOCs in groundwater that emanate from the Site.

Therefore, a Field Sampling Plan (FSP) has been developed to generate information to address the data gaps. The FSP includes:

- Collection of soil gas samples to quantify VOC vapors;
- Intrinsic air permeability testing to develop site-specific data to evaluate vapor intrusion;

- Soil sampling in suspected source area(s) to characterize remaining residual petroleum hydrocarbons that could source groundwater;
- Depth discrete groundwater sampling to provide information on the vertical extent of petroleum hydrocarbons and related VOCs;
- Groundwater sampling from temporary monitoring wells to generate data on the extent of petroleum hydrocarbons and related VOCs in groundwater; and
- Installation of permanent monitoring wells to generate data on groundwater flow direction and gradient.

5.0 FIELD SAMPLING PLAN

A scope-of work has been developed to generate data to address the identified data gaps. Based on the goals of the *Work Plan*, WEST has identified the following tasks:

- Task 1: Permitting, Health and Safety, Utility Clearance
- Task 2: Soil Sampling
- Task 3: Soil Gas Sampling
- Task 4: Groundwater Sampling
- Task 5: Groundwater Monitoring Well Installation
- Task 6: Groundwater Monitoring Well Sampling
- Task 7: Waste Management
- Task 8: Reporting

A detailed description of the tasks is presented below.

5.1 TASK 1: PERMITTING, HEALTH AND SAFETY, UTILITY CLEARANCE

Prior to subsurface investigations, boring and monitoring well permits will be obtained from the Alameda County Public Works Agency (ACPWA). In addition, encroachment permits will be obtained from the BART for investigation activities conducted in the public right-of-way.

A Site-specific *Health and Safety Plan* ("HASP") will be prepared to address worker health and safety during investigation activities. The HASP will be prepared in accordance with the

California Occupational Health and Safety Administration (CalOSHA) Title 8 §5192 Hazardous Waste Operations and Emergency Response and United States OSHA 29 CFR 1910.120, Hazardous Waste Operations and Emergency Responses. The HASP will be approved by the Project Manager, a Quality Assurance Reviewer and the onsite Safety Officer. The HASP will be read and signed by all onsite workers and Site visitors prior to entering the work area.

Pursuant to California Assembly Bill AB 73, Underground Services Alert (USA) will be contacted to locate and clear work areas for underground utilities at the Site. The work areas will also be cleared for underground utilities using a private underground utility locating contractor.

5.2 TASK 2: SOIL SAMPLING

Soil samples will be collected from borings advanced at locations depicted on Figure 5-1. A summary of the soil sample collection methodology is presented below.

5.2.1 Soil Sample Collection Methodology

Soil samples will be collected from borings advanced using hydraulic direct-push drilling equipment operated by a California state C-57 licensed well drilling contractor. Soil cores will be collected continuously using a 2-inch diameter 4-foot long core barrel outfitted with acetate liners for lithologic characterization using the Unified Soil Classification System (USCS) and recorded on boring logs. The soil cores will also be field screened using a Thermo Environmental Instruments, Inc. photo-ionization detector (PID) equipped with a 10.6 electron-Volt (eV) lamp and calibrated with isobutylene gas for organic vapors using closed headspace techniques. The results of the field screening will be recorded on the boring logs.

Soil samples for chemical analysis will be collected by cutting an approximately 6-inch long segment from the acetate liners at the target depth presented in Table 5-1. The soil samples cut from the acetate liners will then be capped with Teflon tape and plastic end caps, labeled and

placed in a chilled cooler. Soil samples analyzed for VOCs will be collected in accordance with USEPA Method 5035 using EnCore™ sample containers. Three disposable 5 milligram (mg) sample plugs will be collected from each soil sample. The 5 mg sample plugs will be pushed into the ends of the sample tube. After collection, the sample plugs will be capped, sealed in foil pouches and placed in a chilled cooler. The soil samples will then be transported to K Prime, Inc. of Santa Rosa, a California DHS Environmental Laboratory Accreditation Program (ELAP) certified laboratory for chemical analysis following the chain-of-custody procedures outlined in ASTM D 4840. The soil samples will be analyzed for the suite of chemicals included in Table 5-1. The down-hole reusable sampling equipment will be decontaminated prior to reuse at each sampling location.

Soil cuttings generated during boring advancement will be placed in United States Department of Transportation (USDOT) approved 55-gallon steel drums. The 55-gallon drums will be labeled and temporarily stored at the Site pending analytical review of the soil samples. The soil cuttings will be disposed following receipt of the soil laboratory analytical data and acceptance by an appropriately licensed disposal facility.

5.3 TASK 3: SOIL GAS SAMPLING

Soil gas samples will be collected from borings advanced at the locations depicted on Figure 5-1. In addition, intrinsic air permeability testing will be conducted to generate data for a Site-specific evaluation of the threat to indoor air from the presence of VOCs in the subsurface.

5.3.1 Soil Gas Sampling Methodology

The active soil gas samples will be collected following the procedures outlined in ASTM D 5314 and the CalEPA, *Advisory-Active Soil Gas Investigations* (CalEPA, 2003). A one-inch diameter steel drive rod outfitted with a retractable perforated tip will be driven into the subsurface using a handheld 30-pound slide hammer. A length of disposable ¼-inch diameter polyethylene tubing will be attached to the retractable tip within the drive rod and connected to a peristaltic pump at

the ground surface. The steel rod will then be retracted approximately three inches to expose the perforated tip, allowing soil gas to enter the tubing. A bentonite seal will be placed around the contact between the ground surface and the steel rod.

Prior to soil gas sample collection, a purge volume test will be performed which consists of removing approximately one, three and seven tubing volumes of soil gas using the peristaltic pump, while field screening the purge effluent. The purge effluent will be field screened for organic vapors using a Thermo Environmental Instruments, Inc. PID calibrated with isobutylene gas. The purge volume will be selected based on the maximum organic vapor concentration measured with the PID at each purge volume interval.

Following purging activities, the tubing will then be attached to a laboratory prepared one-liter Summa canister. The Summa canisters will be delivered by the analytical laboratory with a vacuum of approximately 30 inches of water and outfitted with 0.2-liter per minute flow control valve. The tubing will then be connected to the Summa canister using airtight stainless-steel fittings. The flow control valve will then be opened slowly to draw the vapor sample from the target depth. Leak detection monitoring will also be conducted during soil gas sampling by applying a compressed tetrafluoroethane gas to the bentonite seal and connection fittings. Following sample collection, the Summa canister atmosphere will then be measured with a pressure gauge and recorded on field data forms.

All downhole equipment will be decontaminated with detergent and triple rinsed with de-ionized water prior to reuse. The active soil gas samples will then be labeled and transported to K Prime, Inc. of Santa Rosa, California, a California DHS ELAP certified laboratory following ASTM D 4840 chain-of-custody protocols. The active soil gas samples will be analyzed for the suite of chemicals included in Table 5-1.

5.3.2 Intrinsic Soil Permeability Testing

Following collection of soil gas samples, the disposable tubing used during sample collection will be attached to a variable speed vacuum pump for intrinsic air permeability testing of the soil. Step testing will be conducted for at least three separate flow rates. Each step test will be conducted for approximately 45 seconds to 120 seconds. A flow meter with a range between 50 and 2,000 cubic centimeters per minute and a pressure gauge with a range between 0.0 and 15 inches of water will be placed inline between the soil gas sample tubing outlet and the inlet to the vacuum pump.

The flow rate and pressure within the probe will be measured and recorded during each step test. By using the Darcy equation, the permeability of the soil will be calculated at each soil gas sample location. Data collected during the intrinsic soil air permeability testing will be recorded on field data forms.

A soil sample will also be collected adjacent to and at the same depth as one of soil gas samples to characterize physical soil parameters for vapor intrusion calculations. The soil sample will be collected into a 6-inch by 1-inch aluminum liner using a hand held auger. The ends of the aluminum liner will be capped with Teflon® sheets and plastic end caps, labeled and placed in a chilled cooler for transportation to a California DHS ELAP certified laboratory pursuant to ASTM D 4840 chain-of-custody protocols. The soil sample will be analyzed for the suite of chemicals presented in Table 5-1.

5.4 TASK 3: GROUNDWATER SAMPLING

Borings will be advanced at the Site to collect groundwater samples for chemical analysis. Groundwater samples will be collected to characterize the lateral and vertical distribution of VOCs in groundwater. The groundwater samples will be collected from the borings depicted on Figure 5-1. The approximate groundwater sample depths and suite of analyses are presented in Table 5-1.

5.4.1 Groundwater Sample Collection Methodology

The groundwater samples will be collected using either hydraulic direct-push equipment or hollow stem augers operated by a C-57 licensed well drilling contractor. The hydraulic direct-push equipment will be outfitted with a hollow rod to facilitate groundwater sampling. The groundwater sampler will be attached to the push rod that is composed of a retrievable tip and stainless steel inlet screen to allow for depth discrete or multi-depth discrete groundwater sampling.

The direct push sample rod will be advanced in the closed position to the groundwater zone then retracted to expose the stainless steel inlet screen. Groundwater will be allowed to flow hydrostatically from the formation through the inlet screen. A bailer will be lowered within the hollow push rod to the screen section for collection of the groundwater samples.

The groundwater samples will be collected using laboratory supplied sample containers, labeled and placed in a cooler with ice for transportation to a DHS ELAP certified laboratory following chain-of-custody procedures as outlined in ASTM D 4840 for chemical analysis. The groundwater samples will be analyzed for the suite of analyses presented in Table 5-1.

5.5 TASK 5: GROUNDWATER MONITORING WELL INSTALLATION

Based on the results of the depth discrete groundwater samples and concurrence from the regulatory agency on the locations, groundwater-monitoring wells will be constructed at the Site. Groundwater-monitoring wells will be installed to generate data for evaluating the Site hydrogeologic conditions, i.e., groundwater flow direction and gradient as well as to provide more representative groundwater samples for laboratory analysis. Tentatively identified monitoring well locations are presented on Figure 5-1. The groundwater-monitoring wells will be installed using the procedures presented below.

5.5.1 Well Borings

Well borings will be advanced at the Site for installation of monitoring wells. The borings will be advanced using hydraulic direct-push equipment operated by a California state C-57 licensed well drilling contractor. The borings will be drilled using two-inch diameter push rods equipped with a 2-inch diameter 4-foot long core barrel outfitted with an acetate liner insert. Soil core samples will be collected continuously within the acetate liners. The soil core samples will be described using the USCS and summarized on lithologic logs. In addition, the soil core samples will be field screened for organic vapors using a PID calibrated with isobutylene gas. The results of the field screening will be recorded on the lithologic logs. Upon completion of the borings, groundwater-monitoring wells will be constructed within the borings.

5.5.1.1 MONITORING WELL CONSTRUCTION

The base of the groundwater-monitoring wells will be constructed of approximately 10-foot to 15-foot long Schedule 40 polyvinyl chloride (PVC) slotted pre-pack well screens. An appropriate well screen and filter pack will be selected based on geologic materials encountered during the advancement of soil borings.

The top of the slotted screen well casing will be outfitted with a Schedule 40 PVC blank well casing to the ground surface. A minimum two-foot seal consisting of bentonite pellets will be placed above the pre-pack well screen. A Portland cement grout sanitary seal will be placed above the bentonite seal to the ground surface. The top of the well casing will be completed with a traffic-rated flush-mount steel protective box and locking cap for security.

Downhole equipment will be decontaminated before commencement of drilling activities and between the boring locations. Soil cuttings generated during drilling activities will be placed in USDOT-approved 55-gallon steel drums. The soil cuttings will be sampled for chemical analysis and profiling by the disposal facility for acceptance. The 55-gallon drums will be labeled and temporarily stored at the Site pending analytical review of the soil cutting samples.

The disposition of the soil cuttings will be determined following receipt of soil cutting sample analytical results and acceptance by the disposal facility.

5.5.2 Well Development

Following monitoring well installation, the wells will be developed to remove suspended materials generated during the drilling activities pursuant to CalEPA's *Monitoring Well Design and Construction for Hydrogeologic Characterization Guidance – Manual for Ground Water Investigations* (CalEPA, 1995). Well development will consist of inserting a surge block equipped with a wiper within the PVC casing and surging the water within the well casing to flush suspended material through the sand filter pack. Following surging activities, the water within the well casing will be purged using a submersible pump or disposable bailer.

Groundwater quality parameters including temperature, pH, dissolved oxygen (DO), conductivity and turbidity will be monitored during the well purging activities. The groundwater will be purged from the well until water quality parameters have stabilized to within approximately ten percent of the previous measurements. Well development purge water will be placed within USDOT-approved 55-gallon steel drums, labeled and temporarily stored onsite.

5.5.3 Well Survey

Following groundwater monitoring well installation, the horizontal and vertical locations of the top of the well casings will be surveyed by a California state licensed land surveyor to the nearest 0.01-foot above Mean Sea Level (NAVD, 1988). The well elevation survey will be used to calculate the groundwater elevation at each monitoring well location for determination of groundwater flow direction and gradient.

5.6 TASK 6: GROUNDWATER MONITORING WELL SAMPLING

Groundwater samples will be collected from the monitoring wells for laboratory analysis. The proposed suite of chemical analyses for the monitoring wells is presented in Table 5-1. The depth to groundwater will also be measured to generate data for calculating the groundwater flow direction. A summary of the groundwater sampling procedures is described below.

5.6.1 Depth to Groundwater Measurements

Prior to sampling, depth to groundwater will be measured at the groundwater-monitoring wells using an electronic sounding device from the top of the well casing to the nearest 0.01-foot. Groundwater elevations will be calculated using the top of casing elevations surveyed to the nearest 0.01-foot above Mean Sea Level (NAVD, 1988).

5.6.2 Groundwater Sample Collection Methodology

The groundwater samples will be collected from the monitoring wells using low-flow purge and sample collection techniques (USEPA, 1996a). Prior to sampling, water from the well casing will be purged for a minimum of 15 minutes at a flow rate of approximately 400 milliliters per minute. Groundwater parameter data, including temperature, pH, electrical conductivity, dissolved oxygen (DO), turbidity and depth to groundwater, will be measured during well purging to monitor stability of parameters. Once groundwater parameters have stabilized to within 10 percent of previous measurements, groundwater samples will be collected into laboratory supplied and prepared containers. Groundwater samples collected for analysis of VOCs will be collected using zero headspace 40-milliliter glass volatile organic analysis (VOA) vials preserved with hydrochloric acid.

Following sample collection, the samples will be labeled, placed in a chilled cooler and transported to a DHS ELAP certified laboratory for chemical analysis following the chain-of-custody procedures outlined in ASTM D 4840. Duplicate samples, travel blanks, field blanks

and equipment blanks, as appropriate, will be transported with the primary samples to the analytical laboratory. The groundwater samples collected from the monitoring wells will be submitted to a DHS ELAP certified laboratory for the analyses presented in Table 5-1.

5.7 TASK 7: WASTE MANAGEMENT

Investigation-derived wastes (IDWs), those materials generated during the process of sampling and investigations at the Site will be managed in accordance with applicable regulatory requirements. IDWs are anticipated to include concrete and cinderblock dust, decontamination fluids, personal protective equipment (PPE) and disposable sampling equipment.

Management of IDW must comply with applicable regulations. Potential applicable regulations include the Resource Conservation and Recovery Act (RCRA), Clean Air Act (CAA), Clean Water Act (CWA), Safe Drinking Water Act (SDWA) and legally enforceable state regulations.

5.8 TASK 8: REPORTING

The results of the soil, soil gas and groundwater investigation will be summarized in a report that will include the findings of the sampling and hydrogeological data collected during field investigations. A tabularized summary of analytical data, measurements of depth to groundwater and calculations of groundwater gradient will also be included. Groundwater elevations and conditions will be depicted on separate figures. An updated CSM will reflect the known soil, soil gas and groundwater conditions relative to the identified and potential sources as well as potential receptors. The report will also present appropriate conclusions and recommendations for additional work, as necessary. The report will be prepared under the supervision of a California Professional Engineer and California Professional Geologist.

Appendices to the report will include monitoring well construction logs with well details including locations of screen intervals, bentonite seal and sanitary seal details. The appendices will also include a copy of the well development and sampling field data forms with a

description of the groundwater parameter stabilization, e.g., tables showing pH, electrical conductivity, DO, temperature, turbidity, development and sampling methodologies and the volume of groundwater purged from the wells.

5.8.1 Electronic Submittal – AB2886

The sampling and survey data will be submitted electronically as required by Assembly Bill 2886 (Water Code Sections 13195-13198) for the SWRCB Geotracker database. As outlined in the requirements by the SWRCB (Article 12, Chapter 16, Division 3, Title 23 of the California Code of Regulations), data generated from this investigation will be submitted in both hard copy and electronic format.

6.0 REFERENCES

ASTM, *Standard Guide for Soil Gas Monitoring in the Vadose Zone D-5314-92* (ASTM D 5314).

ASTM, *Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process E 1903-97* (ASTM E 1903).

ASTM, *Standard Guide for Sample Chain-of-Custody Procedures D 4840-99* (ASTM D 4840).

San Francisco Bay Area Rapid Transit District, Letter to Ms. Kathy Kuhlman, City of Oakland, *Request for Additional Investigation at MacArthur BART Station*, February 2, 2006 (BART, 2006a).

San Francisco Bay Area Rapid Transit District, Letter to Mr. Don Hwang, Alameda County Environmental Health, *Surgery Center Site at 3875 Telegraph Avenue, Oakland, California*, October 4, 2006 (BART, 2006b).

California Code of Regulations, *Title 23, Division 3, Chapter 16, Section 2724 and 2725, Underground Storage Tank Regulations* (CCR, 2001).

California Environmental Protection Agency (CalEPA), *Advisory – Active Soil Gas Investigations,* January 28, 2003 (CalEPA, 2003).

California Environmental Protection Agency (CalEPA), *Use of Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005* (CalEPA, 2005).

California Office of Environmental Health Hazard Assessment, Public Health Goals, December 2006 (OEHHA, 2006).

California Regional Water Quality Control Board - San Francisco Bay Region, *East Bay Plain Groundwater Basin, Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, June 1999* (Regional Board, 1999).

California Regional Water Quality Control Board – San Francisco Bay Region. *Application of Environmental Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater*, Interim Final, July 2005 (Regional Board, 2005).

California Regional Water Quality Control Board - San Francisco Bay Region, *Water Quality Control Plan for the San Francisco Bay Basin,* 2006 (Regional Board, 2006).

California State Water Resources Control Board, Resolution 92-49, *Policies and Procedures for Investigations and Cleanup and Abatement of Discharges Under Water Code Section 13304,* Amended October 2, 1996 (SWRCB, 1996).

Cambria Environmental Technology, Inc., *Site Conceptual Model, Former Shell Service Station, 500 40th Street, Oakland, California*, November 21, 2005 (Cambria, 2005).

Fidelity Title Company, Title Search for 3875 Telegraph Avenue, Oakland, California, 2007 (Fidelity, 2007).

Gribi Associates, *Report of Phase II Environmental Site Assessment, The Surgery Center, 3875 Telegraph Avenue, Oakland, California*, February 7, 2005 (Gribi, 2005).

Harding Lawson Associates, *Soil Investigation, Outpatient Medical Clinic, Oakland, California*, June 28, 1984, (HLA, 1984).

Harding Lawson Associates, *Phase I Preliminary Hazardous Materials Site Assessment, The Surgery Center, 3875 Telegraph Avenue, Oakland, California*, January 22, 1992, (HLA, 1992).

Tri-Regional Board Staff, *Recommendations for Preliminary Investigations and Evaluation of Underground Storage Tank Sites,* August 10, 1990 (Regional Board, 1990).

Tri-Regional Board Staff, *Recommendations for Preliminary Investigations and Evaluation of Underground Storage Tank Site, Appendix A,* April 16, 2004 (Regional Board, 2004).

USEPA, *Low-Flow (Minimal Drawdown) Ground-water Sampling Procedures, Office of Research and Development, Washington D.C., EPA/540/S-95/504, April 1996* (USEPA, 1996).

7.0 DISTRIBUTION LIST

Mr. Jerry Wickham, P.G. (Electronic submittal only)
Alameda County Health Care Services Agency,
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Daniel E. Hall
Wickland Corporation
P.O. Box 13648
Sacramento, California 95853

Ms. Lori J. Gualco, Esq.
Attorney-at-Law
455 Capitol Mall, Suite 210
Sacramento, California 95814

Mr. James E. Gribi, P.G.
Gribi Associates
1090 Adams Street, Suite K
Benicia, California

Ms. Julie M. Rose, Esq.
Randick O'Dea & Tooliatos, LLP
5000 Hopyard Road, Suite 400
Pleasanton, California 94588-3348

Mr. Larry Fusch
The Surgery Center
3875 Telegraph Avenue
Oakland, California 94609

Mr. Robert Petrina
East Bay Surgery Center, LP
c/o Alta Bates Summit Medical Center
350 Hawthorne, Avenue, Suite G100
Oakland, California 94609-3108

TABLE 3-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
3875 Telegraph Avenue
Oakland, California

Area	Sample ID	Depth	Date	Petroleum Hydrocarbons			Volatile Organic Compounds															Arsenic	Lead
				TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Isopropyl benzene	p-Isopropyl toluene	Naph-thalene	n-Propyl benzene	1,2,3-Trichloro-benzene	1,2,4-Trichloro-benzene		
				(mg/kg)	(mg/kg)	(mg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(mg/kg)	(mg/kg)
Terracon																							
Onsite	B-1	15	8/28/01	--	--	--	420	86	4,700	16,500	--	10,000	3,500	1,400	350	ND	630	160	1,700	2,300	ND	ND	--	--
	B-2	19.5		--	--	--	ND	ND	ND	2,000	--	22,000	12,000	6,800	2,000	ND	3,800	1,000	4,200	14,000	ND	ND	--	--
	B-3	15.5		--	--	--	ND	ND	ND	ND	--	ND	ND	23	10	ND	8.2	ND	ND	32	6.6	7.3	--	--
	B-4	14.5		--	--	--	ND	ND	ND	ND	--	ND	ND	370	870	61	1,500	41	ND	5,400	ND	ND	--	--
	B-5	21.5		--	--	--	ND	ND	ND	ND	--	ND	ND	22	19	ND	ND	ND	ND	15	ND	ND	--	--
	B-6	11.5		--	--	--	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--
Gribi																							
BART Parking Lot	B-1	7.5	1/8/05	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		11.5		<1.0	--	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		13		18	--	--	<5.0	14	120	27	120	--	--	--	--	--	--	--	--	--	--	--	--	--
		15		0.77	--	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		16		4.4	--	--	<5.0	<5.0	<5.0	<5.0	30	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-2	7		190	--	--	<5.0	710	4,100	7,800	200	--	--	--	--	--	--	--	--	--	--	--	--	--
		14		670	190	--	440	<5.0	130	410	200	--	--	--	--	--	--	--	--	--	--	--	--	--
	B-3	7.5		65	--	--	75	52	500	212	220	--	--	--	--	--	--	--	--	--	--	--	--	--
		11.5		170	--	--	<5.0	1,800	2,800	14,800	370	--	--	--	--	--	--	--	--	--	--	--	--	--
		15		5	--	--	130	8.4	20	78	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
Onsite	B-4	7.5		<0.5	--	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		11.5		<0.5	<10	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		15		39	--	--	630	ND	1,500	3,600	58	--	--	--	--	--	--	--	--	--	--	--	--	--
		19.5		90	--	--	1,400	1,100	2,000	9,300	180	--	--	--	--	--	--	--	--	--	--	--	--	4.2
	B-5	7.5		1.4	<10	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		11.5		16	--	--	<5.0	<5.0	<5.0	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		15.5		16	--	--	<5.0	<5.0	54	<5.0	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
		19.5		1.1	--	--	<5.0	<5.0	13	20	<20	--	--	--	--	--	--	--	--	--	--	--	--	--
BART																							
3901 Telegraph	B-4	5	2/05	<1.1	9.3	55	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	5.8	5.7
		10		<1.1	1.0	<5.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	--	--
Apgar Street	B-5	5	2/05	<1.1	33	210	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	4.3	7.2
		10		<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	3.5
		17		<1.0	51	5.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.4
3801 Telegraph	B-6	5	2/05	<0.99	1.8	<5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.5
		10		<1.0	1.1	<5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5
BART Central Parking	B-16	2	2/05	<1.0	19	140	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	6.5	10
		5		2,700	240	<25	5,700	26,000	49,000	150,000	<1,000	--	--	--	--	--	--	--	--	--	--	--	5.3	5.9
	B-20	2		--	10	110	--	--	--	--	--	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	74	5.6
	B-21	2		<1.1	3.9	5.7	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	2.0	3.1
		5		300	63	6.9	<25	<25	630	260	<100	--	--	--	--	--	--	--	--	--	--	--	5.1	5.0
	B-22	2		<1.0	11	12	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	5.8	3.8
		5		<1.0	26	180	<5.1	<5.1	<5.1	<5.1	<20	--	--	--	--	--	--	--	--	--	--	--	4.5	3.9
	B-25	2		<1.1	160	470	<5.5	<5.5	<5.5	<5.5	<22	--	--	--	--	--	--	--	--	--	--	--	4.4	5.9
		5		6	130	71	<5.2	<5.2	<5.2	50	<21	--	--	--	--	--	--	--	--	--	--	--	8.5	7.8
Regional Board ESLs - Commercial				100	100	1,000	44	2,900	3,300	2,300	23	--	--	--	--	--	--	--	1,500	--	--	1,000		750

TABLE 3-2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
3875 Telegraph Avenue
Oakland, California

Area	Sample ID	Date	Petroleum Hydrocarbons			Petroleum Related-Volatile Organic Compounds													
			TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Isopropyl benzene	p-Isopropyl toluene	Naph-thalene	n-Propyl benzene
			(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
Terracon																			
Onsite	B-1	8/28/01	--	--	--	11,000	760	2,600	9,300	--	2,300	600	ND	ND	ND	ND	ND	640	560
	B-2	8/28/01	--	--	--	30	ND	100	162	--	57	10	ND	ND	ND	ND	ND	20	39
	B-3	8/28/01	--	--	--	ND	ND	310	74	--	100	120	ND	23	ND	74	ND	90	230
	B-4	8/28/01	--	--	--	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	6.4
	B-5	8/28/01	--	--	--	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	7.3
	B-6	8/28/01	--	--	--	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gribi																			
BART Parking Lot	B-1	1/8/05	240	--	--	<1.0	<1.0	9.1	<1.0	<4.0	--	--	--	--	--	--	--	--	--
	B-2	1/8/05	14,000	--	--	220	<1.0	380	540	34	--	--	--	--	--	--	--	--	--
	B-3	1/8/05	80,000	--	--	3,800	1,700	5,400	21,800	<100	--	--	--	--	--	--	--	--	--
Onsite	B-4	1/8/05	140,000	--	--	21,000	1,700	8,500	33,600	ND	--	--	--	--	--	--	--	--	--
	B-5	1/8/05	130,000	--	--	<1.0	<1.0	8,000	6,680	390	--	--	--	--	--	--	--	--	--
BART																			
3931 Telegraph	B-1	2/05	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
3915 Telegraph	B-3	2/05	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
3901 Telegraph	B-4	2/05	33,000	530,000	39,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Apgar Street	B-5	2/05	23,000	4,800	<300	340	78	940	2,540	<71	980	320	<71	<71	<71	72	<71	160	250
3801 Telegraph	B-6	2/05	2,200	680	<300	11	<5.0	56	129	<5.0	91	21	13	6.7	<5.0	14	<5.0	24	44
	B-8	2/05	5,300	2,400	<300	69	<0.5	100	10	<2.0	--	--	--	--	--	--	--	--	--
MacArthur Blvd	B-9	2/05	920	2,500	<300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-10	2/05	270	260	<300	<5.0	<5.0	<5.0	<5.0	<5.0	9.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-11	6/05	31,000	25,000	<300	<5.0	<5.0	2700	--	<5.0	--	--	--	--	--	--	--	--	--
BART South Parking	B-12	2/05	<50	<50	<300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-13	2/05		620	670	20	<5.0	65	42	<5.0	78	22	<5.0	<5.0	<5.0	11	<5.0	29	30
	B-15	2/05		2,900	12,000	9.8	--	--	--	--	--	--	--	--	--	--	--	--	--
BART Central Parking	B-16	2/05	280,000	210,000	<15,000	47,000	48,000	6,500	34,300	<4,200	6,200	<4,200	<4,200	<4,200	<4,200	<4,200	<4,200	<4,200	<4,200
	B-16A	6/05	4,300	--	--	19	25	170	400	--	--	--	--	--	--	--	--	--	--
	B-16B	6/05	20,000	--	--	560	21	800	1,500	--	--	--	--	--	--	--	--	--	--
	B-17	2/05	--	--	--	20	<10	150	190	<10	180	61	12	<10	<10	18	<10	24	58
	B-18	2/05	54	2,200	20,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-20	2/05	--	680	<300	190	<20	40	<20	<20	50	<20	<20	<20	<20	<20	<20	<20	36
	B-21	2/05	4,600	2,600	<300	<10	<10	40	33	<10	40	21	60	29	<10	28	<10	22	150
	B-22	2/05	2,600	970	<300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-24	2/05	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	B-25	2/05	700	2,500	5,300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.2	<5.0	6.2	<5.0	<5.0	14
3501 MacArthur	B-33	2/05	<50	710	<300	<5.0	<5.0	70	266	<5.0	190	56	16	6	<5.0	11	<5.0	52	40
Numerical Water Quality Objectives			5	100	500	1	40	29	17	5	330	15	260	260	260	0.8	--	17	260

TABLE 5-1
PROPOSED LABORATORY ANALYSES
3875 Telegraph Avenue
Oakland, California

Sample ID	Sample Media	Depth	VOCs	TPHd/ TPHg	BTEX/ MTBE	Dry Bulk Density	Organic Carbon	Moisture Content	Hold
		(ft. bgs)	TO14A/ TO15	USEPA 8015M	USEPA 8021/8260B	ASTM D2937	USEPA 9060	ASTM D 2216	
W-1	Soil	5	--	X	X	--	--	--	--
		10	--	X	X	--	--	--	--
		15	--	--	--	--	--	--	X
	Soil Gas	5	X	--	--	--	--	--	--
W-2	Groundwater	15-20	--	X	X	--	--	--	--
		20-25	--	X	X	--	--	--	--
W-3	Soil	5	--	--	--	X	X	X	--
	Groundwater	15-20	--	X	X	--	--	--	--
		20-25	--	X	X	--	--	--	--
W-4	Soil	5	--	X	X	--	--	--	--
		10	--	X	X	--	--	--	--
		15	--	--	--	--	--	--	X
	Soil Gas	5	X	--	--	--	--	--	--
W-5	Soil	5	--	X	X	--	--	--	--
		10	--	X	X	--	--	--	--
		15	--	--	--	--	--	--	X
	Soil Gas	5	X	--	--	--	--	--	--
W-6	Soil Gas	5	X	--	--	--	--	--	--
W-7	Soil Gas	5	X	--	--	--	--	--	--
W-8	Groundwater	15-20	--	X	X	--	--	--	--
		20-25	--	X	X	--	--	--	--
MW-1	Groundwater	tbd	--	X	X	--	--	--	--
MW-2	Groundwater	tbd	--	X	X	--	--	--	--
MW-3	Groundwater	tbd	--	X	X	--	--	--	--

Notes:

TPHg: Total Petroleum Hydrocarbons as Gasoline
TPHd: Total Petroleum Hydrocarbons as Diesel
VOCs: Volatile organic compounds
BTEX: Benzene, toluene, ethyl benzene, xylenes
bgs: Below Ground Surface

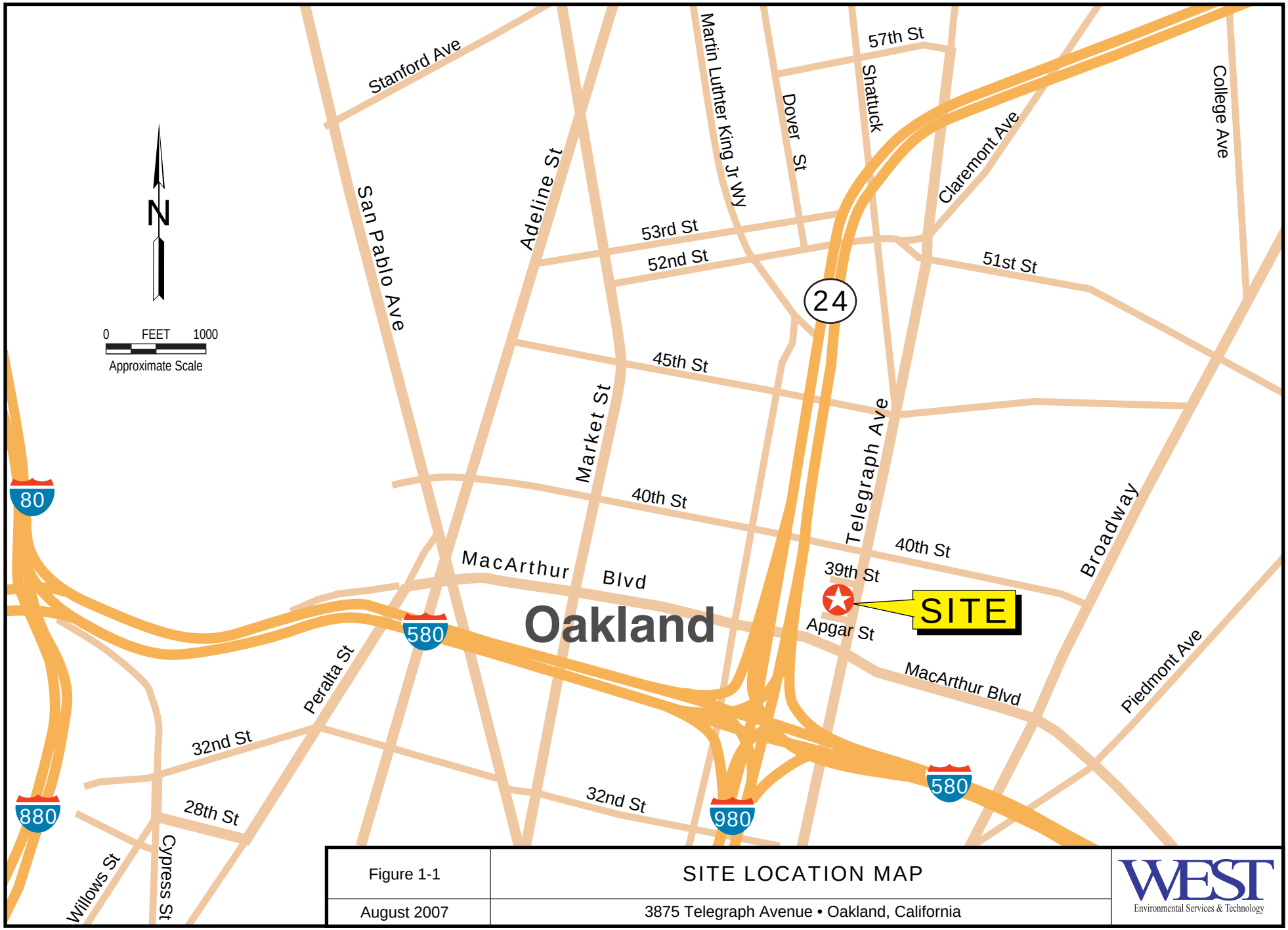


Figure 1-1	SITE LOCATION MAP	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

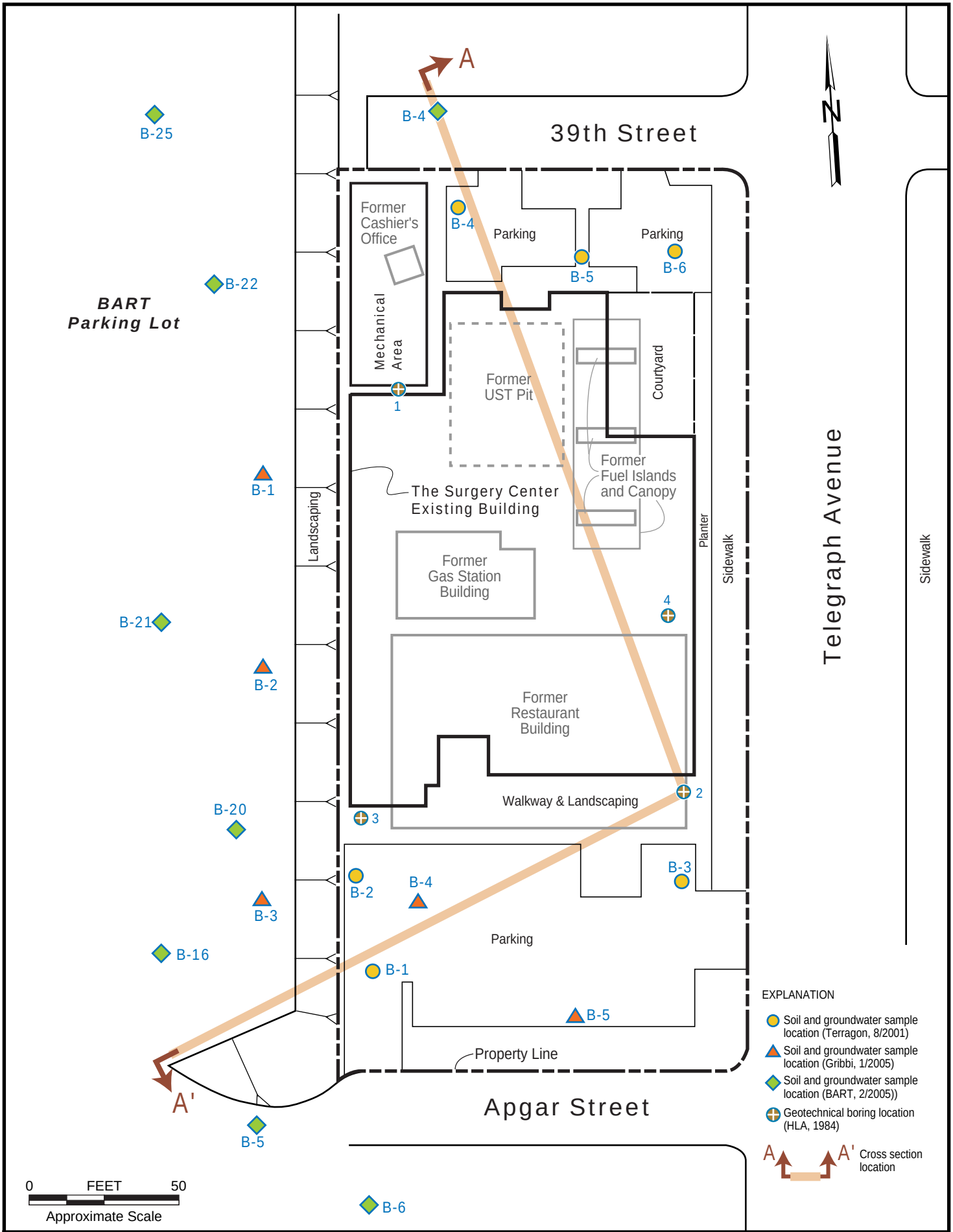


Figure 2-1	SITE PLAN, CROSS SECTION AND SAMPLE LOCATIONS	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

A

A'

East Bay Surgery Center

39th Street

BART Parking

FORMER FUEL ISLANDS AND CANOPY

B-4 B-4 1 4 B-5 B-4 3 B-2 B-1 B-3 B-16

FORMER UST EXCAVATION

Fill

Silt / Clay

Sand

Silt / Clay

Sand

Fill

Sand

CL CL/CH CL SC CL SC CL CL SC CL SP CL CL SC SP

DEPTH (FEET)

0 5 10 15 20 25 30

DEPTH (FEET)

0 5 10 15 20

EXPLANATION

Predominantly sand sediments

Predominantly silt/clay sediments

B-4

Boring

CL — Soil classification

Water level

5 Scale in Feet

6X Vertical Exaggeration

0 0 30

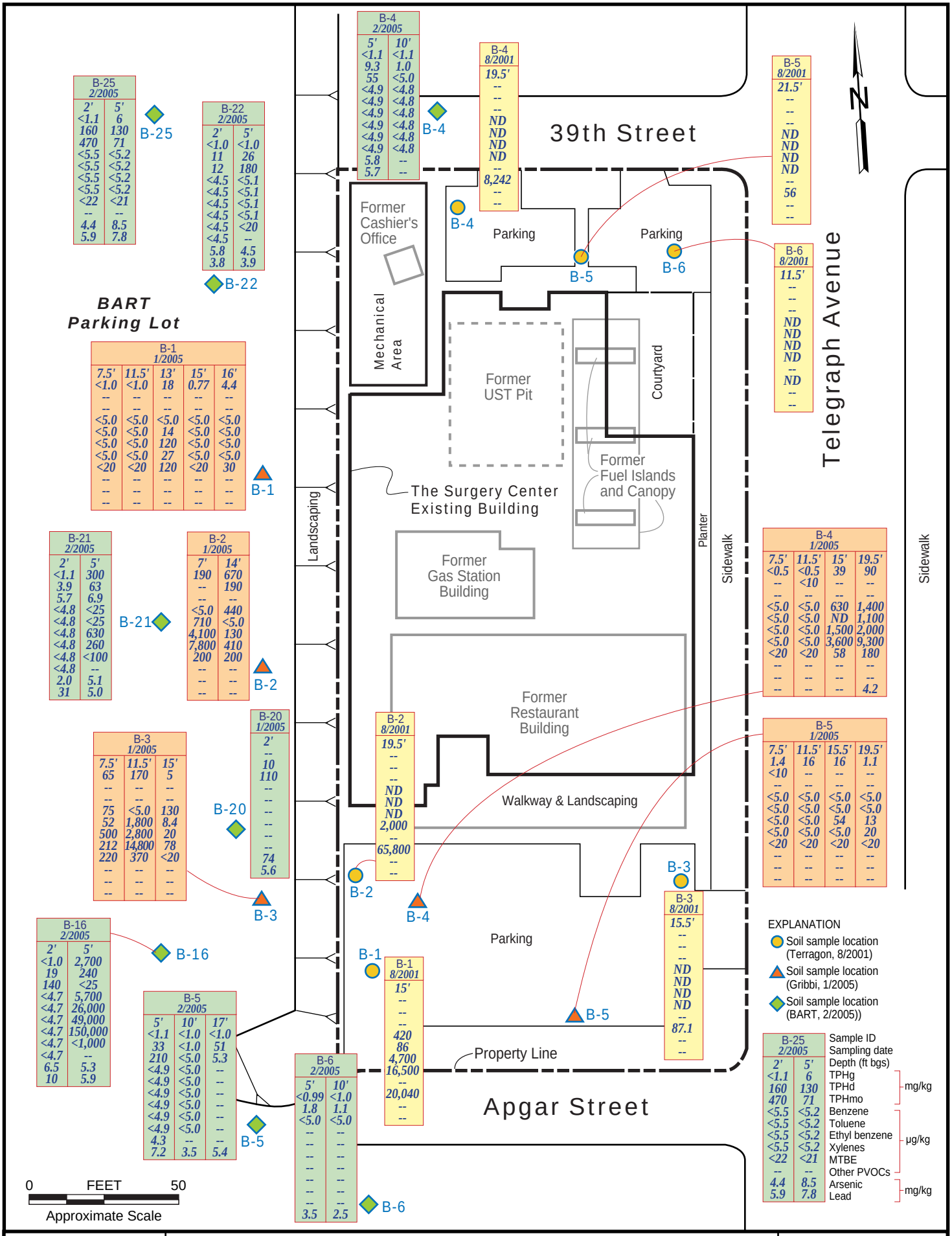
CROSS SECTION A-A'

3875 Telegraph Avenue • Oakland, California

WEST Environmental Services & Technology

Figure 2-2

August 2007



B-25 2/2005	
2'	5'
<1.1	6
160	130
470	71
<5.5	<5.2
<5.5	<5.2
<5.5	<5.2
<5.5	<5.2
<22	<21
--	--
4.4	8.5
5.9	7.8

B-22 2/2005	
2'	5'
<1.0	<1.0
11	26
12	180
<4.5	<5.1
<4.5	<5.1
<4.5	<5.1
<4.5	<5.1
<4.5	<20
<4.5	--
5.8	4.5
3.8	3.9

B-1 1/2005				
7.5'	11.5'	13'	15'	16'
<1.0	<1.0	18	0.77	4.4
--	--	--	--	--
--	--	--	--	--
<5.0	<5.0	<5.0	<5.0	<5.0
<5.0	<5.0	14	<5.0	<5.0
<5.0	<5.0	120	<5.0	<5.0
<5.0	<5.0	27	<5.0	<5.0
<20	<20	120	<20	30
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--

B-21 2/2005	
2'	5'
<1.1	300
3.9	63
5.7	6.9
<4.8	<25
<4.8	<25
<4.8	630
<4.8	260
<4.8	<100
<4.8	--
2.0	5.1
31	5.0

B-2 1/2005	
7'	14'
190	670
--	190
--	--
<5.0	440
710	<5.0
4,100	130
7,800	410
200	200
--	--
--	--
--	--

B-3 1/2005		
7.5'	11.5'	15'
65	170	5
--	--	--
--	--	--
75	<5.0	130
52	1,800	8.4
500	2,800	20
212	14,800	78
220	370	<20
--	--	--
--	--	--
--	--	--

B-20 1/2005	
2'	--
10	110
--	--
--	--
--	--
--	--
--	--
74	5.6

B-16 2/2005	
2'	5'
<1.0	2,700
19	240
140	<25
<4.7	5,700
<4.7	26,000
<4.7	49,000
<4.7	150,000
<4.7	<1,000
<4.7	--
6.5	5.3
10	5.9

B-5 2/2005		
5'	10'	17'
<1.1	<1.0	<1.0
33	<1.0	51
210	<5.0	5.3
<4.9	<5.0	--
<4.9	<5.0	--
<4.9	<5.0	--
<4.9	<5.0	--
<4.9	<5.0	--
<4.9	<5.0	--
4.3	--	--
7.2	3.5	5.4

B-6 2/2005	
5'	10'
<0.99	<1.0
1.8	1.1
<5.0	<5.0
--	--
--	--
--	--
--	--
--	--
--	--
--	--
3.5	2.5

B-4 2/2005	
5'	10'
<1.1	<1.1
9.3	1.0
55	<5.0
<4.9	<4.8
<4.9	<4.8
<4.9	<4.8
<4.9	<4.8
<4.9	<4.8
<4.9	<4.8
5.8	--
5.7	--

B-4 8/2001
19.5'
--
--
--
ND
ND
ND
ND
--
8,242
--
--

B-5 8/2001
21.5'
--
--
--
ND
ND
ND
ND
--
56
--
--

B-6 8/2001
11.5'
--
--
--
ND
ND
ND
ND
--
ND
--
--

B-2 8/2001
19.5'
--
--
--
ND
ND
ND
2,000
--
65,800
--
--

B-1 8/2001
15'
--
--
--
420
86
4,700
16,500
--
20,040
--
--

B-3 8/2001
15.5'
--
--
--
ND
ND
ND
ND
--
87.1
--
--

B-4 1/2005			
7.5'	11.5'	15'	19.5'
<0.5	<0.5	39	90
--	<10	--	--
--	--	--	--
<5.0	<5.0	630	1,400
<5.0	<5.0	ND	1,100
<5.0	<5.0	1,500	2,000
<5.0	<5.0	3,600	9,300
<20	<20	58	180
--	--	--	--
--	--	--	--
--	--	--	4.2

B-5 1/2005			
7.5'	11.5'	15.5'	19.5'
1.4	16	16	1.1
<10	--	--	--
--	--	--	--
<5.0	<5.0	<5.0	<5.0
<5.0	<5.0	<5.0	<5.0
<5.0	<5.0	54	13
<5.0	<5.0	<5.0	20
<20	<20	<20	<20
--	--	--	--
--	--	--	--
--	--	--	--

B-25 2/2005	
2'	5'
<1.1	6
160	130
470	71
<5.5	<5.2
<5.5	<5.2
<5.5	<5.2
<5.5	<5.2
<22	<21
--	--
4.4	8.5
5.9	7.8

Figure 3-1	SUMMARY OF SOIL ANALYTICAL RESULTS	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

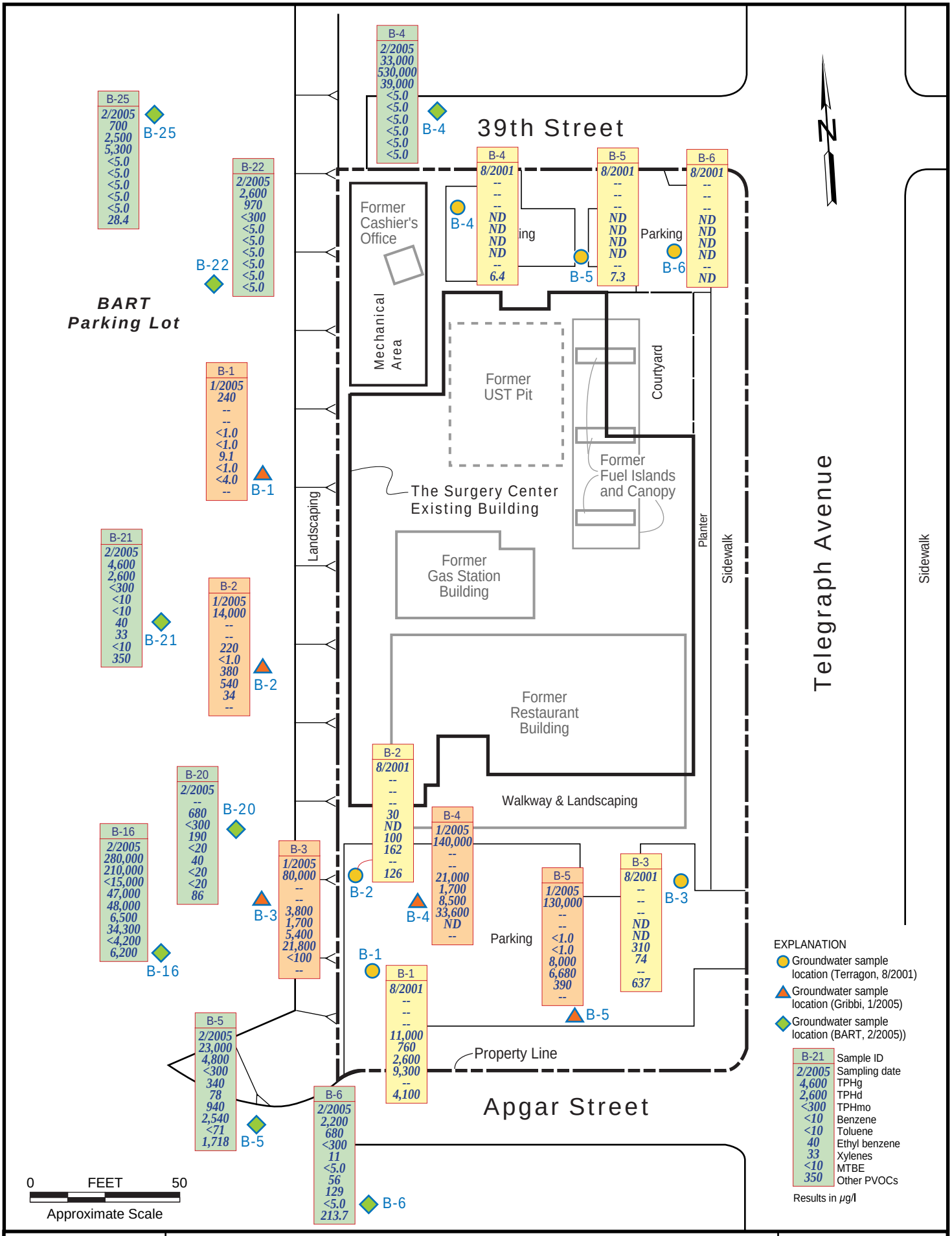


Figure 3-2	SUMMARY OF GROUNDWATER ANALYTICAL RESULTS	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

East Bay Surgery Center

FORMER FUEL ISLANDS AND CANOPY

A

A'

39th Street

BART Parking

B-4 | B-4 | 1 | 4 | B-5 | B-4 3 | B-2 | B-1 | B-3 | B-16

DEPTH (FEET)

0 5 10 15 20 25 30

Fill

Silt / Clay

Sand

FORMER UST EXCAVATION

Vapors ?

TPH/ Stoddard Solvent

TPH

CL/CH

CL

SC

SP

?

Soil B-4 @ 5' <1.1 9.3 <4.9 <4.9

Soil B-4 @ 10' <1.1 1.0 <4.8 <4.8

Soil B-4 @ 14.5' -- -- ND 8,242

Groundwater B-4 33,000 530,000 <5.0 <5.0

Groundwater B-4 -- -- ND 6.4

Soil B-5 @ 7.5' 1.4 <10 <5.0 --

Soil B-4 @ 7.5' <0.5 -- <5.0 --

Soil B-5 @ 11.5' 16 -- <5.0 --

Soil B-4 @ 11.5' <0.5 <10 <5.0 --

Soil B-4 @ 15' 39 -- 5,730 --

Soil B-5 @ 15' 16 -- 54 --

Soil B-1 @ 15' -- -- 21,706 20,040

Soil B-3 @ 7.5' 65 -- 839 --

Soil B-16 @ 2' <1.0 19 <4.7 <4.7

Soil B-16 @ 5' 2,700 240 230,700 --

Groundwater B-16 280,000 210,000 135,800 6,200

Soil B-5 @ 19.5' 1.1 -- 33 --

Groundwater B-5 130,000 -- 14,680 --

Soil B-4 @ 19.5' 90 -- 13,800 --

Groundwater B-4 140,000 -- 64,800 --

Soil B-3 @ 11.5' 170 -- 19,400 --

Soil B-2 @ 19.5' -- -- 2,000 65,800

Groundwater B-2 -- -- 292 126

Groundwater B-1 -- -- 23,660 4,100

Soil B-3 @ 15' 5 -- 236 --

Groundwater B-3 80,000 -- 32,700 --

EXPLANATION

- Predominantly sand sediments
- Predominantly silt/clay sediments
- B-4 — Boring
- Sampling location
- CL — Soil classification
- Water level

Groundwater: B-4 Sample ID; 33,000 TPHg; 530,000 TPHd; <5.0 BTEX; <5.0 Other PVOCs

Soil: B-4 @ 10' Sample ID @ Depth (ft); 33,00 TPHg; 530,000 TPHd (mg/kg); <5.0 BTEX; <5.0 Other PVOCs (µg/kg)

Results in µg/l

Conceptual drawing not to scale

CONCEPTUAL SITE MODEL

3875 Telegraph Avenue
Oakland, California

WEST Environmental Services & Technology

Figure 4-1

August 2007

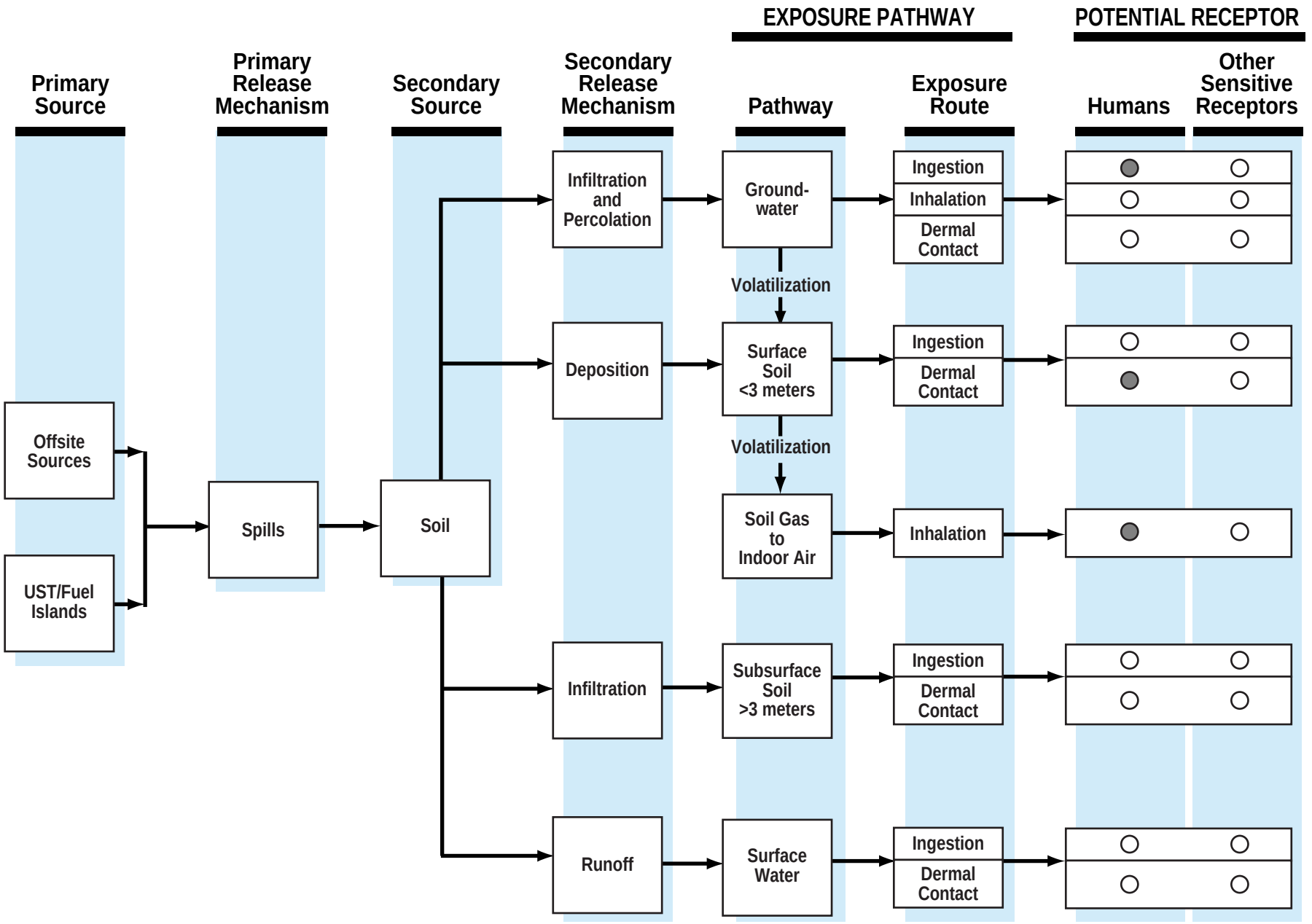


Figure 4-2	EXPOSURE PATHWAY CHART	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

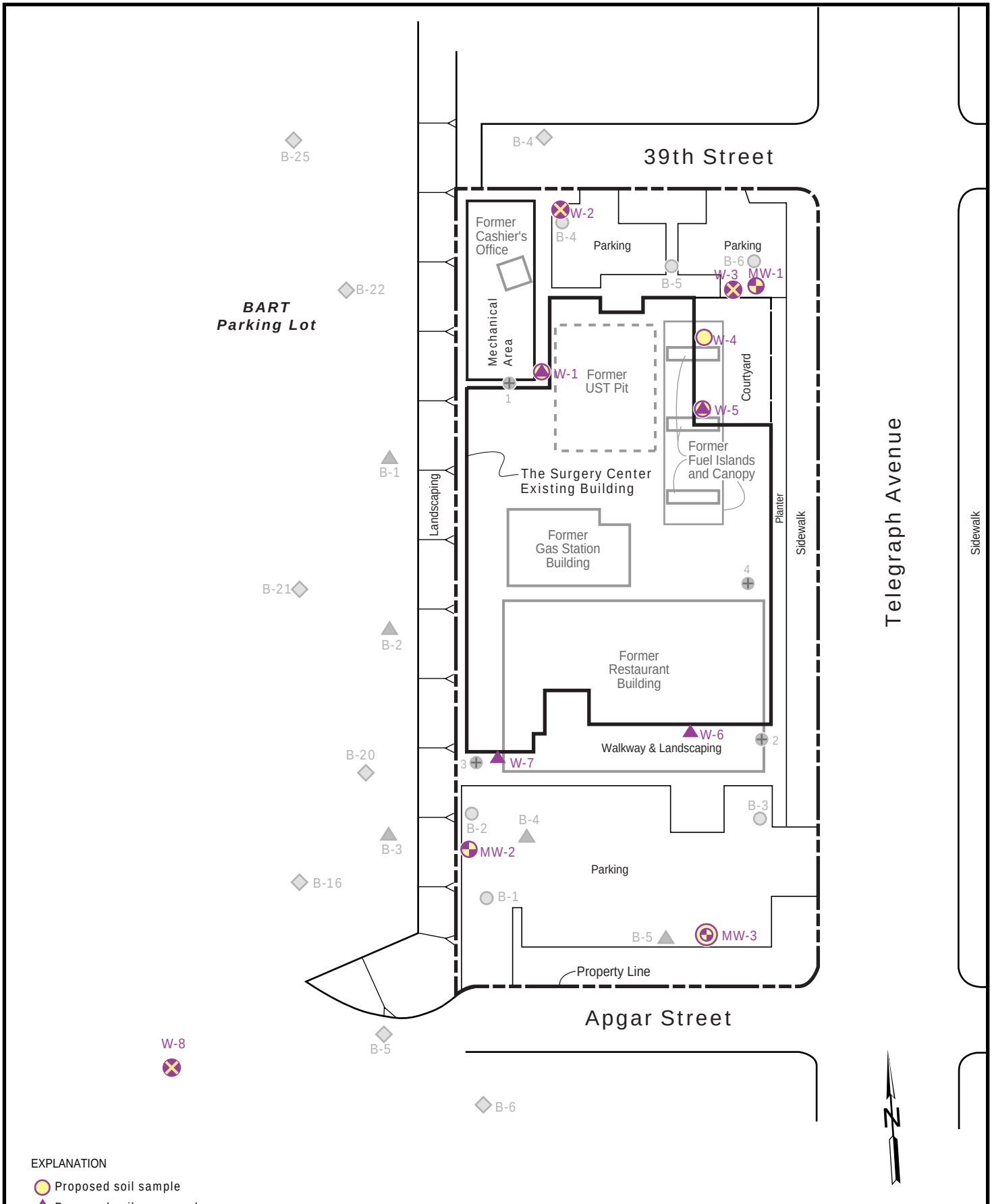


Figure 5-1	PROPOSED SAMPLE LOCATIONS	WEST Environmental Services & Technology
August 2007	3875 Telegraph Avenue • Oakland, California	

APPENDIX A

HISTORICAL DOCUMENTATION

and reminders, rents, issues and profits thereof.

To Have and to Hold all and singular the above mentioned and described premises together with the appurtenances unto the said party of the second part, his heirs and assigns forever.

In Witness Whereof, the said parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, Sealed and Delivered in the presence of ----) Donald L.Kieffer (Seal) Robert S.Kieffer (Seal)

STATE OF CALIFORNIA)
COUNTY OF ALAMEDA)ss. On this nineteenth day of April A.D.One thousand nine hundred and Twenty-eight before me, Elmer E.Nichols, a Notary Public in and for the County of Alameda, State of California, residing therein duly commissioned and sworn, personaly appeared Donald L.Kieffer and Robert S.Kieffer known to me to be the persons described in and whose names are subscribed to the within instrument and they acknowledged to me that they executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(Notarial Seal) Elmer E.Nichols, Notary Public In and for said County of Alameda, State of California.

Recorded at the request of Grantee Apr 20, 1928 at 56 min past 3 P.M.
Y-29066 1.20

COMPARED
EK. J. J. S.
DOC. E. R. S.

W. M. Bacon
Copied Apr 26, 1928 M.E.A. County Recorder 1834-319

E.L.GRAY ET AL
TO
ASSOCIATED OIL CO.

Know All Men by These Presents: That the certain Indenture of Lease, bearing date March 7, 1925, By and between Nellie C.Tharsing, Lessor and T.P.Aylward and E.L.Gray, Lessees whereunder said Lessor did lease, let and demise unto said Lessees the certain real property situate, lying and being in the City of Oakland, County of Alameda State of California, bounded and particularly described as follows, to wit:

> Beginning at the point of intersection of the western line of Telegraph Avenue with the northern line of Apgar Street as said Avenue and Street are shown on the Map hereinafter referred to; running thence northerly along said line of Telegraph Avenue fifty (50) feet thence westerly parallel with said line of Apgar Street one hundred (100) feet; thence southerly parallel with said line of Telegraph Avenue fifty (50) feet to the said northern line of Apgar Street; and thence easterly along said line of Apgar Street One hundred (100) feet to the point of beginning.
>
> Being a portion of the unnumbered portion shown on "Map of Luning Tract No.2 Oakland Calif.", filed February 19, 1907 in Liber 22 of Maps at page 37, in the office of the County Recorder of Alameda County, shown thereon as lying West of Telegraph Avenue and north of Apgar Street.

For term of one hundred twenty (120) months commencing April 1, 1925 and ending March 31, 1935, the right, title and interest of the Lessee, T.P.Aylward being under date of July 13, 1925, assigned to the Lessee, E.L.Gray, is hereby sold, transferred and set over unto Associated Oil Company, a corporation, together with all the right, title and interest of the undersigned E.L.Gray and Vera Gray his wife, in and to said lease and in and to the demised premises and in and to all buildings, improvements, equipment and appurtenant facilities located upon said premises.

To Have and to Hold the same unto said Associated Oil Company, its successors and assigns forever.

In Witness Whereof, we have hereunto set our hands this 9th day of April, 1928.

E.L.Gray
Vera Gray

STATE OF CALIFORNIA)
COUNTY OF ALAMEDA)ss. On this Ninth day of April in the year One thousand nine hundred and Twenty-eight before me, Ralph Coffey a Notary Public in and for the County of Alameda, State of California, residing therein, duly commissioned and sworn, personally appeared E.L.Gray, known to me to be the person described in and whose name is subscribed

to the within instrument and he acknowledged to me that he executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(Notarial Seal) Ralph Coffey, Notary Public
In and for the said County of Alameda, State of California.

Be It Known that I, Nellie G.Tharsing, the Lessor named in the above mentioned lease, have consented and do hereby consent to the assignment of said lease to Associated Oil Company.

Dated this 9th day of April 1928.

Nellie G.Tharsing

STATE OF CALIFORNIA)
COUNTY OF ALAMEDA)SS. On this Ninth day of April in the year One thousand nine hundred and Twenty-eight, before me, Ralph Coffey, a Notary Public in and for the County of Alameda, State of California, residing therein, duly commissioned and sworn, personally appeared Nellie G.Tharsing known to me to be the person described in and whose name is subscribed to the within instrument and she acknowledged to me that she executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(Notarial Seal) Ralph Coffey, Notary Public
In and for the said County of Alameda, State of California.

Recorded at request of Associated Oil Co at 57 min past 3 P.M. Apr 20, 1928
Y-29067 1.30
COMPARED
BK. J. J. S.
DOC. E. R. S.

E. W. Bacon
County Recorder

Copied Apr 26, 1928 M.B.A.

A.MILLER TO L.E.STAGE

NOTICE OF INTENDED SALE

To Whom it May Concern: I, A.Miller of the County of Alameda, State of California, whose business address is Turlock Market, Third Avenue and East Twelfth Street, Oakland California, hereby give notice that I intend to transfer and sell unto L.E.Stage of the same place whose address is Third Avenue and East Twelfth Street, Oakland, California, the stock and fixtures contained in that certain Lunch Counter Business situated in Turlock Market, Third Avenue and East Twelfth Street, Oakland, California.

The consideration of said sale will be paid to me by said L.E.Stage at the hour of 10;00 A.M. on the 28th day of April 1928 at the office of Roberts Investment Company. 527 Alameda Title Insurance Bldg., Oakland California.

Dated this 20th day of April 1928.

A.Miller

Recorded at request of Vendee at 58 min past 3 P.M. Apr 20, 1928
Y-29068 .70
COMPARED
BK. J. J. S.
DOC. E. R. S.

E. W. Bacon
County Recorder

Copied Apr 26, 1928 M.B.A.

MRS.F.M.THOMPSON TO CHAS.J.WEISS

NOTICE OF INTENDED SALE

To Whom it may Concern: Mrs.F.M.Thompson of the City of Oakland, County of Alameda, State of California, whose business address is 9876 Foothill Boulevard, hereby gives notices that he intends to transfer and sell unto Charles J.Weiss of Oakland Calif. whose business address is 9876 Foothill Boulevard, Oakland, Calif. all of the stock, fixtures and equipment contained in that certain Grocery Store business now and heretofore conducted therein on the premises situated at and known as No.9876 Foothill Boulevard City of Oakland California.

The consideration of said sale will be paid to me by said Charles J.Weiss. April 28, 1928 at the hour of three (3) o'clock P.M. at Lubeck Realty Co. 1706 Broadway

AS28201 RE: 279 IM:277

LEASE

THIS LEASE, made and entered into at San Jose, California, by and between EVELYN MINOWITZ, formerly EVELYN R. WANK, hereinafter called "Lessor," and REGAL PETROLEUM CO., a California corporation, hereinafter called "Lessee."

W I T N E S S E T H:

The Lessor hereby leases to the Lessee, and the Lessee hereby hires from the Lessor, the following described premises in the city of Oakland, county of Alameda, state of California:

> PARCEL 1: Portion of Block 2071 as said block is shown on the "Map of the Evoy Plot, Oakland Township" filed April 28, 1871, in Book 3 of Maps, Page 12, in the office of the County Recorder of Alameda County, described as follows: Beginning at the intersection of the southern line of 39th formerly Geary Street, with the western line of Telegraph Avenue as said street and avenue are shown on said map; running thence along said line of 39th street westerly 100 feet; thence parallel with said line of Telegraph avenue southerly 50 feet; thence parallel with said line of 39th street easterly 100 feet to said line of Telegraph avenue; thence along said line of Telegraph avenue northerly 50 feet to the point of beginning.
>
> PARCEL 2: Lots 2 and 3 in Block 2071, as said lots and block are shown on the "Map of the Estate of John Evoy in Plot 36, Subdivided April 1886" filed August 12, 1886 in Book 11 of Maps page 28 in the office of the County Recorder of Alameda County.

The term of this lease shall be fifteen (15) years commencing February 1, 1961. The rental shall be the sum of five hundred dollars ($500) per month, payable monthly, in advance.

In addition to the rental above described, the Lessee shall pay all real estate and personal property taxes which accrue during the term of this lease or any extension thereof.

During the term of this lease the Lessee agrees to

hold the Lessor free and harmless from any and all liability to person or property arising out of the use of the premises by Lessee.

Should default be made in the payment of any portion of rent when due or in the keeping of any of the covenants herein agreed to be kept by said Lessee, the Lessor may re-enter and take possession of said premises and improvements thereon, and, at Lessor's option, terminate this lease, provided Lessee has been given ten (10) days' written notice to cure said default.

The Lessee hereby reserves the right to move all fixtures, equipment, machinery, and any and all other property belonging to Lessee, attached to the realty or otherwise, at the expiration of the lease, or sooner termination thereof, except as herein otherwise provided.

Lessee agrees faithfully to comply with any and all laws or regulations which may relate to the occupancy and use of the demised premises by the Lessee.

This agreement shall extend to and bind the heirs, assigns and personal representatives of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed these premises this 31st day of January, 1961.

Evelyn R. Wank
Evelyn Minowitz
Evelyn R. Wank

"LESSOR"

REGAL PETROLEUM CO.

Seal Affixed

By John W. Craig
President

By
~~Assistant~~ Secretary

"LESSEE"

AS28201

STATE OF ~~CALIFORNIA~~ Colorado)
(ss.
County of Mesa)

ON THIS 27th day of February, 1961, before me, Evelyn M. Davis, a Notary Public in and for said County and State, personally appeared EVELYN MINOWITZ, who acquired title as EVELYN R. WANK, known to me to be the person whose name is subscribed to the within Instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Seal Affixed

Evelyn M. Davis
Notary Public in and for said County and State.

My Commission expires March 16, 1963

STATE OF CALIFORNIA)
(ss.
County of Los Angeles)

ON THIS 16th day of February, 1961, before me, Catherine M. Bigelow, a Notary Public in and for said County and State, personally appeared John W. Craig, known to me to be the President, and A. E. Stebbings, known to me to be the ~~Assistant~~ Secretary, of REGAL PETROLEUM CO., the corporation that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within Instrument pursuant to its by-laws or a resolution of its board of directors.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Catherine M. Bigelow
Catherine M. Bigelow
Notary Public in and for said County and State.

Seal Affixed

AS28201

RECORDED at REQUEST OF
California Pacific Title Ins. Co.
AT 8:30 A. M.

MAR - 8 1961

OFFICIAL RECORDS OF
ALAMEDA COUNTY, CALIFORNIA
Thomas W. Fitzsimmons
COUNTY RECORDER

360

* END OF DOCUMENT *

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

February 2, 2006

Ms. Kathy Kleinbaum
City of Oakland
CEDA, Redevelopment Division
250 Frank H. Ogawa Plaza, Suite 5313
Oakland, CA 94612

SUBJECT: Request for Additional Investigation at MacArthur BART Station

Dear Kathy:

We have reviewed the July 20, 2005 Phase II environmental site investigation report for the MacArthur BART station site by Ninyo & Moore, together with the February 7, 2005 report by GRIBI on investigation of the adjacent Surgery Center property. We understand the City of Oakland believes that contamination Ninyo and Moore reported at the BART property originates from an offsite source at the Surgery Center. However, as explained below, uncertainties remain which preclude a definitive conclusion about the origin of contamination at the BART property. Therefore, we request that the City perform additional investigation pursuant to the Permit to Enter issued to the City by BART.

According to the Ninyo and Moore report, during the initial sampling at the BART property in February 2005, over thirty borings were installed and soil and groundwater samples were collected. Hydrocarbon contamination was found at much higher levels in the soil than in the groundwater at boring B-16. Specifically, total petroleum hydrocarbons as gasoline (TPHG) and total petroleum hydrocarbons as diesel (TPHD) were detected in the soil sample at 2,700 parts per million (ppm) and 240 ppm respectively, while TPHG and TPHD concentrations in the groundwater sample were 280 ppm and 210 ppm respectively. Moreover, the levels of contamination found at B-16 on the BART property were higher than those reported by GRIBI on the adjacent Surgery Center property. For example, TPHG and benzene were reported at 280,000 parts per billion (ppb) and 47,000 ppb, respectively, in the groundwater sample collected at B-16 on the BART property. In contrast, only 140,000 ppb TPHG and 21,000 ppb benzene were reported in groundwater samples from the Surgery Center property at borings B-4 and TB-1. These results suggested that the contamination at the BART property originates from an on-site source, in whole or in part, rather than migrating through groundwater from the Surgery Center. In addition, the soil sample for B-16 was collected at 5 feet below ground surface (bgs), while groundwater was not encountered until 8.5 feet bgs. Since the soil

samples were taken several feet above the groundwater level, it is not likely that smearing of contaminants in groundwater contributed to the higher level of contamination in the soil.

Ninyo and Moore also report a second sampling episode at the BART property in June 2005 which yielded apparently inconsistent results. Samples collected from two additional borings (B-16A and B-16B) showed higher levels of contamination in the groundwater compared to the levels detected in the soil. Specifically, at B-16A, neither TPHG nor benzene were detected above their detection limits, whereas 4,100 ppb TPHG and 49 ppb benzene were detected in the groundwater. Moreover, at B-16B, only low levels of benzene (9.7 ppb) were detected in the soil, with 20,000 ppb TPHG and 560 ppb benzene detected in the groundwater. These results appear to suggest migration through groundwater rather than a local source. However, the figures provided in the Ninyo & Moore report do not indicate the locations of borings B-16A and B-16B. In particular, it is not clear whether these two borings were located close to B-16 (as implied by their numbering) or elsewhere.

Even if B-16A and B-16B were located close to B-16, the June 2005 sampling results do not explain the reason for the inconsistent results obtained in February 2005. It remains possible that there is a separate source of contamination in this area that was not captured by the sampling at B-16A and B-16B. In addition, the results of a June 2005 geophysical survey for abandoned underground storage tanks (USTs) at the BART property were not definitive. Although no USTs were found, the survey detected two anomalies that could have masked any anomalies caused by a UST in these two locations. Thus, some uncertainties remain as to potential sources of contamination underneath the property.

Accordingly, additional focused sampling in the immediate vicinity of B-16 and at intermediate points downgradient from the Surgery Center is needed to resolve the discrepancy between the two sets of results, and we request that the City perform such additional investigation pursuant to the Permit to Enter. Please contact me at your earliest convenience so that we can coordinate as necessary to enable this sampling to take place.

Very truly yours,

Jeffrey P. Ordway

Manager of Property Development

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

RO 2866
2875

October 4, 2006

Don Hwang
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: Surgery Center Site at 3875 Telegraph Avenue, Oakland, California

Dear Mr. Hwang,

The San Francisco Bay Area Rapid Transit District ("BART") is the current property owner of the MacArthur Station at 555 40th Street in Oakland. BART's property is located adjacent to the Surgery Center at 3875 Telegraph Avenue. We understand that the Surgery Center is the site of an active leaking underground storage tank case under the oversight of the Alameda County Environmental Health department ("ACEH") and that a notice of responsibility was issued to the current Surgery Center property owner in September 2005.

BART and the City of Oakland Redevelopment Agency ("City") are working jointly on proposed redevelopment of BART's surface parking lot at the MacArthur Station and other properties in the vicinity. The proposed redevelopment area is adjacent to, and may include, the Surgery Center property. In 2005, in preparation for the redevelopment project, the City hired a consultant to perform an environmental investigation at BART's property. Soil and groundwater samples were collected and found to contain petroleum compounds. These results are documented in a July 20, 2005 report prepared by Ninyo & Moore, the City's consultant. We enclose a copy of this report for ACEH's file and review.

As documented in the Ninyo & Moore report, petroleum compounds were detected in some of the samples collected close to the Surgery Center property line, which may indicate contamination migrating from the Surgery Center property onto BART's property. For this reason, BART wishes to inform ACEH of conditions at BART's property which should be taken into account in determining the scope of remedial action by the responsible parties for the Surgery Center. In addition, however, some of the samples collected in the station parking lot contained higher concentrations of petroleum compounds than samples previously collected at the Surgery Center site, as reported in a February 7, 2005 investigation report prepared by GRIBI Associates for the Surgery Center site. (We believe that the ACEH has a copy of this report in its Surgery Center file, but please let us know if that is not the case and we will provide a copy.) It therefore appears that there may also be a separate source of contamination within the station parking lot.

BART would like to meet with ACEH to discuss whether action may be required, and by whom, to address the elevated levels of petroleum compounds detected in the MacArthur Station parking lot. We would expect any such meeting to include City staff. I will contact you in the next week to schedule a convenient time to meet.

Thank you very much for your attention to this matter.

Sincerely,

Gary Jensen, REA
Principal Engineer
System Safety Department

Enclosure

cc: Donna Drogos w/o enclosure
Mark Gomez
Jeff Ordway w/o enclosure