

**Preliminary Environmental Assessment Report
Batarse Site
104th Avenue and East 14th Street
Oakland, California**

**October 3, 2001
7962.01-003**

**- Volume I
Text, Tables, Figures, Appendices**

Prepared for
Oakland Unified School District
955 High Street
Oakland, California 94601



October 3, 2001

7962.01-003

Mr. Michael Stephens
California Environmental Protection Agency
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

Subject: Preliminary Environmental Assessment Report, Batarse Site, 104th Avenue and
East 14th Street, Oakland, California

Dear Mr. Stephens:

LFR Levine-Fricke (LFR) has prepared this Preliminary Environmental Assessment (PEA) report on behalf of the Oakland Unified School District for the Batarse Site in Oakland, California ("the Site"). The Site, which consists of numerous parcels, is located within an area bounded to the north by 104th Avenue, to the west by commercial businesses fronting on East 14th Street, to the east by residences along Breed Avenue, and to the south by Alameda-Contra Costa Transit's (AC Transit) vehicle maintenance facility.

LFR prepared a PEA work plan for the Site in general accordance with California Environmental Protection Agency Department of Toxic Substances Control (DTSC) guidelines, as presented in the PEA Guidance Manual (January 1994). LFR's work plan for the Site entitled, "Preliminary Environmental Assessment Work Plan, Batarse Project Site, 104th Avenue and East 14th Street, Oakland, California," dated May 25, 2001, was approved by the DTSC. This report presents the results of the PEA.

An electronic copy, in Microsoft Word and Excel format, of the PEA report is included with our submittal. LFR is submitting this electronic copy in accordance with the DTSC's request and with the understanding that it will be accessible only to internal DTSC staff via DTSC's computer network for informational purposes only and will not be made available to outside parties. Because LFR has no control over the ability of others to modify or otherwise change the document, the signed, paper copy of the PEA report, dated October 3, 2001, shall be the only official version of the report.

If you have any questions or comments concerning the PEA report, please call either of the undersigned at (510) 652-4500.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alan D. Gibbs'.

Alan D. Gibbs, R.G., R.E.A. II
Senior Associate Geologist

A handwritten signature in blue ink, appearing to read 'Michael B. Marsden'.

Michael B. Marsden, R.G., C.HG.
Senior Associate Hydrogeologist

cc: Ms. Ineda P. Adesanya, Oakland Unified School District (Volume I only)
Mr. Jerry Suich, Oxbridge Development (Volume I only)

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EXECUTIVE SUMMARY

LFR Levine-Fricke (LFR) was contracted by the Oakland Unified School District to conduct a Preliminary Environmental Assessment (PEA) for the Batarse Site, located near the southeast corner of the intersection of 104th Avenue and East 14th Street in Oakland, California ("the Site"; Figure 1). This work was performed under the oversight of the California Environmental Protection Agency Department of Toxic Substances Control (DTSC).

The approximately 8-acre Site, which consists of numerous parcels, is located within an area bounded to the north by 104th Avenue, to the west by commercial businesses fronting on East 14th Street, to the east by residences along Breed Avenue, and to the south by Alameda-Contra Costa (AC) Transit's bus maintenance facility (Figure 2).

This PEA was conducted in general accordance with the DTSC guidance manual for evaluation of hazardous substance release sites entitled, "Preliminary Endangerment Assessment Guidance Manual, State of California, Environmental Protection Agency" (DTSC 1994) and LFR's work plan entitled, "Preliminary Endangerment Assessment Work Plan, Batarse Project Site, 104th Avenue and East 14th Street, Oakland, California," dated May 25, 2001 ("the PEA Work Plan"). The PEA Work Plan was approved by DTSC. The overall objectives of the PEA included the following:

- Evaluating historical information regarding the past use, storage, disposal, or release of hazardous wastes/substances at the Site
- Conducting a field sampling and analysis program to characterize the nature, concentration, and presence and/or absence of a release of hazardous materials, and if found, establishing the extent of hazardous wastes/substances present in soil and groundwater at the Site
- Estimating the potential threat to public health and/or the environment posed by known hazardous constituents at the Site using a residential land use scenario

The results of the PEA will be used to assist the DTSC in evaluating whether the Site is appropriate for a school setting. At the time of the PEA sampling program, the Site was occupied by various commercial buildings and residences located along 105th Avenue and residential buildings along 104th Avenue. Construction of a new permanent school campus is planned at the Site (Figure 3).

In accordance with the PEA Work Plan, LFR advanced 62 soil borings on the Site (Figure 4). Nine shallow borings and 53 deep boring were advanced on the Site and one or more soil samples were collected from each boring. In addition, a water sample was collected from a water supply well located on the Site.

For the purpose of our investigation, the Site was divided into nine areas consisting of one or more parcels. Area 1 includes Lloyd A. Wise, Inc.; Area 2 includes Bill & Bill's

Auto Body; Area 3 includes the majority of the Management Storage property; Area 4 includes Ward's Custom Paint and a portion of the Management Storage property; Area 5 includes Chevron Tow; Area 6 includes the Union Pacific Railroad and 105th Avenue; Area 7 includes commercial, industrial, and residential properties on the west side of 105th Avenue; Area 8 includes residential properties on the east side of 104th Avenue; and Area 9 includes a portion of AC Transit.

Soil samples were collected in shallow borings from the first native soil encountered (shallow depth interval). Soil samples were collected from deep borings at approximately 5-foot intervals to the depth at which groundwater was encountered. Grab groundwater samples were collected from 52 of the deep borings.

Selected soil and groundwater samples were analyzed for Title 22 Metals using U.S. Environmental Protection Agency (EPA) Method 6010/7000 Series; semivolatile organic compounds (SVOCs) using EPA Method 8270 or 525; volatile organic compounds (VOCs) using EPA Method 8260; total petroleum hydrocarbons (TPH) as gasoline, diesel, motor oil, paint thinner, mineral spirits, and/or Stoddard solvent using EPA Method 8015 (modified); organochlorine pesticides (OCPs) using EPA Method 8081; polychlorinated biphenyls using EPA Method 8082; ethylenedibromide (EDB) using EPA Method 504; and polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8310. These analyses were selected because they represent the chemicals of potential concern (COPCs) at the Site based on the historical and current site uses for commercial operations, automobile repair operations, and spray painting operations.

The results of soil sampling identified the presence of various metals, OCPs, PAHs, SVOCs, and VOCs as COPCs. The results of groundwater sampling identified the presence of various metals, PAHs, SVOCs, and VOCs as COPCs. In addition, petroleum hydrocarbons were detected in soil and groundwater samples collected across the Site.

The petroleum hydrocarbons and VOCs detected in the groundwater samples from the west end of Area 6 appear to be related to the waste oil and product underground storage tanks (USTs) formerly located immediately to the west of the Site. According to reports prepared by other consultants for the investigation of the USTs, groundwater flow direction is to the west-southwest based on depth-to-water measurements in the three monitoring wells installed on the properties adjacent to the west of the Site. Therefore, the three borings advanced at the west end of Area 6 would be located in an upgradient direction from these former USTs. In LFR's opinion, the former USTs appear to be the likely source of the petroleum hydrocarbons in groundwater because of the proximity of the USTs to the borings.

The petroleum hydrocarbons detected in the soil and groundwater samples from beneath the maintenance building at the west end of Area 1 appear to be related to the hydraulic lifts and chemical storage in this building.

For the purposes of conducting a human health screening evaluation, the potential exposure pathways identified for the Site were inhalation, ingestion, and dermal absorption. The PEA human health screening evaluation indicated that, based on the information developed during the PEA and the conservative human health screening evaluation using the PEA Guidance Manual, potential health risks to human health were found to be below the target level (less than 10^{-6}) for the COPCs identified at the Site.

The information reviewed and observations made for this PEA do not indicate that soil or groundwater quality at the Site has been significantly affected by on-site releases of hazardous substances with the exception of the petroleum hydrocarbons detected in the soil and groundwater beneath the maintenance building on the west end of Area 1.

LFR proposes remedial activities in the area of the maintenance building to address the presence of petroleum hydrocarbon-affected soil and groundwater in Area 1. LFR will prepare a removal action work plan for these proposed activities at the Site. Removal actions and delineation of these compounds will be addressed during construction of the proposed school. Areas of proposed removal actions are presented in Figure 12.

1.0 INTRODUCTION

1.1 Introduction

This Preliminary Environmental Assessment (PEA) report for the Batarse site, located near the southeast corner of the intersection of 104th Avenue and East 14th Street in Oakland, California ("the Site"; Figure 1), is being submitted by LFR Levine-Fricke (LFR) on behalf of the Oakland Unified School District (OUSD). The Site, which consists of numerous parcels, is located within an area bounded to the north by 104th Avenue, to the west by commercial businesses fronting on East 14th Street, to the east by residences along Breed Avenue, and to the south by Alameda-Contra Costa Transit's ("AC Transit") bus maintenance facility. The Site is being considered as a potential location for a new school.

This PEA was conducted under the oversight of the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) to fulfill the Education Code requirements for new school sites. A Voluntary Cleanup Agreement (VCA) was signed by the OUSD and DTSC to provide for DTSC oversight of the PEA.

1.2 Purpose

The purpose of the PEA was to establish whether a release or threatened release of hazardous substances that pose a threat to human health or the environment exists at the Site. Consistent with requirements in the VCA, a technical PEA work plan entitled, "Preliminary Environmental Assessment Work Plan, Batarse Project Site, 104th Avenue and East 14th Street, Oakland, California," dated May 25, 2001 ("the PEA Work Plan"), was prepared by LFR and approved by the DTSC.

This PEA was conducted in accordance with the DTSC guidance manual for evaluation of hazardous substance release sites entitled, "Preliminary Endangerment Assessment Guidance Manual, State of California, Environmental Protection Agency" (DTSC 1994; "the PEA Guidance Manual") and the PEA Work Plan. Pursuant to the Health and Safety Code Section 25355.5 (a)(1)(C), the activities conducted under the VCA were performed under the oversight of the DTSC. LFR's representatives discussed the results of the PEA with Mr. Charlie Ridenour, Mr. Michael Stephens, and Ms. Janet Naito of the DTSC during a meeting on August 16, 2001.

1.3 Objectives

The California Department of Education (CDE), in accordance with State of California Senate Bill 162 (effective as a law in January 2000), requires evaluation, if applicable, of ambient air, subsurface soil, and shallow groundwater at new school sites. A "No Further Action" designation or an "Environmental Hardship" determination must be

obtained from the DTSC before the CDE can allocate funds to a school district for the acquisition and/or construction of a new school. The PEA is intended to identify whether a release or threatened release of hazardous substances exists at the proposed school site and to evaluate the potential risk to human health or the environment before the DTSC issues a "No Further Action" or "Environmental Hardship" designation.

The overall objectives of the PEA include the following:

- Evaluating historical information regarding the past use, storage, disposal, or release of hazardous wastes/substances at the Site
- Conducting a field sampling and analysis program to further characterize the nature, concentration, and presence and/or absence of a release of hazardous materials, and if found, establishing the extent of hazardous wastes/substances present in soil and groundwater at the Site
- Estimating the potential threat to public health and/or the environment posed by known hazardous constituents at the Site using a residential land use scenario

The DTSC will use the information developed during the PEA and the conservative human and ecological risk evaluation conducted using the PEA Guidance Manual, to make an informed decision regarding potential risks posed by the Site, as follows:

- the requirement for further assessment through the Remedial Action Work Plan process, if the Site is found to be significantly affected by hazardous substances
- the need to perform a Removal Action for areas where localized impacts by hazardous substances release(s) are found
- issuance of a "No Further Action" finding if the Site is found not to be affected or risks to human health and the environment are found to be within acceptable levels based on the conservative screening-level risk assessment
- abandonment of the Site as a potential school site

This report presents the scope and findings of the PEA. The limitations of the PEA are presented in Section 12.

2.0 SITE DESCRIPTION

2.1 Site Description

The Site consists of numerous parcels that together occupy approximately 8 acres. The Site has been divided into nine areas consisting of one or more parcels: Area 1 includes Lloyd A. Wise, Inc.; Area 2 includes Bill & Bill's Auto Body; Area 3 includes the majority of the Management Storage property; Area 4 includes Ward's Custom Paint and a portion of the Management Storage property; Area 5 includes Chevron Tow;

Area 6 includes the Union Pacific Railroad and 105th Avenue; Area 7 includes commercial, industrial, and residential properties on the west side of 105th Avenue; Area 8 includes residential properties on the east side of 104th Avenue; and Area 9 includes a portion of AC Transit. These parcels are located southeast of the intersection of 104th Avenue and East 14th Street (Figure 2). Information on the areas, including the occupant/use, street address, and Assessor's Parcel Number, is presented in Table 1.

2.2 Site Name and Address

The Site has been identified by the OUSD as the Batarse Site, located southeast of the intersection of 104th Avenue and East 14th Street in Oakland, California. Street addresses currently assigned to the Site are presented in Table 1.

2.3 Designated Contact Person

Ms. Ineda Adesanya, Director of Facilities, Oakland Unified School District, is the primary contact person for this project. Ms. Adesanya may be contacted at the following address:

Oakland Unified School District
955 High Street
Oakland, California 94601
Telephone: (510) 879-8385
Fax: (510) 879-1860

2.4 Assessor's Parcel Number(s) and Maps

The Site consists of 29 parcels as identified by the Alameda County Assessor's Office and a portion of 105th Avenue. The street addresses on record for these parcels are presented in Table 1.

2.5 Site Maps

A site location map and site plan are included as Figures 1 and 2, respectively. Figure 3 shows the proposed layout for the new school. PEA sampling locations are shown in Figure 4. Site photographs and Sanborn Fire Insurance Maps (Sanborn Maps) were presented in the "Phase I Environmental Site Assessment Report, Batarse Project Site, East 14th Street and 105th Avenue, Oakland, California", dated October 2000, prepared by ENSR Consulting and Engineering (ENSR 2000; "the Phase I ESA").

2.6 Township, Range, Section, and Meridian

The United States Geological Survey (USGS) San Leandro, California Quadrangle, 7.5-minute topographic map (1993), shows that the Site is located in Subsection P of

Section 23, Township 2 South, Range 3 West. The approximate geographic coordinates of the Site are Latitude North 37° 44'21" and Longitude West 122° 09'52".

2.7 Site Zoning

The City of Oakland Community and Economic Development Agency has zoned the Site for manufacturing (M-20) and residential (R-30).

2.8 EPA Identification Number

According to a review of the regulatory database search report and contacts with regulatory agencies, the Site has not been issued an EPA Identification Number.

A portion of the Lloyd Wise Honda/Nissan property at 10550 East 14th Street is included as a portion of the Site (Area 1) and was previously included in the Resource Conservation and Recovery Act (RCRA) database as a small quantity hazardous waste generator. However, based on information provided by Mr. Les Rich, Vice President of Lloyd A. Wise, Inc., ("Lloyd Wise"), hazardous wastes have not been generated at this property since the late 1990s.

Milichichi Auto Body Fender, a former tenant at 1550 105th Avenue (current address is 1544 105th Avenue), was previously included on the RCRA database as a small quantity hazardous waste generator. However, the current tenant at this parcel, Ward's Custom Paint, is not listed as a hazardous waste generator.

2.9 Calsites Database Number

According to a review of the regulatory database search report and contacts with regulatory agencies, the Site has not been included on the Calsites database.

2.10 Surrounding Property Land Use

The surrounding property land use includes a combination of commercial businesses, light industrial facilities, a church, and residential buildings. Generally, commercial businesses and light industrial facilities front East 14th Street with residential buildings located behind the commercial/industrial properties.

The Lloyd Wise dealership is located adjacent to the west of the Site. According to information provided by Mr. Rich of Lloyd Wise, vehicles were repaired at this facility until the late 1990s.

AC Transit operates a bus maintenance yard adjacent to the south and southeast of the Site.

The OUSD will consider the types of hazardous chemicals released into the air by businesses within a 1/4-mile radius of the Site and their potential effect on students and faculty at the proposed school site as part of the California Environmental Quality Act (CEQA) document for the Site.

3.0 BACKGROUND

3.1 Site Status and History

The Site consists of multiple parcels that are occupied by commercial businesses, industrial facilities, and residential buildings. Figure 2 shows the buildings currently present on the Site, their associated street address, and their use. A summary of historical site uses, property ownership, facility ownership and operators, business types, years of operation, and business and manufacturing activities is presented in Appendix A. This information was obtained from our review of reports previously prepared for the Site by other consultants.

According to available information, none of the parcels comprising the Site are currently listed as active cases with local, state, or federal regulatory agencies.

3.1.1 Previous Assessments

Pertinent data on previous assessments performed for the Site and adjacent properties are summarized below. This information was obtained from reports prepared by previous consultants, including the Phase I ESA (ENSR 2000). As part of the Phase I ESA, ENSR reviewed Sanborn Maps, aerial photographs, and agency files for historical site use information. Copies of Sanborn Maps and site photographs, as well as data from agency files were presented in the Phase I ESA report.

LFR personnel reviewed the following reports to identify potential environmental concerns associated with the Site:

- "Underground Tank Technical Closure Report," prepared by Gen-Tech Environmental (Gen-Tech), dated March 26, 1993
- "Monitoring Well Installation and Sampling, Lloyd Wise Olds, 10440 East 14th Street, Oakland, California," prepared by Gen-Tech, dated May 6, 1993
- "Soil and Groundwater Investigation Site at 10440 and 10550 East 14th Street, Oakland, California," prepared by Gen-Tech, dated May 20, 1994
- "Overview of Environmental Conditions at 10550 East 14th Ave., Nissan/Honda Auto Dealership in Oakland, CA," prepared by Gen-Tech, dated October 11, 1994

A map presented in a report prepared by Gen-Tech (1993a) indicated that the two USTs were located beneath the sidewalk on the north side of 105th Avenue. The USTs were situated end to end and each measured 12 feet in length. The west end of the westernmost UST was located at a distance of 147 feet from East 14th Street and the east end of the easternmost UST was approximately 173 feet from East 14th Street. Based on these distances, the end of the easternmost UST was located at a distance of approximately 15 feet from the site border.

At the time of the UST removals, soil and groundwater samples were collected from the tank pits for analyses. These samples were analyzed for TPHg; TPHd; BTEX; volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); oil and grease; five LUFT metals; and ethylene glycol (antifreeze).

Analysis of the soil samples revealed the presence of TPHg, TPHd, ethylene glycol, toluene, ethylbenzene, total xylenes, oil and grease, cis-1,2-dichloroethene (cis-1,2-DCE), and tetrachloroethene (PCE). Analysis of the groundwater samples collected from the excavation revealed the presence of TPHg, and BTEX; cis-1,2-DCE and PCE were not detected in the groundwater samples at concentrations at or above the laboratory reporting limits.

10550 East 14th Street (Western Portion)

One 2,000-gallon gasoline UST was removed in February 1993; the address given for the work site was listed in Gen-Tech's report as 10550 East 14th Street (1994b). According to the map provided in the case closure summary prepared by ACHCSA, the gasoline UST was located to the west of the Lloyd Wise auto dealership building and approximately 75 feet from the Site's western border.

Soil samples collected at the time of the tank removal were analyzed for TPHg and BTEX. Analysis of the soil samples indicated the presence of TPHg, toluene, and ethylbenzene.

Three groundwater monitoring wells were installed on and near the 10550 East 14th Street property following removal of the gasoline UST (Figure 2). Wells MW-1-N and MW-2-N were installed on the west side of the Lloyd Wise auto dealership building, and well MW-1-0 was installed on the north side of 105th Avenue. Analysis of groundwater samples collected from wells MW-1-N and MW-2-N in 1995 indicated the presence of TPHg (up to 240,000 micrograms per liter [$\mu\text{g/l}$]), benzene (up to 3,600 $\mu\text{g/l}$), toluene (up to 1,200 $\mu\text{g/l}$), ethylbenzene (up to 6,900 $\mu\text{g/l}$), and total xylenes (up to 35,000 $\mu\text{g/l}$). Analysis of groundwater samples from MW-1-0 did not indicate the presence of petroleum hydrocarbons at concentrations at or above the laboratory reporting limits.

The ACHCSA issued a case closure letter for the property known as 10500 East 14th Street. The case closure summary applied to both the 550-gallon waste oil UST formerly located in Area 1 (as discussed in Section 3.1.1.1) and a 2,000-gallon gasoline

UST that had been removed from this property. According to information presented in the case closure summary, the following chemicals of concern were present in the groundwater samples collected from the monitoring wells in February 1998: TPHg (up to 18,000 $\mu\text{g/l}$), benzene (up to 270 $\mu\text{g/l}$), toluene (up to 120 $\mu\text{g/l}$), ethylbenzene (up to 1,800 $\mu\text{g/l}$), and total xylenes (up to 6,300 $\mu\text{g/l}$).

10626 East 14th Street

The AC Transit facility at 10626 East 14th Street is located adjacent to the Site's southern border. Depth-to-water measurements indicate that groundwater flow direction has historically been to the west-southwest, therefore, this facility would be located in an upgradient direction from the Site.

According to information in ENSR's Phase I ESA, this property was reported as having a leaking UST. According to available information in the Phase I ESA, approximately 300 gallons of waste oil and water was released and flowed into a storm drain on this property. The remediation was reportedly completed and the property granted case closure by the local regulatory agency.

3.1.2 Hazardous Substances/Waste Management Information

Hazardous substances formerly and currently used and stored on the Site are summarized in Appendix A and in reports prepared for the Site by other consultants.

4.0 APPARENT PROBLEM

Based on the historical information reviewed and observations made during LFR's site visits, potential sources of impacts at the Site include past releases, a suspect former waste oil UST, hydraulic lifts, product aboveground storage tanks (ASTs), floor drain, sumps, use/storage of hazardous substances (motor oils, paints, thinners, etc.), and small quantities of residential hazardous substances (pesticides, lead-based paint [LBP]).

Chemicals of potential concern (COPCs) identified at the Site include TPH; BTEX; VOCs (including methyl-tertiary butyl ether [MTBE]); SVOCs; Title 22 metals (also referred to as California Assessment Manual 17 metals); and polychlorinated biphenyls (PCBs). These COPCs are associated with historical industrial operations, vehicle maintenance, and painting operations at the Site.

5.0 ENVIRONMENTAL SETTING

Factors related to soil, water, and air pathways at the Site are presented in the following sections.

5.1 Factors Related to Soil Pathways

Soil types encountered at the Site during the PEA field investigation are summarized below.

5.1.1 Topography

The elevation of the Site is approximately 40 to 42 feet above mean sea level according to the USGS San Leandro, California, Quadrangle, 7.5-minute topographic map (1993). The surface topography in the vicinity of the Site is fairly level with a slight slope to the southwest toward San Francisco Bay.

5.1.2 Geologic Setting

The following information about the regional geology and hydrogeology was derived from Helley and LaJoie (1979), Hickenbottom and Muir (1988), and California Division of Mines and Geology (1999).

Near-surface sediments (generally less than 50 feet thick in the vicinity of the Site) consist primarily of interbedded sequences of silts and clays with poorly sorted sands and gravels. These sediments represent Quaternary to Recent alluvial deposits that originated in the mountains of the Coast Ranges to the east.

Tidal-flat and other clayey and silty marine and estuarine sediments, informally referred to as young Bay Mud, underlie the alluvial deposits. This young Bay Mud unit is approximately 25 feet thick at the San Francisco Bay margin and becomes thicker toward the center of the San Francisco Bay. The young Bay Mud is the youngest of a sequence of unconsolidated marine estuarine sediments ranging up to several hundred feet thick that overlies bedrock.

Underlying the young Bay Mud is the Merritt Sand Formation, an eolian (windblown) sand unit deposited in a dune environment during a period of lower sea levels (approximately 40,000 to 10,000 years ago). The Merritt Sand is exposed in the City of Alameda to the west of the Site and in parts of western Oakland. The actual lateral extent of the Merritt Sand is unknown. The maximum reported thickness is 65 feet.

Deposition of the young Bay Mud on the Merritt Sand occurred as a result of the latest sea level rise that began approximately 10,000 years ago. The fine-grained marine and estuarine sediments of the young Bay Mud commonly contain sandy lenses that may represent small buried stream channels.

Unconsolidated sediments underlying the Merritt Sand Formation in the site vicinity are informally referred to as old Bay Mud.

Soil borings completed at the Site for the PEA did not penetrate deeper than the Recent alluvial deposits. Soil encountered during the PEA field investigation consisted primarily of very-fine grained silty clay transitioning into clayey sand to sand at depths of approximately 18 to 25 feet below ground surface (bgs). Thin sand lenses were encountered interfingering with the silty clays in some borings. The sand layers comprise the primary shallow water bearing zone in the site vicinity. This zone has an average thickness of at least 4 feet over most of the Site area. The total thickness of this sand layer at the Site was not established during the PEA because the borings did not penetrate this layer.

A chart showing the types of soil encountered at the Site and total depth for each boring is presented in Appendix B. Copies of the field sampling logs completed for borings advanced during the field investigation for this PEA are also presented in Appendix B.

5.1.3 Affected Soil from Site Releases

Based on information obtained during the PEA, a release of petroleum hydrocarbons to soil appears to have occurred at several locations at the Site, including the maintenance building, service building, and the vehicle storage yard in Area 1; the vehicle storage lot in Area 5; the west end of Area 6; various locations across Area 7; the central portion of Area 8; and the east end of Area 9. These releases are further discussed in Section 6.8.

5.2 Factors Related to Water Pathways

Water pathways information was obtained from published literature, available maps, and subsurface conditions encountered at the Site during the PEA field investigation and is summarized below.

5.2.1 Surface Water Bodies

Based on our site visit and review of the USGS San Leandro, California Quadrangle, 7.5-minute topographic map (1993), surface water bodies are not present on the Site. The nearest body of surface water is San Leandro Creek, located approximately 4,400 feet south of the Site. This creek drains into San Leandro Bay, which is part of San Francisco Bay. The Site is approximately 5.5 miles northeast of San Francisco Bay.

5.2.2 Affected Surface Water from Site Releases

Surface water bodies are not present on the Site. The nearest body of surface water is San Leandro Creek, located approximately 4,400 feet south of the Site. Hazardous levels of COPCs were not detected in surface soil samples collected at the Site during the PEA. Thus, there is no known release or threatened release of hazardous substances to surface water bodies.

5.2.3 Groundwater

Locally and regionally, the groundwater in the Site area is typically poor in quality and rarely used as a groundwater resource (Hickenbottom and Muir 1988). Groundwater is present in the overlying alluvium, but is generally controlled by local precipitation in the nearby hills to the east and fluctuates seasonally.

The shallow water bearing zone underlying the Site consists of sand layers that were encountered between 18 and 25 feet bgs in borings advanced during the PEA field investigation at the Site. The sand layers consist of clayey sand to sand.

Depth-to-water was measured in each boring before collection of the grab-groundwater samples. The measured depth to shallow groundwater at the Site ranged from approximately 16 to 31 feet bgs. In LFR's opinion, these measurements were taken too soon after the borings were completed to represent an accurate potentiometric surface. The depth to the top of the sand layers in the area ranges from 18 to 25 feet bgs, and the depth-to-water measurements indicate that the shallow groundwater is pressurized with 2 to 3 feet of hydraulic head.

Regional shallow and deep (greater than 200 feet bgs) groundwater flows west-southwest toward San Francisco Bay. Groundwater extraction rates from the young Bay Mud are low.

Groundwater monitoring wells were not installed on the Site during the PEA; however, three monitoring wells are located immediately west of the Site. These wells were installed in the mid-1990s during a groundwater quality investigation associated with the removal of off-site USTs. These wells were completed at depths of approximately 21 to 30 feet. Groundwater monitoring logs (from reports by Gen-Tech and PIERS) and UST removal information (from reports by Gen-Tech) are presented in Appendix C.

The well located nearest to the Site was installed in 1993 in the sidewalk on the north side of 105th Avenue, approximately 32 feet from the Site's western border. The identification number for this well is listed as MW-1 on the boring log and MW-1-0 on subsequent maps and data sheets and will be referred to in this report as MW-1-0. The two remaining wells, located on the west side of the former Lloyd Wise showroom building at 10550 East 14th Street, are identified as MW-1-N and MW-2-N.

It should be noted that the boring log for well MW-1-0 indicates that the boring extended to a depth of 21 feet; however, the water quality sampling information sheet completed in 1997 by CGS Sampling Specialist's representative indicates that the total depth of the well was 23.65 feet bgs. During the PEA field investigation, the well cover was removed and the total depth of the well was measured at 23.81 feet bgs.

The boring logs for wells MW-1-0 and MW-2-N indicate that these wells were completed in silty clay and that well MW-1-N was completed in silty clay and silty sand.

Stabilized groundwater levels for the three wells were reported in 1995 to be approximately 17 to 17.5 feet bgs. Groundwater flow direction was estimated to be to the west-southwest based on the depth-to-water measurements collected in 1995.

5.2.4 Affected Aquifers from Site Releases

The information obtained during the PEA indicates that a release of petroleum hydrocarbons from the Site to the groundwater appears to have occurred at several locations, including at the maintenance and service buildings in Area 1; Area 3; the vehicle storage lot in Area 5; and at two locations in Area 7 (one at the west end and one at the east end). In addition, a release of petroleum hydrocarbons and solvents from an off-site source to groundwater appears to have affected groundwater quality at the Site. The petroleum hydrocarbons and solvents detected in groundwater at the west end of Area 6 appear to be the result of a release from off-site USTs formerly located adjacent to the Site's western border. These releases are further discussed in Section 6.8.

5.3 Factors Related to Air Pathways

There is no documentation of an on-site release of hazardous substances to the atmosphere; however, LFR is conducting an air emissions study for inclusion in the CEQA documents being prepared for the Site. Air emissions sources at the Site are currently limited to paint booths used at Bill & Bill's Auto Body, located at 1500 105th Avenue (Area 2) and Ward's Custom Paint, located at 1544 105th Avenue (Area 4). Potential release sources of hazardous substance to the atmosphere are limited to fugitive dust from surface soil and volatilization of chemicals found in the soil during the PEA. Acetone and methylene chloride were the only volatile chemicals detected in soil samples from the Site, and these volatile chemicals were detected in only 8 soil samples at very low levels (less than 0.06 milligram per kilogram [mg/kg]). Therefore, the potential for releases of hazardous substances from the Site to the atmosphere is considered to be negligible.

The site vicinity is located in an area of typical Mediterranean climate, characterized by warm dry summers and mild winters. Based on data obtained from the City of Oakland, the mean temperature in the site vicinity ranges from approximately 50° Fahrenheit in the winter to approximately 80° Fahrenheit in the summer. The average annual precipitation is approximately 18 inches per year.

6.0 SAMPLING ACTIVITIES AND RESULTS

This PEA was prepared to satisfy DTSC requirements for the environmental assessment of a proposed school site before it could approve the Site for school construction. The PEA was conducted in accordance with the PEA Work Plan that was approved by the DTSC.

6.1 Summary of Activities

This section summarizes the scope of work performed by LFR during the field investigation portion of the PEA.

6.1.1 Public Notification

LFR worked with the OUSD to notify the surrounding community of the PEA field activities planned for the Site. A summary of the public notification process and a community profile is presented in Section 9.

6.1.2 Planning/Permitting Activities

Before conducting field investigation activities, LFR prepared a PEA Work Plan that included a field sampling plan, a quality assurance/quality control (QA/QC) plan, and a site-specific health and safety plan. A copy of the PEA Work Plan is presented in Appendix D. LFR also obtained the necessary drilling permits from the Alameda County Public Works Department, and encroachment and obstruction permits from the City of Oakland. Copies of the permits are presented in Appendix E.

LFR's representative identified proposed boring locations by marking the area with white paint on the ground surface or with wooden stakes that had been painted white. LFR's representative then contacted Underground Service Alert (USA) at least 48 hours before start of the subsurface investigation. USA notified utility owners of record in the Site vicinity of our planned activities. Utility owners of record, or their designated representatives, were then responsible for indicating the presence of their utilities within the areas of the proposed investigation by marking the ground surface above the utilities with paint. In addition to contacting USA, LFR contracted with a private underground utility locating service to perform a geophysical survey in the areas of the proposed sampling locations.

6.1.3 PEA Scope of Work

The PEA investigation activities consisted of performing site visits to observe site and area features; the use, storage, handling, discharge, and disposal of potentially hazardous substances; and visible evidence of possible release(s) of hazardous substances to the environment at the Site. LFR implemented the PEA Work Plan, which included collecting soil samples from shallow borings, soil and groundwater samples from deep borings, and a water sample from the water supply well at 1510 105th Avenue. The samples were submitted to a laboratory for analysis. LFR evaluated the data generated during the field investigation activities and prepared the PEA report to present our findings, conclusions, and recommendations.

Potential environmental issues were identified at the Site based on historical and current site uses presented in the Phase I ESA report for the Site (ENSR 2000) and LFR's site

visits. The potential environmental issues identified at the Site included affected soil and groundwater beneath the Site as a result of the current or former presence of hydraulic lifts, sumps, an oil/water separator, a suspected former waste oil UST, floor drains, auto body painting operations, chemical use, a railroad spur, LBP, and asbestos. In addition, spills were previously reported in the past on two parcels located within the Site boundaries (1433 and 1561 105th Avenue in Area 7).

The potential COPCs identified at the Site included TPH, BTEX, VOCs (including MTBE), SVOCs, Title 22 metals, and PCBs. These COPCs are associated with historical industrial operations, vehicle maintenance, and painting operations at the Site.

Because of the ages of the structures on the Site, asbestos containing materials (ACMs) and LBPs may be present. LFR's representatives were able to obtain access to many of the site structures to perform a building materials survey for ACMs and LBPs. The results of these surveys will be presented in separate reports. Building materials surveys will be conducted for each of the site structures if OUSD proceeds with the project.

Ambient air sampling was not conducted as part of this PEA. In LFR's opinion and based on available information on surrounding site conditions and activities, ambient air sampling is not warranted. However, LFR is performing an air emissions study as part of the CEQA documents for the Site.

6.2 Sampling Program

The soil and groundwater sampling program implemented at the Site was prepared by LFR with input from Ms. Janet Naito and Dr. David Berry of the DTSC, as documented in the PEA Work Plan. The sampling locations were selected based on historical information, current site use, and information obtained during LFR's site visits.

Table 2 presents the sampling plan from the PEA work plan and Table 3 summarizes the analytical methods, types of sample containers, preservation methods, and holding times for the samples collected from the Site. Table 4 presents sample identification numbers (in numerical order) and sampling dates. Figure 4 presents sampling locations. Gaps between sample identification numbers exist because the sample identification numbers reserved for some areas exceeded the number of borings advanced within the area during the PEA field investigation.

Table 5 presents information on the analysis performed on each of the soil and groundwater samples collected from each area of the Site.

Samples were collected from the Site between March and July 2001; sampling dates are presented in Table 5. The rationale for boring location selection is discussed in Sections 6.3.1 through 6.3.9. At the time of our field investigation, access to site parcels was controlled by fencing with locked gates or by locked doors on the buildings.

Soil and groundwater sampling procedures are described in Section 6.2.1 and 6.2.2. After collection, each soil and groundwater sample was labeled with the sampler's initials, time and date of collection, project number, project name, and a unique sample identification number. Samples were placed in an ice-chilled cooler under strict chain-of-custody (COC) protocol and transported to the analytical laboratory. COC forms were completed for each set of samples and transported to the analytical laboratory with the samples. The COC records identified the contents of each shipment and maintained the custodial integrity of the samples. Generally, a sample is considered to be in the custody of an individual if it is in physical possession, in view, locked up, or kept in a secured area that is restricted to authorized personnel. Until receipt by the laboratory, the custody of the samples is the responsibility of the sample collector.

Sampling equipment was decontaminated and rinsed with distilled water before use at each sampling location and sampling event in accordance with the PEA Work Plan. Disposable equipment intended for one-time use was packaged for appropriate disposal and not reused. Drilling and sampling devices were decontaminated using high-pressure hot water (steam-cleaned) or the following procedures:

- laboratory-grade detergent and tap water wash, in a 5-gallon plastic bucket, using a brush
- initial tap water rinse, in a 5-gallon plastic bucket
- final distilled water rinse in a 5-gallon plastic bucket

Equipment was decontaminated over plastic sheeting in a pre-designated area, and clean bulky equipment was stored on plastic sheeting in uncontaminated areas. Cleaned small equipment was stored in plastic bags. Materials stored for more than a few hours were covered with plastic sheeting.

Boreholes were backfilled with neat cement after sample collection in accordance with permit requirements.

6.2.1 Soil Sampling

Shallow soil borings (total depth of 0.5-feet) were advanced using hand sampling equipment. The hand sampling equipment includes a sampler that is lined with one 2-inch by 6-inch brass or steel tube for sample collection. The sampler is then attached to a slide hammer that is raised and allowed to drop. This action drives the sampler into the ground. The sampler is extracted by pulling upward on the slide hammer.

The remaining soil borings were advanced to depths of up to 34 feet bgs using Geoprobe direct-push technology. Geoprobe rigs use a hydraulic hammer or vibrator to drive a metal sampling probe into the subsurface to the desired sampling depth.

Using the Geoprobe rig, soil samples were collected in disposable 4-foot-long by 1.5-inch-diameter acetate sample tubes that line the metal sampling probes. Upon

recovery from the sample probe, the acetate tubes containing the soil samples were cut to a desired length (0.5 to 1 foot) to yield sufficient material for the specified analyses. The soil sample liners/tubes were sealed at each end with a Teflon sheet and fitted with a plastic end cap for submittal to the analytical laboratory. The remaining soil in the sampling tube was used for lithologic description.

During the field investigation, a photoionization detector (PID) with a 10.6 eV lamp was used for health and safety monitoring and field screening. PID monitoring was used as an immediate indicator of the presence of volatile organic vapors in the breathing zone.

The drilling and sampling activities were conducted under the direct supervision of a California-Registered Geologist. Boring logs were completed for each borehole during the field investigation. Each boring log included the boring number, boring location, date and time of sampling, sampling depths, lithology, depths of stained or discolored soils, and PID readings. The Unified Soil Classification System was used to describe lithology at the Site. Copies of the field sampling logs and a chart showing the types of soils encountered at the Site and total depth for each boring are also presented in Appendix B.

6.2.2 Groundwater Sampling

Groundwater samples were collected using a Hydropunch sampler advanced through the Geoprobe direct-push probes into the water bearing zone. The Hydropunch sampler features a cone-shaped drive tip and polyvinyl chloride or steel slotted well screen. The well point is housed inside a steel drive casing during its advancement into the subsurface. The sampler is pulled up approximately 3 feet to expose the inner core screen when the desired groundwater sampling depth is reached. Groundwater enters the screen point sampler and is sampled using a disposable bailer. The groundwater samples are decanted into appropriate clean, laboratory-supplied bottles for submittal to the analytical laboratory. After sampling is complete, the Hydropunch sampler is removed from the subsurface.

6.2.3 Water Sampling

Groundwater samples were collected from the water supply well at 1510 105th Avenue. A peristaltic pump and new tubing was used to collect the water sample. The groundwater samples were decanted from the tubing into appropriate clean, laboratory-supplied bottles for submittal to the analytical laboratory.

6.3 Sampling Locations and Analyses

A total of 62 soil borings were advanced on the Site. The boring designations are noted in Table 4. LFR retained Lee and Sung, a licensed land surveyor, to survey the lateral

location of each soil boring to within the nearest foot. The surveyed locations for the soil boring are presented in Figure 4.

Soil samples were collected from each of the 62 soil borings and groundwater samples were collected from 52 of the soil borings. Table 5 presents the depth at which soil samples were collected for analysis and the borings from which groundwater samples were collected for analysis. The water supply well located at 1510 105th Avenue is designated BADW001 in Figure 4.

Selected soil and groundwater samples were submitted to Curtis & Tompkins, Ltd. ("Curtis & Tompkins"), for analysis. Curtis & Tompkins is an analytical laboratory certified by the State of California to perform the requested analyses. The analyses performed on the samples are discussed in the Sections 6.3.1 through 6.3.9. A summary of analysis performed on the soil and groundwater samples collected from the Site is presented in Table 5. The analyses performed on one or more of the soil samples from the indicated boring are presented in Figures 5a and 5b, and results are summarized in Tables 6 through 11. Groundwater sample analyses are presented in Figures 6a and 6b, and results are summarized in Tables 12 through 15.

A summary of the sampling and analysis program for each area is presented below.

6.3.1 Area 1: Lloyd Wise, Inc., Parcel Group (10550 East 14th Street and 1424 105th Avenue)

A total of 21 soil borings were advanced in Area 1, including 7 borings located inside the maintenance building (BASB031, BASB032, BASB033, BASB034, BASB070, BASB071, and BASB072), 5 borings located inside the service building (BASB073, BASB074, BASB075, BASB076, and BASB078), 2 located adjacent to an oil-stained pad (BASB036 and BASB037), 5 located outside the maintenance building (BASB026, BASB027, BASB028, BASB029, and BASB030), and 2 located in the car storage area (BASB077 and BASB082). Soil and groundwater samples were collected from each of these borings.

The borings inside the maintenance building were located adjacent to former hydraulic lifts (BASB031 through BASB034; BASB070 and BASB071 are step out locations from BASB031), and motor oil ASTs (BASB072). Borings in the service building were located in the areas of a sump (BASB078) and a floor drain (BASB073). Borings outside the maintenance building were advanced in the areas of the former UST (BASB026), sump (BASB030), and the oil/water separator (BASB027 and BASB028). Boring locations in the car storage area (BASB077 and BASB082) were randomly selected as no stained areas were noted in this area.

A magnetic survey was conducted in the area of the maintenance building during the field investigation to establish the presence of remaining underground structures. No anomalies indicative of USTs were noted during this survey.

The soil and groundwater samples collected from the 21 soil borings advanced in this area were analyzed for Title 22 metals and petroleum hydrocarbons. Groundwater samples from each boring were also analyzed for VOCs.

In addition, each of the soil samples from borings BASB029, BASB030, BASB036, BASB037, and BASB082; two soil samples from BASB070 (at the 23- and 25-foot depths); and three soil samples from BASB071 (at the 20-, 23-, and 25-foot depths), were analyzed for VOCs. Soil samples from BASB082 were also analyzed for PAHs. Additionally, each of the soil samples from BASB082, located at the east end of the parcel; groundwater samples from BASB071 and BASB072, located in the maintenance building; and groundwater samples from BASB078, located in the service building, were analyzed for SVOCs. The soil samples collected from BASB078 at the 13- and 28-foot depths were also analyzed for total organic carbon (TOC).

These analyses were selected based on the past use of the parcel as an automobile dealership maintenance and service center.

6.3.2 Area 2: Bill & Bill's Auto Body Parcel (1500 105th Avenue)

Three soil borings (BASB006, BASB007, and BASB008) were advanced within the building located in Area 2. Soil and groundwater samples were collected from each of these borings.

Borings BASB006 and BASB007 were advanced adjacent to and downgradient from floor drains. Boring BASB008 was advanced near the front entrance to the building.

Soil and groundwater samples collected from these soil borings were analyzed for Title 22 metals, petroleum hydrocarbons, and VOCs.

These analyses were selected based on the past commercial and industrial use of the parcel.

6.3.3 Area 3: Management Storage Parcel Group (1510, 1520, and 1528 105th Avenue)

Two soil borings (BASB040 and BASB041) were advanced near floor drains within the building in Area 3. Soil and groundwater samples were collected from both of these borings.

A groundwater sample was collected from the water supply well located outside the north wall of the building. The total depth of the well was not established during the field investigation because the well pump, located at a depth of approximately 63 feet below the top of the well casing, could not be removed from the well. The well sampling log is presented in Appendix F.

Soil and groundwater samples collected from the two borings were analyzed for Title 22 metals and petroleum hydrocarbons. In addition, the groundwater samples from both borings were analyzed for VOCs, and the groundwater samples collected from boring BASB040 were analyzed for SVOCs.

The water sample collected from the water supply well (BADW001), located outside the north wall of the building, was analyzed for Title 22 metals, petroleum hydrocarbons, and VOCs.

These analyses were selected based on the past use of the parcel as a candy factory.

6.3.4 Area 4: Ward's Custom Paint Parcel Group (1536, 1538, 1544, and 1548 105th Avenue)

Three soil borings (BASB012, BASB013, and BASB016) were advanced in Area 4. Soil samples were collected from each of the three borings and groundwater samples were collected from borings BASB012 and BASB016.

Borings BASB013 and BASB016 were advanced within the building near chemical and paint storage areas, and boring BASB012 was advanced outside the north wall of the building.

Soil samples collected from the three borings and groundwater samples collected from borings BASB012 and BASB016 were analyzed for Title 22 metals, petroleum hydrocarbons (including paint thinner or mineral spirits), and VOCs, with the exception of the soil samples from depths of 13-, 19-, and 28-feet from boring BASB016. Samples BASB016-13, BASB016-19, and BASB016-28 were analyzed for TOC only.

These analyses were selected based on the current use of the parcel as an automobile spray painting business and on-site storage of paints and thinners.

6.3.5 Area 5: Chevron Tow Parcel Group (1560 and 1570 105th Avenue)

Six borings (BASB022, BASB023, BASB024, BASB025, BASB086, and BASB087) were advanced in Area 5. Soil and groundwater samples were collected from each boring.

The surface of this area was covered with asphaltic concrete pavement with six drains. No stains or chemical storage areas were noted on the pavement. These borings were advanced adjacent to the drains because most of this property has been used for vehicle washing, maintenance, and storage.

Soil and groundwater samples collected from each of the borings were analyzed for Title 22 metals and petroleum hydrocarbons (including paint thinner). In addition, the

soil samples from boring BASB022 and the groundwater samples from each of the borings were analyzed for VOCs.

These analyses were selected based on the current use of the parcel as an automobile storage yard.

6.3.6 Area 6: Union Pacific Railroad (105th Avenue)

Eight borings were advanced in Area 6, including four shallow borings and four deep borings. Shallow borings (BASB002, BASB005, BASB011, and BASB017) were advanced to depths of approximately 2.5 feet. Deep borings (BASB001, BASB051, BASB081, and BASB021) were advanced to groundwater. Soil samples were collected from each of the borings, and groundwater samples were collected from the deep borings.

Borings BASB002, BASB005, BASB011, and BASB017 were advanced along the railroad tracks. Borings BASB051 and BASB081 were advanced on the northern side of 105th Street; borings BASB051 and BASB081 were advanced adjacent to and upgradient from the two former 1,000-gallon product and waste oil USTs. Boring BASB001 was advanced in the reported location of the stockpile of soil removed from the UST excavations. Boring BASB021 was advanced at the east end of this area to evaluate groundwater quality in this area.

Soil samples collected from the shallow borings were analyzed for Title 22 metals, petroleum hydrocarbons, SVOCs, and PAHs. Soil and groundwater samples from the four deep borings were analyzed for Title 22 metals and petroleum hydrocarbons. In addition, soil samples from boring BASB081, and groundwater samples from each of the deep borings were analyzed for VOCs. Soil samples from the 10- and 23-foot depths of boring BASB051 and from the 26-foot depth of boring BASB081 as well as groundwater samples from borings BASB051 and BASB081 were analyzed for SVOCs. Each of the soil samples and the groundwater sample collected from boring BASB051 were analyzed for ethylene glycol (antifreeze). The soil sample from the 20-foot depth of boring BASB081 was analyzed for TOC.

These analyses were selected based on the presence of the railroad tracks along 105th Avenue and the former presence of a waste oil UST, a product UST, and a stockpile of soil removed from the UST excavations.

6.3.7 Area 7: West Side of 105th Avenue Commercial, Industrial, and Residential Parcel Group (1429 through 1561 105th Avenue)

Ten borings (BASB018, BASB019, BASB052, BASB053, BASB054, BASB055, BASB056, BASB057, BASB058, and BASB080) were advanced in Area 7. Soil and groundwater samples were collected from these borings.

The sampling locations included the reported location of the buried coal bin (boring BASB058); 1433 105th Avenue where a reported release occurred in 1991 (borings BASB052, BASB053, BASB054, and BASB080); and 1561 105th Avenue where an oil spill reportedly occurred in 1992 (BASB018 and BASB019). In addition, vent pipes were noted on the roof at the west end of the building near boring BASB019. Other borings were randomly placed across the parcel.

Soil and groundwater samples collected from each boring were analyzed for Title 22 metals and petroleum hydrocarbons. The soil samples from boring BASB058 and groundwater samples from each of the borings were analyzed for VOCs. Soil samples from the 5-foot depth of boring BASB019 and the 4- and 25-foot depths of boring BASB052 and groundwater samples from borings BASB018, BASB019, BASB052, BASB053, BASB054, BASB058, and BASB080 were also analyzed for SVOCs. The soil sample from the 5-foot depth of boring BASB019 was analyzed for PAHs.

These analyses were selected based on the current use of the parcels in this area (commercial, light industrial, and residential), and releases reported at 1433 105th Avenue in 1991 and at 1561 105th Avenue in 1992.

6.3.8 Area 8: East Side of 104th Avenue Residential Parcel (10403 Walnut Street and 1440 through 1648 104th Avenue)

Five shallow borings and one deep boring were advanced in Area 8. The five shallow borings (BASB060, BASB061, BASB062, BASB063, and BASB065) were advanced to depths of approximately 0.5 feet. Soil and groundwater samples were collected from the deep boring (BASB050), which was advanced to groundwater in the east end of this area.

The shallow soil borings were located within the drip line adjacent to the exterior walls of the residences exhibiting the most visible signs of weathered paint.

The deep boring was advanced on the east end of the area to assess whether an off-site release had affected the Site.

Additional soil samples for lead analysis may be collected after demolition of the residential facilities. These samples will be collected from the first soil encountered in residential areas (from the surface to approximately 0.5 foot bgs). Asbestos surveys of the structures will be performed if OUSD decides to proceed with the project.

During the PEA field investigation, a possible vent pipe for a heating oil UST was noted near the residence at 1604 104th Avenue. LFR's representatives were unable to establish the purpose of this pipe because the property owner did not grant us access to the property.

The soil samples collected from the five shallow borings in this area were analyzed for Title 22 metals and petroleum hydrocarbons. The soil samples from borings BASB061 and BASB065 were also analyzed for organochlorine pesticides (OCPs) and PCBs. The soil and groundwater samples collected from the deep boring (BASB050) were analyzed for Title 22 metals, petroleum hydrocarbons, and VOCs.

These analyses were selected based on the possible use of metal-based and/or oil-based exterior paints on the houses and pest control chemicals on some parcels that may have affected the Site. In addition, groundwater samples from the deep boring were analyzed to assess whether an off-site release have affected the Site.

6.3.9 Area 9: AC Transit Area (Northeast End of 105th Avenue)

Three deep borings (BASB088, BASB089, and BASB090) were advanced in Area 9. Soil and groundwater samples were collected from these borings to establish a baseline of subsurface conditions. The borings were randomly located along the railroad tracks that cross this area.

Soil and groundwater samples collected from the three borings were analyzed for Title 22 metals, petroleum hydrocarbons, and VOCs.

These analyses were selected to establish a baseline of subsurface conditions and assess if an off-site release has affected the Site, particularly from the AC Transit vehicle wash building located adjacent to the south of this area.

6.4 QA/QC Samples

LFR collected duplicate soil and groundwater samples, equipment rinsate blank samples, and travel blank samples for QA/QC purposes. The QA/QC program is summarized below. Analytical results for the duplicate soil and groundwater samples are presented in Tables 5 through 11. Analytical results for the equipment rinsate blanks, field blanks, and travel/trip blanks are presented in Appendix G.

6.4.1 Field Duplicate Samples

Duplicate soil samples were collected to evaluate the analytical procedures and methods used by the laboratory. Eleven duplicate soil samples (BASB029-5, BASB032-5, BASB036-5.5, BASB077-5, BASB008-5, BASB040-5, BASB041-5, BASB012-4.5, BASB025-5, BASB087-5, BASB058-5.5) were collected in the field and two soil samples (BASB088-3.5 and BASB090-2.5) were split at the laboratory.

Five duplicate groundwater samples were collected from borings BASB026 (duplicate designated BASB126), BASB016 (duplicate designated BASB116), BASB081 (duplicate designated BASB181), BASB019 (duplicate designated BASB119), and BASB088 (duplicate designated BASB088 DUP).

The consistent analytical data for the samples collected at the Site indicate that laboratory analytical procedures were adequate for this sampling program.

6.4.2 Equipment Rinsate Blanks

Equipment rinsate blanks (equipment blanks) were collected from the final water rinsed over equipment after the decontamination procedures was complete. The equipment blank was collected from nondedicated (reusable) sampling equipment (e.g., split spoon sampler, drive sampler). To collect an equipment blank sample, laboratory-supplied, organic-free, deionized water was carefully poured over or through the sampling equipment and collected in the appropriate sample container. Equipment blank samples were labeled, stored, and submitted to the analytical laboratory using the same procedures as for field samples.

Nine equipment rinsate blanks were collected during this sampling program. Analytical results of these samples indicated the presence of low levels of petroleum hydrocarbons and VOCs. These compounds were present in some of the soil and groundwater samples collected from the Site. The presence of low levels of these compounds in the equipment blanks does not indicate a significant concern about the decontamination procedures for this sampling program because of the concentrations of petroleum hydrocarbons and VOCs detected in the samples from these borings.

6.4.3 Field Blanks

Field blank samples consist of a sample of the distilled water that was used as a final rinse for sampling equipment during equipment cleaning activities. The purpose of the field blank sample was to evaluate the distilled water for the presence of chemicals for which environmental samples are being analyzed. A field blank sample was collected by pouring distilled water into the appropriate sample container. Field blank samples were labeled, stored, and submitted to the analytical laboratory using the same procedures as those for field samples.

Two field blanks were collected during this sampling program. Analytical results of the field blank sample collected on July 9, 2001, indicated the presence of low levels of the VOC acetone. Acetone was present in some of the soil samples collected from the Site on this date. The presence of low levels of this compound in the field blank does not indicate a significant concern about decontamination procedures for this sampling program, because of acetone concentrations detected in the samples from these borings.

6.4.4 Travel/Trip Blanks

Travel/trip blanks were used to detect VOC contamination during sample shipping and handling. Travel blanks comprised 40-milliliter VOA vials of American Society for Testing and Materials (ASTM) Type II water that were filled in the laboratory with organic-free, deionized water, transported to the sampling site, and returned to the

laboratory with samples collected for VOC analysis. Travel blanks were not opened in the field. The planned frequency for travel blanks was one per cooler containing samples for VOC analysis.

Twelve travel/trip blanks were collected during this sampling program. Analytical results of these samples did not indicate the presence of the analytes tested for in the blanks. The consistent analytical data for the travel/trip blanks collected at the Site indicate that sample shipping and handling procedures were adequate for this sampling program.

6.5 Laboratory QA/QC Procedures

LFR performed level-three data validation on the analytical results for this project. Laboratory data validation issues were noted; however, none led to the rejection of data. Tables presenting QA/QC issues and summary of qualified sample results are presented in Appendix G.

Laboratory QA/QC procedures included the following:

- Laboratory analyses was performed within the required holding time. Groundwater samples submitted for metal analysis were filtered and preserved in the laboratory within 24 hours of sample collection.
- Appropriate minimum reporting limits were used for each analysis. The reporting limits were lower than the corresponding preliminary remediation goals established by the EPA Region IX for residential land use. For water samples, the detection limits for low concentration volatiles in water by gas chromatograph/mass spectrometer system were used.
- The analytical method used for arsenic analysis provided a detection limit sufficient for residential risk evaluation purposes.
- Samples were analyzed by a laboratory certified by the state of California for the requested analysis.
- The laboratory reported the following information for each sample delivery group:
 - a discussion of how the QA/QC criteria were met by the laboratory
 - a discussion of hold times
 - matrix spike/matrix spike duplicate results
 - relative percent difference
 - method blank data
 - surrogate recovery, instrument tuning, and calibration data
 - signed laboratory reports including the sample designation, date of sample collection, date of sample analysis, laboratory analytical method used, sample volume, and the minimum reporting limit

LFR used a state-certified environmental testing laboratory for the sample analyses. LFR confirmed the DTSC's minimum reporting limits with the selected laboratory before submitting samples for analysis.

6.6 Presentation of Data

Selected soil and groundwater samples were submitted to Curtis & Tompkins to perform the requested analyses. Analytical data sheets and chain-of-custody records are presented in Volumes II and III.

The analytical data sheets refer to the petroleum hydrocarbon analyses as total extractable hydrocarbons and total volatile hydrocarbons. In this report, total extractable hydrocarbons are referred to as TPHd, TPHmo, TPHpt, TPHms, and TPHss. Total volatile hydrocarbons are referred to as TPHg.

A total of 279 soil samples and 52 groundwater samples collected from the Site were analyzed for Title 22 metals using EPA Method 6010/7000 Series, and for TPHd, TPHmo, TPHpt, TPHms, TPHss, and/or TPHg using EPA Method 8015 (modified). A total of 96 soil samples and 52 groundwater were analyzed for VOCs using EPA Method 8260. Fifteen soil samples and 13 groundwater samples were analyzed for SVOCs using EPA Method 8270. In addition, two soil samples were analyzed for OCPs using EPA Method 8081, nine soil samples were analyzed for PAHs using EPA Method 8310, and two soil samples were analyzed for PCBs using EPA Method 8082.

Analytical results for soil samples are summarized in Tables 6 through 11; groundwater results are summarized in Tables 12 through 15.

Soil property data were collected to model the fate and transport of chemicals in the subsurface environment. These data include TOC, grain size, bulk density, porosity, and moisture content. TOC was analyzed using the Walkley-Black method; grain size was analyzed using ASTM D422M; and bulk density, porosity, and moisture content were analyzed using the American Petroleum Institute RP40 method. Seven soil samples were analyzed for TOC, grain size, bulk density, porosity, and moisture content. Copies of these test results are presented in Volumes II and III.

6.7 Deviations from PEA Work Plan

Several deviations from the PEA Work Plan occurred during the PEA field investigation for the Site. These deviations are noted below:

Area 1. Soil samples collected near the hydraulic lifts in the maintenance and service building were to be analyzed for PCBs. This analysis was not performed during the PEA; however, remedial activities, including removal of soil, will be performed because of the presence of petroleum hydrocarbons in these areas. Confirmation samples collected during the remedial activities will be analyzed for PCBs.

Area 2. No deviations from the PEA Work Plan occurred during the field investigation.

Area 3. Three borings were planned inside the building located on this parcel, including one at a floor drain and two at sumps. Based on observations made in the field at the time of the sampling program, including the size of the building and proximity of the sumps to each other, LFR advanced two rather than three borings at this location.

Area 4. Five borings were planned in this area, including one or two inside the vehicle storage lot. Based on observations made in the field at the time of the sampling program, including the number of vehicles in this area, LFR advanced three rather than five borings at this location. None of the borings were located in the vehicle storage lot; however, two borings (BASB077 and BASB082) were located adjacent to Area 4 within Area 1.

Area 5. No deviations from the PEA Work Plan occurred during the field investigation.

Area 6. No deviations from the PEA Work Plan occurred during the field investigation.

Area 7. Eleven borings were planned in this area. Based on observations made in the field at the time of the sampling program, including the lack of evidence of past releases, LFR advanced a total of 10 borings at this location. In addition, the PEA Work Plan stated that each of the soil samples to be collected from this area would be analyzed for SVOCs. Only three samples from this area were analyzed for SVOCs because analytical results for other samples collected at the Site did not indicate significant effects to the Site from SVOCs.

Area 8. Six shallow borings were planned in this area. Soil samples from each shallow boring and the deep boring advanced on the east end of the area were analyzed for OCPs. Based on access constraints and observations made in the field at the time of the sampling program, only five shallow soil borings were advanced. In addition, only two samples from this area were analyzed for OCPs because evidence of pesticide releases were not observed on other parcels during the PEA field investigation.

Area 9. No deviations from the PEA Work Plan occurred during the field investigation.

Duplicate Samples. A total of 279 soil samples, including 13 duplicate soil samples, were collected from the Site for analyses. The PEA work plan noted that the duplicate soil sampling program would represent 10 percent of the total number of samples collected for analysis. To satisfy the proposed duplicate soil sampling program, a total of 27 duplicate soil samples should have been collected from the Site during the PEA. In LFR's opinion, the 13 duplicate soil samples were sufficient for this sampling program, based on the number of soil samples collected from the Site and the consistent data obtained from the analytical laboratory.

6.8 Discussion of Results

Table 16 presents analytical results of soil samples with petroleum hydrocarbons detections above 100 mg/kg. Table 17 presents analytical results of soil samples with metals detections at concentrations above those detected during the Oakland Urban Land Development study (City of Oakland 2001). Table 18 presents analytical results of groundwater samples with petroleum hydrocarbons detections at concentrations above the Suggested No Adverse Response Levels (SNARLs) established by the RWQCB. Table 19 presents analytical results of groundwater samples with metals and VOC detections at concentrations above their respective Maximum Contaminant Levels (MCLs), established by the California Department of Health Services and the RWQCB.

Figure 7 presents analytical results of soil samples with TPH concentrations at or above 100 mg/kg. Figure 8 presents analytical results of soil samples with metals detections at concentrations above those detected in the Oakland Urban Land Development study. Figure 9 presents analytical results of groundwater samples with TPH concentrations at or above the RWQCB's SNARLs. Figure 10 presents analytical results of groundwater samples with metals and VOC detections at concentrations at or above their respective MCLs.

The results of the soil sampling identified the presence of metals, OCPs, PAHs, SVOCs, and VOCs as COPCs. Metals were reported across the Site; lead, zinc, arsenic, and chromium were present at concentrations above the 95 percent upper confidence limit (UCL). OCPs were detected in soil samples from borings BASB061 and BASB065 located in Area 8. PAHs were detected in soil samples from boring BASB082 in Area 1; borings BASB002, BASB005, BASB011, and BASB017 in Area 6; and borings BASB019 in Area 7. The VOCs acetone and methylene chloride were detected in soil samples collected from across the Site. SVOCs were detected in soil samples from boring BASB082 in Area 1; borings BASB002, BASB005, BASB011, BASB017, BASB051, and BASB081 in Area 6; and borings BASB019 and BASB052 in Area 7. In addition, petroleum hydrocarbons were identified in shallow soil at various locations on the Site.

The results of the groundwater sampling identified the presence of metals, PAHs, SVOCs, and VOCs as COPCs. Metals were reported across the Site; barium, lead, antimony, and nickel were present at concentrations above the MCLs. PAHs and SVOCs were detected in groundwater samples from borings BASB071, BASB072, and BASB078 in Area 1; boring BASB040 in Area 3; borings BASB051 and BASB081 in Area 6; and borings BASB018, BASB019, BASB052, BASB053, BASB054, BASB058, and BASB080 in Area 7. VOCs were detected in groundwater samples from boring BASB026 in Area 1; boring BASB022 in Area 5; borings BASB001, BASB051, and BASB081 in Area 6; and boring BASB050 in Area 8. In addition, petroleum hydrocarbons were identified at concentrations above the SNARLs in groundwater at various locations on the Site, including borings BASB026, BASB031, BASB037, BASB071, and BASB076 in Area 1; boring BASB008 in Area 2; boring BASB041 in

Area 3; borings BASB022 and BASB023 in Area 5; borings BASB001, BASB051, and BASB081 in Area 6; and borings BASB018 and BASB052 in 7.

The petroleum hydrocarbons and VOCs detected in groundwater samples from Area 6 appear to be related to the waste oil and product USTs formerly located immediately to the west of the Site. According to reports prepared by other consultants for the investigation of the USTs, groundwater flow direction is to the west-southwest based on depth to water measurements in the three monitoring wells installed on the properties adjacent to the west of the Site. Therefore, the three borings advanced at the west end of Area 6 are located in an upgradient direction from these former USTs. In LFR's opinion, the USTs appear to be the likely source of the petroleum hydrocarbons in the groundwater based on the proximity of the USTs to the borings.

The petroleum hydrocarbons detected in the soil and groundwater samples from beneath the maintenance building at the west end of Area 1 appear to be related to the hydraulic lifts and chemical storage in this building.

7.0 HUMAN HEALTH SCREENING EVALUATION

7.1 Data Evaluation and Selection of Chemicals of Potential Concern

In accordance with the PEA Guidance Manual, a screening-level evaluation was conducted to provide an estimate of potential chronic (long-term) health risks from affected soil and groundwater identified at the Site. Analytical data from LFR's sampling program were used for this evaluation. LFR analyzed 279 samples as part of the chemical characterization of soil. During an August 16, 2001 meeting with LFR, DTSC authorized the use of 95 percent UCL of the mean to represent exposure point concentrations. DTSC's representatives stated that, based on the relatively large data set, 95 percent UCLs would be appropriate to use in the risk evaluation (LFR 2001). In addition, DTSC's representatives agreed with LFR that the concentration of chromium at 160 mg/kg in the soil sample collected at the 3 foot depth from boring BASB013 and the concentration of arsenic at 33 mg/kg in the soil sample collected at the 2 foot depth at boring BASB023 could be considered outliers of the data set and excluded from the risk assessment.

The evaluation was conducted using the analytical models provided in the PEA Guidance Manual, which are structured to provide a conservative estimate of the chronic risk from affected media along exposure pathways that are most frequently encountered in a residential setting. The default factors contained in the analytical models are conservative in nature and represent a reasonable maximum exposure to COPCs as defined by EPA. The screening-level evaluation was conducted for each chemical species detected in site soil and groundwater at concentrations above local background levels. In addition, the groundwater vapor transport model presented in the

DTSC-modified Johnson and Ettinger vapor model spreadsheet was used for groundwater to indoor air estimations.

Appendix H presents the details of the screening-level evaluation. The results of the evaluation are summarized below.

7.2 Exposure Assessment

Soil COPCs used in the evaluation of chronic health risk from the ingestion, dermal contact, and inhalation pathways included metals, OCPs, PAHs, SVOCs, and VOCs and are summarized in Table 20.

Groundwater COPCs used in the evaluation of chronic health risk from inhalation of vapors and domestic use include metals, PAHs, SVOCs, and VOCs and are summarized in Table 21.

7.3 Toxicity Assessment and Risk Characterization

The site conceptual model is presented in Figure 11. COPC data are presented in Tables 20 through 24. Exposure pathway evaluations, distribution evaluations, and 95 percent UCLs are presented in Tables 25 and 26, and summarized as follows:

- The PEA soil model for the carcinogenic compounds does not indicate a significant cancer risk (less than 10^{-6}) for the ingestion/dermal contact pathways from shallow soil at the Site.
- The DTSC groundwater spreadsheet for the carcinogenic compounds does not indicate a significant cancer risk (less than 10^{-6}) for the indirect inhalation pathway to indoor air at the Site.
- The PEA Guidance Manual's groundwater model for the carcinogenic compounds bromodichloromethane and vinyl chloride did indicate a significant cancer risk (4.9×10^{-6}) for the domestic use pathway at the Site. This pathway includes exposures from ingestion and bathing. Because the Site is located in an urban setting, public supply water will most likely be used as the domestic water source. Therefore, although the estimated risk from this model is above the target for this exposure scenario, direct contact with shallow groundwater is actually considered highly unlikely, and does not represent an actual complete exposure pathway.
- The PEA soil model for the noncarcinogenic compounds does not indicate a significant hazard (greater than 1) for the indirect inhalation and ingestion/dermal contact pathways from shallow soil at the Site.
- The DTSC groundwater spreadsheet for the noncarcinogenic compounds does not indicate a significant hazard (greater than 1) for the indirect inhalation pathway to indoor air at the Site.

- The PEA Guidance Manual's model did reveal a significant hazard (2) for the domestic use pathway for groundwater at the Site. As previously stated, this pathway includes exposures from ingestion and bathing. Because the Site is located in an urban setting, public supply water will most likely be used as the domestic water source. Therefore, although the estimated risk from this model is above the target for this exposure scenario, direct contact with shallow groundwater is actually considered highly unlikely, and does not represent an actual complete exposure pathway.

Because lead is a COPC at the Site, blood-lead level calculations were performed, using the DTSC's LeadSpread Model (Version 7.0) and inputting the 95 percent UCL lead concentration in soil at the Site (10 micrograms per gram). Lead concentrations detected in groundwater at the Site were not incorporated into the model because public supply water will most likely be used as the domestic water source. The default value of 15 $\mu\text{g}/\text{l}$ was used for the lead concentration in water in the model calculations. These results are presented in Table 27. The calculations were performed with the "home-grown produce" pathway turned on, to produce a conservative result. LFR assumed that up to 7 percent of vegetables consumed by a family would be raised on the Site. According to LFR's calculations, the 95th percentile blood lead levels for adults and children are below 10 micrograms per deciliter, indicating that concentrations of lead detected at the Site are not a health concern.

8.0 ECOLOGICAL SCREENING EVALUATION

A detailed ecological screening evaluation was not performed during this PEA because the Site is located within a highly developed commercial and residential urban setting. Natural wildlife habitat areas were not noted on the Site during the PEA. Therefore, based on the available information, there does not appear to be a significant pathway of exposure to nonhuman, sensitive ecological species.

9.0 COMMUNITY PROFILE

Before beginning field activities, LFR worked with the OUSD to notify the surrounding community of the PEA field activities planned for the Site.

On March 13, 2001, LFR's representative distributed written flyers to notify residential and commercial establishments within "sight distance" of the Site of the schedule fieldwork. LFR distributed approximately 120 flyers to residents and occupants on 105th Avenue, East 14th Street (also known as International Boulevard), 104th Avenue, Plymouth Street, Walnut Street, and Breed Street. Flyers printed on OUSD letterhead included information on the proposed environmental investigation (soil and groundwater sampling), and dates of field work. Neighbors were instructed to contact Ms. Ineda Adesanya, Director of Facilities for OUSD, with any questions or comments.

No specific concerns have been raised by the community regarding the PEA performed at the Site and no substantial concerns or issues related to this project have been brought to OUSD's attention by the community.

LFR obtained information on the community demographics from the United States Census Bureau (www.census.gov). The population of City of Oakland ranges from low-middle to upper income families. A summary of the information obtained for the City of Oakland is presented below.

Population:

Total	399,484
White	125,013
Black/African-American	142,460
Hispanic/Latino	87,467
American Indian	2,655
Asian	60,851
Native Hawaiian/Pacific Islander	2,002
Other	46,592
Two or More Races	19,911

Age:

Estimated Median Age	33.3
Population Between Ages 5 and 19 Years	81,300
Population Over Age 21	284,538

Households:

Total	150,790
Average Persons Per Household	2.60
Number of Owner-Occupied Households	62,489
Number of Renter-Occupied Households	88,301
Mean Household Income	\$53,400

Families:

Total	86,347
With Children Under 18 Years of Age	43,152

10.0 SUMMARY AND CONCLUSIONS

The purpose of the PEA was to establish whether a release or threatened release of hazardous substances, which pose a threat to human health or the environment, exists at the Site. Based on past site use, selected soil and groundwater samples collected from

the Site were analyzed for Title 22 metals, petroleum hydrocarbons, VOCs, SVOCs, OCPs, PAHs, and PCBs.

The results of the soil sampling identified the presence of metals, OCPs, PAHs, SVOCs, and VOCs as COPCs. Metals were reported across the Site; lead, zinc, arsenic, and chromium were present at concentrations above the 95 percent UCL. OCPs were detected in soil samples from borings BASB061 and BASB065 located in Area 8. PAHs were detected in soil samples from boring BASB082 in Area 1; borings BASB002, BASB005, BASB011, and BASB017 in Area 6; and borings BASB019 in Area 7. The VOCs acetone and methylene chloride were detected in soil samples collected from across the Site. SVOCs were detected in soil samples from boring BASB082 in Area 1; borings BASB002, BASB005, BASB011, BASB017, BASB051, and BASB081 in Area 6; and borings BASB019 and BASB052 in Area 7. In addition, petroleum hydrocarbons were identified in shallow soil at various locations on the Site.

The results of the groundwater sampling identified the presence of metals, PAHs, SVOCs, and VOCs as COPCs. Metals were reported across the Site; barium, lead, antimony, and nickel were present at concentrations above the MCLs. PAHs and SVOCs were detected in groundwater samples from borings BASB071, BASB072, and BASB078 in Area 1; boring BASB040 in Area 3; borings BASB051 and BASB081 in Area 6; and borings BASB018, BASB019, BASB052, BASB053, BASB054, BASB058, and BASB080 in Area 7. VOCs were detected in groundwater samples from boring BASB026 in Area 1; boring BASB022 in Area 5; borings BASB001, BASB051, and BASB081 in Area 6; and boring BASB050 in Area 8. In addition, petroleum hydrocarbons were identified at concentrations above the SNARLs in groundwater at various locations on the Site, including borings BASB026, BASB031, BASB037, BASB071, and BASB076 in Area 1; boring BASB008 in Area 2; boring BASB041 in Area 3; borings BASB022 and BASB023 in Area 5; borings BASB001, BASB051, and BASB081 in Area 6; and borings BASB018 and BASB052 in 7. In addition, petroleum hydrocarbons were detected in groundwater samples collected from across the Site.

The petroleum hydrocarbons and VOCs detected in the groundwater samples from the west end of Area 6 appear to be related to the waste oil and product USTs formerly located immediately to the west of the Site. According to reports prepared by other consultants for the investigation of the USTs, groundwater flow direction is to the west-southwest based on depth-to-water measurements in the three monitoring wells installed on the properties adjacent to the west of the Site. Therefore, the three borings advanced at the west end of Area 6 are located in an upgradient direction from these former USTs. In LFR's opinion, the USTs appear to be the likely source of the petroleum hydrocarbons in the groundwater based on the proximity of the USTs to the borings.

The petroleum hydrocarbons detected in the soil and groundwater samples from beneath the maintenance building at the west end of Area 1 appear to be related to the hydraulic lifts and chemical storage in this building.

For the purposes of conducting a human health screening evaluation, the potential exposure pathways identified for the Site were inhalation, ingestion, and dermal absorption. The PEA human health screening evaluation indicated that potential risks to human health were below the target risk level (less than 10^{-6}) for the compounds identified as COPCs at the Site.

11.0 RECOMMENDATIONS

The information reviewed and observations made in this PEA report do not indicate that soil or groundwater quality at the Site has been significantly affected by on-site releases of hazardous substances, with the exception of the petroleum hydrocarbons detected in soil and groundwater beneath the maintenance building on the west end of Area 1.

Risks to human health have been found to be within acceptable levels based on the information developed during the PEA and the conservative human health screening evaluation using the PEA Guidance Manual. LFR proposes to perform remedial activities in the area of the maintenance building to address the presence of petroleum hydrocarbon-affected soil and groundwater. LFR will prepare a removal action work plan for these proposed activities at the Site. Removal actions and delineation of these compounds will be addressed during construction of the proposed school. Areas of proposed removal actions are presented in Figure 12.

12.0 LIMITATIONS

This PEA did not include assessment of natural hazards such as naturally occurring asbestos, radon gas, or methane gas; assessment of the potential presence of radionuclides or electromagnetic fields; or assessment of nonchemical hazards, such as the potential for damage from earthquakes or floods, or the presence of endangered species or wildlife habitats.

The observations and conclusions presented in this report are professional opinions based on the scope of activities and information obtained through the PEA described in this report. Opinions presented in the report apply to site conditions at the time of our study, and cannot apply to site conditions or changes of which we are not aware, or which we have not had the opportunity to evaluate. It must be recognized that any conclusions drawn from these data rely on the integrity of the information available to LFR at the time of the investigation, and that a full and complete determination of environmental risks cannot be made.

This report is exclusively for the use of the OUSD, the CDE, and the DTSC. Any reliance on this report by any other party shall be at such party's sole risk.

13.0 REFERENCES

- Alameda County Health Care Services Agency (ACHCSA). 1998a. Case Closure Summary for Lloyd Wise Nissan, 10500 East 14th Street, Oakland, California. April 29.
- . 1998b. Fuel Leak Site Case Closure for 10500 East 14th Street, Oakland. August 14.
- California Division of Mines and Geology. 1966. Bulletin 190. 1999. Bulletin 190 - Geology of Northern California. San Francisco. Edgar H. Bailey, Editor. p. 508.
- Cal/EPA. 2001a. Office of Environmental Health Hazard Assessment's (OEHHA). Cancer Potency Value Table. March.
- . 2001b. OEHHA database.
- City of Oakland. 2001. Oakland Urban Land Development Program, City of Oakland Survey of Background Metal Concentration Studies Table.
<<http://www.oaklandpw.com/ulrprogram/>>
- Department of Toxic Substances Control. 1994. Preliminary Endangerment Assessment Guidance Manual, State of California, Environmental Protection Agency. January.
- ENSR Consulting and Engineering. 2000. Phase I Environmental Site Assessment Report, Batarese Project Site, East 14th Street and 105th Avenue, Oakland, California. October.
- Gen-Tech Environmental (Gen-Tech). 1993a. Underground Tank Technical Closure Report, March 26.
- . 1993b. Monitoring Well Installation and Sampling, Lloyd Wise Olds, 10440 East 14th Street, Oakland, California. May 6.
- . 1994a. Soil and Groundwater Investigation Site at 10440 and 10550 East 14th Street, Oakland, California. May 20.
- . 1994b. Overview of Environmental Conditions at 10550 East 14th Ave. [sic] Nissan/Honda Auto Dealership in Oakland, California. October 11.
- Helley, E., and LaJoie, K. 1979. Flatland Deposits of the San Francisco Bay Region, California - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning. USGS Professional Paper 943. Washington, D.C.

- Hickenbottom, K., and Muir, K. 1988. Geohydrology and Groundwater-Quality Overview of the East Bay Plain Area, Alameda County, California. 205 (j) Report. Alameda County Flood Control and Water Conservation District. June.
- LFR Levine-Fricke (LFR). 2001a. Preliminary Environmental Assessment Work Plan, Batarse Project Site, 104th Avenue and East 14th Street, Oakland, California. May 25.
- . 2001b. Personal communication among Ms. Amy Goldberg Day of LFR and Ms. Janet Naito and Mr. Michael Stephens of DTSC. August 16.
- Piers Environmental Services. 1995. Monitoring Well Installation and Groundwater Sampling for Lloyd Wise Oldsmobile/Nissan, 10550 East 14th Street, Oakland, California. September 27.
- . 1996. Phase I Environmental Assessment for 1500-1510 105th Avenue, Oakland, California. June 5.
- . 1997. Limited Phase II Environmental Assessment and Groundwater Monitoring Report, 10500 East 14th Street, Oakland, California. March 13.
- . 1998. Phase I Environmental Assessment for 1520 105th Avenue, Oakland, California. August 27.
- Regional Water Quality Control Board - Central Valley Region. 1994. Leaking Underground Storage Tank Field Manual.
- . 2000. A Compilation of Water Quality Goals.
- U.S. EPA. 1987. Health Effects Assessment Summary Tables.
- . 2000. National Center for Environmental Assessment (NCEA) as cited in U.S. EPA's Region IX Preliminary Remedial Goals.
- . 2001. Integrated Risk Information System database.
- U.S. Geological Survey (USGS). San Leandro, California Quadrangle, 7.5-minute topographic map. 1993.

**Table 1
Current Site Information
Batarse Site, Oakland, California**

Area	Occupant/Use	Street Address	Assessor's Parcel Number
1	Lloyd A. Wise, Inc.	10550 East 14 th Street (eastern portion)	047-5519-005-02 (eastern portion)
		1424 105 th Avenue (formerly part of East 14 th Street)	047-5509-010-00
2	Bill & Bill's Auto Body	1500 105 th Avenue	047-5509-009-01
3/4	Management Storage	1510, 1520, and 1528 105 th Avenue	047-5509-007-00 and 047-5509-006-00
4	Ward's Custom Paint	1536, 1538, 1544, and 1548 105 th Avenue	047-5509-003-00, 047-5509-004-00, and 047-5509-005-00
5	Chevron Tow	1560 and 1570 105 th Avenue	047-5509-001-01
6	Union Pacific Railroad and 105th Avenue	Center of 105 th Avenue	047-5519-004-10 and 047-5519-003
7	West Side of 105 th Avenue Commercial, Industrial, and Residential	1429/1433/1439 105 th Avenue	047-5509-015-03
		1449 105 th Avenue	047-5509-015-04
		1501 105 th Avenue	047-5509-17
		1525 and 1545 105 th Avenue	047-5509-021-01
		1557, 1559, and 1561 105 th Avenue	047-5509-023-01
		105 th Avenue Right of Way	NA
8	East Side of 104 th Avenue Residential	10403 Walnut Street	047-5509-32-01
		1440 104 th Avenue	047-5509-36-01
		1446 104 th Avenue	047-5509-34-00
		1452 104 th Avenue	047-5509-33-00
		1604 104 th Avenue	047-5509-31-00
		1608 104 th Avenue	047-5509-30-00
		1616 104 th Avenue	047-5509-029-00
		1626 104 th Avenue	047-5509-28-00

**Table 1
Current Site Information
Batarse Site, Oakland, California**

Area	Occupant/Use	Street Address	Assessor's Parcel Number
		1632 104 th Avenue	047-5509-27-00
		1636 104 th Avenue	047-5509-26-00
		1640 104 th Avenue	047-5509-25-00
		1648 104 th Avenue	047-5509-24-00
9	AC Transit Parcel	No assigned address	047-5519-004-03

Table 2
Sampling Plan
Batarese Site, Oakland, California

Parcels	Number of Boreholes	Depth (ft hgs)	Number of Soil Samples	Total Number of Soil Samples	Sample Intervals	Groundwater Samples	Comments: Laboratory Analysis
1 Lloyd Wise, Inc. (10550 E. 14th St. and 1424 105th Ave.; includes hydraulic lifts area, sumps, oil/water separator, former waste oil UST, former oil ASTs and stained concrete slab)	19	30'	6 samples/boring	114	First native soil, 5', 10', 15', 20', and just above groundwater	19	Soil: Title 22 metals; TVH and TEH (including hydraulic oil at lifts) using EPA 8015 M; PCBs using EPA 8082 (soil samples at lifts); antifeeze (ethylene glycol) using GC-FID (for samples from boring adjacent to two former 1,000-gallon product and waste oil USTs located on the north side of 105th Street) 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260; antifeeze (ethylene glycol) using GC-FID (for samples from boring adjacent to two former 1,000-gallon product and waste oil USTs located on the north side of 105th Street)
2 Bill & Bill's Auto Body (1500 105th Ave.; floor drain)	3	30'	6 samples/boring	18	First native soil, 5', 10', 15', 20' and just above groundwater	3	Soil: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260
3 Management Storage (1510 105th Ave.; two sumps, one floor drain area)	1 well aband.	100'	NA	NA	NA	1	Groundwater: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260
4 Ward's Custom Paint (1544 105th Ave.; chemical use and vehicle storage)	5	30'	6 samples/boring	30	First native soil, 5', 10', 15', 20' and just above groundwater	5	Soil: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260
5 Chevron Tow (1560 and 1570 105th Ave.; vehicle storage)	4	30'	6 samples/boring	24	First native soil, 5', 10', 15', 20' and just above groundwater	1	Soil: Title 22 metals; TVH and TEH using EPA 8015 M 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015 M; VOCs using EPA 8260
6 Union Pacific Railroad Spur (shallow borings along railroad tracks)	4	1-3'	1 sample/boring	6	First "dirt"	0	Soil: shallow borings: Title 22 metals; TVH and TEH (including hydraulic oil) using EPA 8015 M; SVOCs using EPA 8270
7 West Side 105th Ave. (commercial/industrial and residential; possible buried coal bin; possible heating oil USTs and past releases)	11	30'	6 samples/borings	66	First native soil, 5', 10', 15', 20' and just above groundwater	11	Soil: Title 22 metals; TVH and TEH using EPA 8015; SVOCs using EPA 8270 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015M; VOCs using EPA 8260; SVOCs using EPA 8270
8 East Side 104th Ave. (residential; possible lead impacted soils)	6	1'	1 sample/boring	4	0.0-0.5'	NA	Soil: shallow borings: lead; TVH and TEH using EPA 8015 M; pesticides using EPA 8081 Soil: deep boring: Title 22 metals; TVH and TEH using EPA 8015; VOCs using EPA 8260; pesticides using EPA 8081 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015M; VOCs using EPA 8260
9 AC Transit (3 deep borings)	3	30'	6 sample/boring	18	First native soil, 5', 10', 15', 20' and just above groundwater	3	Soil: Title 22 metals; TVH and TEH using EPA 8015 20' sample on hold Groundwater: Title 22 metals; TVH and TEH using EPA 8015M; VOCs using EPA 8260
Totals	49 deep 12 shallow	1,494' depth	100' abandonment	306 soil samples		46 groundwater samples 1 well sample	

Notes:
The total number and depth of soil samples collected from each boring will depend on the actual depth of groundwater.

PAHs = polynuclear aromatic hydrocarbons
SVOCs = semivolatile organic compounds
TEH = total extractable hydrocarbons
TVH = total volatile hydrocarbons
VOCs = volatile organic compounds

**Table 3
Sample Collection Information
Batarse Site, Oakland, California**

Test Methods	Hold Time	Preservative
Title 22 Metals (EPA Test Method 6010/7000 Series)	Soil and Water: Mercury - 28 days preserved; Remaining metals - 6 months preserved	Ice (4° C) No preservative - samples filtered at laboratory
Polychlorinated Biphenyls and Organochlorine Pesticides (EPA Test Method 8081/8082)	Soil: 14 days extraction and 40 days analyzed Water: 7 days extraction and 40 days analyzed	Ice (4° C)
Semi-Volatile Organic Compounds (EPA Test Method 8270)	Soil: 14 days extraction and 40 days analyzed Water: 7 days extraction and 40 days analyzed	Ice (4° C)
Semi-Volatile Organic Compounds (EPA Test Method 525)	Water: 7 days extraction and 40 days analyzed	Ice (4° C)
EDB (EPA Test Method 504)	Water: 14 days analyzed	Ice (4° C)
Polycyclic Aromatic Hydrocarbons (EPA Test Method 8310)	Soil: 14 days extraction and 40 days analyzed Water: 7 days extraction and 40 days analyzed	Ice (4° C)
Total Petroleum Hydrocarbons quantified as diesel, motor oil, paint thinner, mineral spirits, or Stoddard solvents (EPA 8015 modified)	Soil and Water: 14 days extraction and 40 days analyzed	Ice (4° C)
Total Petroleum Hydrocarbons quantified as gasoline (EPA 8015 modified)	Soil and Water: 14 days analyzed	Ice (4° C)/HCl
Volatile Organic Compounds (EPA 8260A)	Soil and Water: 14 days analyzed if preserved and 7 days analyzed if not preserved	Ice (4° C)/HCl
Total Organic Carbon	Soil: 28 days analyzed	Ice (4° C)/H ₂ SO ₄

Table 4
Sample Matrix Analysis Summary
Batarse Site, Oakland, California

Location ID	Area	Soil	Water
BADW001	3		X
BASB001	6	X	X
BASB002	6	X	
BASB005	6	X	
BASB006	2	X	X
BASB007	2	X	X
BASB008	2	X	X
DUP	2	X	
BASB011	6	X	
BASB012	4	X	X
DUP	4	X	
BASB013	4	X	
BASB016	4	X	X
DUP	4		X
BASB017	6	X	
BASB018	7	X	X
BASB019	7	X	X
DUP	7		X
BASB021	6	X	X
BASB022	5	X	X
BASB023	5	X	X
BASB024	5	X	X
BASB025	5	X	X
DUP	5	X	
BASB026	1	X	X
DUP	1		X
BASB027	1	X	X
BASB028	1	X	X
BASB029	1	X	X
DUP	1	X	
BASB030	1	X	X
BASB031	1	X	X
BASB032	1	X	X
DUP	1	X	
BASB033	1	X	X
BASB034	1	X	X
BASB036	1	X	X
DUP	1	X	
BASB037	1	X	X
BASB040	3	X	X

Table 4
Sample Matrix Analysis Summary
Batarse Site, Oakland, California

Location ID	Area	Soil	Water
DUP	3	X	
BASB041	3	X	X
DUP	3	X	
BASB050	8	X	X
BASB051	6	X	X
RE	6	X	
BASB052	7	X	X
RE	7	X	
BASB053	7	X	X
BASB054	7	X	X
BASB055	7	X	X
BASB056	7	X	X
BASB057	7	X	X
BASB058	7	X	X
DUP	7	X	
BASB060	8	X	
BASB061	8	X	
BASB062	8	X	
BASB063	8	X	
BASB065	8	X	
BASB070	1	X	X
BASB071	1	X	X
BASB072	1	X	X
BASB073	1	X	X
BASB074	1	X	X
BASB075	1	X	X
BASB076	1	X	X
BASB077	1	X	X
DUP	1	X	
BASB078	1	X	X
BASB080	7	X	X
BASB081	6	X	X
RE	6	X	
DUP	6		X
BASB082	1	X	X
BASB086	5	X	X
BASB087	5	X	X
DUP	5	X	
BASB088	9	X	X
DUP	9	X	X

Table 4
Sample Matrix Analysis Summary
Batarse Site, Oakland, California

Location ID	Area	Soil	Water
BASB089	9	X	X
BASB090	9	X	X
DUP	9	X	

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

Numerical gaps in Location ID indicate sampling locations were not used.

DUP = Duplicate sample

RE = Samples were re-extracted and reanalyzed because QC did not meet laboratory criteria.

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 1											
BASB026	SB-26-GGW	28-Mar-01	X	X				X			X
DUP	SB-126-GGW	28-Mar-01	X	X				X			X
BASB026	SB-26-4'	28-Mar-01	X	X				X			
BASB026	SB-26-7'	28-Mar-01	X	X				X			
BASB026	SB-26-10'	28-Mar-01	X	X				X			
BASB026	SB-26-15'	28-Mar-01	X	X				X			
BASB026	SB-26-25'	28-Mar-01	X	X				X			
BASB027	SB-27-GGW	27-Mar-01	X	X				X			X
BASB027	SB-27-4'	27-Mar-01	X	X				X			
BASB027	SB-27-6.5'	27-Mar-01	X	X				X			
BASB027	SB-27-10'	27-Mar-01	X	X				X			
BASB027	SB-27-15'	27-Mar-01	X	X				X			
BASB027	SB-27-25'	27-Mar-01	X	X				X			
BASB028	SB-28-GGW	27-Mar-01	X	X				X			X
BASB028	SB-28-1'	27-Mar-01	X	X				X			
BASB028	SB-28-4'	27-Mar-01	X	X				X			
BASB028	SB-28-7'	27-Mar-01	X	X				X			
BASB028	SB-28-10'	27-Mar-01	X	X				X			
BASB028	SB-28-15'	27-Mar-01	X	X				X			
BASB028	SB-28-25'	27-Mar-01	X	X				X			
BASB029	SB-29-GGW	23-Mar-01	X	X				X			X
BASB029	SB-29-4	23-Mar-01	X	X				X			X
DUP	SB-29-5	23-Mar-01	X	X				X			X
BASB029	SB-29-10	23-Mar-01	X	X				X			X
BASB029	SB-29-15	23-Mar-01	X	X				X			X
BASB029	SB-29-20	23-Mar-01	X	X				X			X
BASB029	SB-29-25	23-Mar-01	X	X				X			X
BASB030	SB-30-GGW	23-Mar-01	X	X				X			X
BASB030	SB-30-5	23-Mar-01	X	X				X			X
BASB030	SB-30-10	23-Mar-01	X	X				X			X
BASB030	SB-30-15	23-Mar-01	X	X				X			X
BASB030	SB-30-20	23-Mar-01	X	X				X			X
BASB030	SB-30-25	23-Mar-01	X	X				X			X
BASB031	SB-31-GGW	26-Mar-01	X	X				X			X
BASB031	SB-31-4'	26-Mar-01	X	X				X			
BASB031	SB-31-7'	26-Mar-01	X	X				X			
BASB031	SB-31-10'	26-Mar-01	X	X				X			
BASB031	SB-31-15'	26-Mar-01	X	X				X			
BASB031	SB-31-23'	26-Mar-01	X	X				X			

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 1											
BASB031	SB-31-25'	26-Mar-01	X	X				X			
BASB032	SB-32-GGW	26-Mar-01	X	X				X			X
BASB032	SB-32-4'	26-Mar-01	X	X				X			
DUP	SB-32-5'	26-Mar-01	X	X				X			
BASB032	SB-32-9.5'	26-Mar-01	X	X				X			
BASB032	SB-32-15'	26-Mar-01	X	X				X			
BASB032	SB-32-25'	26-Mar-01	X	X				X			
BASB033	SB-33-GGW	26-Mar-01	X	X				X			X
BASB033	SB-33-4'	26-Mar-01	X	X				X			
BASB033	SB-33-6.5'	26-Mar-01	X	X				X			
BASB033	SB-33-10'	26-Mar-01	X	X				X			
BASB033	SB-33-15'	26-Mar-01	X	X				X			
BASB033	SB-33-25'	26-Mar-01	X	X				X			
BASB034	SB-34-GGW	27-Mar-01	X	X				X			X
BASB034	SB-34-4'	27-Mar-01	X	X				X			
BASB034	SB-34-6.75'	27-Mar-01	X	X				X			
BASB034	SB-34-10'	27-Mar-01	X	X				X			
BASB034	SB-34-15'	27-Mar-01	X	X				X			
BASB034	SB-34-25'	27-Mar-01	X	X				X			
BASB036	SB-36-GGW	22-Mar-01	X	X				X			X
BASB036	SB-36-4	22-Mar-01	X	X				X			X
DUP	SB-36-5.5	22-Mar-01	X	X				X			X
BASB036	SB-36-10	22-Mar-01	X	X				X			X
BASB036	SB-36-15	22-Mar-01	X	X				X			X
BASB036	SB-36-25	22-Mar-01	X	X				X			X
BASB037	SB-37-GGW	22-Mar-01	X	X				X			X
BASB037	SB-37-5	22-Mar-01	X	X				X			X
BASB037	SB-37-10	22-Mar-01	X	X				X			X
BASB037	SB-37-15	22-Mar-01	X	X				X			X
BASB037	SB-37-25	22-Mar-01	X	X				X			X
BASB070	SB-70-GGW	03-Apr-01	X	X				X			X
BASB070	SB-70-3.5'	03-Apr-01	X	X				X			
BASB070	SB-70-6.5'	03-Apr-01	X	X				X			
BASB070	SB-70-10'	03-Apr-01	X	X				X			
BASB070	SB-70-15'	03-Apr-01	X	X				X			
BASB070	SB-70-23'	03-Apr-01	X	X				X			X
BASB070	SB-70-25'	03-Apr-01	X	X				X			X
BASB071	SB-71-GGW	03-Apr-01	X	X				X	X		X
BASB071	SB-71-2'	03-Apr-01	X	X				X			

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 1											
BASB071	SB-71-7'	03-Apr-01	X	X				X			
BASB071	SB-71-10'	03-Apr-01	X	X				X			
BASB071	SB-71-15'	03-Apr-01	X	X				X			
BASB071	SB-71-19'	03-Apr-01	X	X				X			
BASB071	SB-71-20'	03-Apr-01	X	X				X			X
BASB071	SB-71-23'	03-Apr-01	X	X				X			X
BASB071	SB-71-25'	03-Apr-01	X	X				X			X
BASB072	SB-72-GGW	05-Apr-01	X	X				X	X		X
BASB072	SB-72-2.5'	05-Apr-01	X	X				X			
BASB072	SB-72-6'	05-Apr-01	X	X				X			
BASB072	SB-72-10'	05-Apr-01	X	X				X			
BASB072	SB-72-15'	05-Apr-01	X	X				X			
BASB072	SB-72-25'	05-Apr-01	X	X				X			
BASB073	SB-73-GGW	02-Apr-01	X	X				X			X
BASB073	SB-73-3'	02-Apr-01	X	X				X			
BASB073	SB-73-5'	02-Apr-01	X	X				X			
BASB073	SB-73-10'	02-Apr-01	X	X				X			
BASB073	SB-73-15'	02-Apr-01	X	X				X			
BASB073	SB-73-20'	02-Apr-01	X	X				X			
BASB073	SB-73-25'	02-Apr-01	X	X				X			
BASB074	SB-74-GGW	02-Apr-01	X	X				X			X
BASB074	SB-74-3'	02-Apr-01	X	X				X			
BASB074	SB-74-10'	02-Apr-01	X	X				X			
BASB074	SB-74-15'	02-Apr-01	X	X				X			
BASB074	SB-74-25'	02-Apr-01	X	X				X			
BASB075	SB-75-GGW	02-Apr-01	X	X				X			X
BASB075	SB-75-7'	02-Apr-01	X	X				X			
BASB075	SB-75-10'	02-Apr-01	X	X				X			
BASB075	SB-75-15'	02-Apr-01	X	X				X			
BASB075	SB-75-25'	02-Apr-01	X	X				X			
BASB076	SB-76-GGW	30-Mar-01	X	X				X			X
BASB076	SB-76-4'	30-Mar-01	X	X				X			
BASB076	SB-76-7'	30-Mar-01	X	X				X			
BASB076	SB-76-10'	30-Mar-01	X	X				X			
BASB076	SB-76-15'	30-Mar-01	X	X				X			
BASB076	SB-76-20'	30-Mar-01	X	X				X			
BASB076	SB-76-25'	30-Mar-01	X	X				X			
BASB077	SB-77-GGW	30-Mar-01	X	X				X			X
BASB077	SB-77-4'	30-Mar-01	X	X				X			

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 1											
DUP	SB-77-5'	30-Mar-01	X	X				X			
BASB077	SB-77-10'	30-Mar-01	X	X				X			
BASB077	SB-77-15'	30-Mar-01	X	X				X			
BASB077	SB-77-20'	30-Mar-01	X	X				X			
BASB077	SB-77-25'	30-Mar-01	X	X				X			
BASB078	SB-78-13	04-Apr-01								X	
BASB078	SB-78-28	04-Apr-01								X	
BASB078	SB-78-GGW	05-Apr-01	X	X				X	X		X
BASB078	SB-78-4'	05-Apr-01	X	X				X			
BASB078	SB-78-7'	05-Apr-01	X	X				X			
BASB078	SB-78-10'	05-Apr-01	X	X				X			
BASB078	SB-78-15'	05-Apr-01	X	X				X			
BASB078	SB-78-25'	05-Apr-01	X	X				X			
BASB082	SB-82-GGW	05-Apr-01	X	X				X			X
BASB082	SB-82-2'	05-Apr-01	X	X		X		X	X		X
BASB082	SB-82-5'	05-Apr-01	X	X		X		X	X		X
BASB082	SB-82-12'	05-Apr-01	X	X		X		X	X		X
BASB082	SB-82-15'	05-Apr-01	X	X		X		X	X		X
BASB082	SB-82-20'	05-Apr-01	X	X		X		X	X		X
Area 2											
BASB006	SB-6-GGW	31-Mar-01	X	X				X			X
BASB006	SB-6-2'	31-Mar-01	X	X				X			X
BASB006	SB-6-6'	31-Mar-01	X	X				X			X
BASB006	SB-6-10'	31-Mar-01	X	X				X			X
BASB006	SB-6-15'	31-Mar-01	X	X				X			X
BASB006	SB-6-27'	31-Mar-01	X	X				X			X
BASB007	SB-7-GGW	31-Mar-01	X	X				X			X
BASB007	SB-7-2'	31-Mar-01	X	X				X			X
BASB007	SB-7-5'	31-Mar-01	X	X				X			X
BASB007	SB-7-10'	31-Mar-01	X	X				X			X
BASB007	SB-7-15'	31-Mar-01	X	X				X			X
BASB007	SB-7-26'	31-Mar-01	X	X				X			X
BASB008	SB-8-GGW	21-Mar-01	X	X				X			X
BASB008	SB-8-4	21-Mar-01	X	X				X			X
DUP	SB-8-5	21-Mar-01	X	X				X			X
BASB008	SB-8-10	21-Mar-01	X	X				X			X
BASB008	SB-8-15	21-Mar-01	X	X				X			X
BASB008	SB-8-25	21-Mar-01	X	X				X			X

Area 3

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 3											
BADW001	DW-1	23-Mar-01	X	X				X			X
BASB040	SB-40-GGW	03-Apr-01	X	X				X	X		X
BASB040	SB-40-4'	03-Apr-01	X	X				X			
DUP	SB-40-5'	03-Apr-01	X	X				X			
BASB040	SB-40-10'	03-Apr-01	X	X				X			
BASB040	SB-40-15'	03-Apr-01	X	X				X			
BASB040	SB-40-20'	03-Apr-01	X	X				X			
BASB040	SB-40-25'	03-Apr-01	X	X				X			
BASB041	SB-41-GGW	28-Mar-01	X	X				X			X
BASB041	SB-41-4'	28-Mar-01	X	X				X			
DUP	SB-41-5'	28-Mar-01	X	X				X			
BASB041	SB-41-10'	28-Mar-01	X	X				X			
BASB041	SB-41-15'	28-Mar-01	X	X				X			
BASB041	SB-41-25'	28-Mar-01	X	X				X			
Area 4											
BASB012	SB-12GGW	19-Mar-01	X	X				X			X
BASB012	SB-12-4'	19-Mar-01	X	X							
DUP	SB-12-4.5'	19-Mar-01						X			X
BASB012	SB-12-10'	19-Mar-01	X	X				X			X
BASB012	SB-12-15'	19-Mar-01	X	X				X			X
BASB012	SB-12-24.5'	19-Mar-01	X	X				X			X
BASB013	SB-13-3	20-Mar-01	X	X				X			X
BASB013	SB-13-5	20-Mar-01	X	X				X			X
BASB013	SB-13-10	20-Mar-01	X	X				X			X
BASB013	SB-13-15	20-Mar-01	X	X				X			X
BASB016	SB-16-GGW	04-Apr-01	X	X				X			X
DUP	SB-116-GGW	04-Apr-01	X	X				X			X
BASB016	SB-16-2.5'	04-Apr-01	X	X				X			X
BASB016	SB-16-6'	04-Apr-01	X	X				X			X
BASB016	SB-16-10'	04-Apr-01	X	X				X			X
BASB016	SB-16-13	04-Apr-01								X	
BASB016	SB-16-15'	04-Apr-01	X	X				X			X
BASB016	SB-16-19	04-Apr-01								X	
BASB016	SB-16-25'	04-Apr-01	X	X				X			X
BASB016	SB-16-28	04-Apr-01								X	
Area 5											
BASB022	SB-22-GGW	04-Apr-01	X	X				X			X
BASB022	SB-22-2'	04-Apr-01	X	X				X			X
BASB022	SB-22-5'	04-Apr-01	X	X				X			X

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 5											
BASB022	SB-22-10'	04-Apr-01	X	X				X			X
BASB022	SB-22-15'	04-Apr-01	X	X				X			X
BASB022	SB-22-21'	04-Apr-01	X	X				X			X
BASB023	SB-23-GGW	04-Apr-01	X	X				X			X
BASB023	SB-23-2'	04-Apr-01	X	X				X			
BASB023	SB-23-5'	04-Apr-01	X	X				X			
BASB023	SB-23-11'	04-Apr-01	X	X				X			
BASB023	SB-23-15'	04-Apr-01	X	X				X			
BASB023	SB-23-21'	04-Apr-01	X	X				X			
BASB024	SB-24-GGW	04-Apr-01	X	X				X			X
BASB024	SB-24-2'	04-Apr-01	X	X				X			
BASB024	SB-24-4'	04-Apr-01	X	X				X			
BASB024	SB-24-10'	04-Apr-01	X	X				X			
BASB024	SB-24-15'	04-Apr-01	X	X				X			
BASB024	SB-24-22'	04-Apr-01	X	X				X			
BASB025	SB-25-GGW	04-Apr-01	X	X				X			X
BASB025	SB-25-4'	04-Apr-01	X	X				X			
DUP	SB-25-5'	04-Apr-01	X	X				X			
BASB025	SB-25-10'	04-Apr-01	X	X				X			
BASB025	SB-25-15'	04-Apr-01	X	X				X			
BASB025	SB-25-25'	04-Apr-01	X	X				X			
BASB086	SB-86-GGW	04-Apr-01	X	X				X			X
BASB086	SB-86-2'	04-Apr-01	X	X				X			
BASB086	SB-86-4'	04-Apr-01	X	X				X			
BASB086	SB-86-10'	04-Apr-01	X	X				X			
BASB086	SB-86-16'	04-Apr-01	X	X				X			
BASB086	SB-86-20'	04-Apr-01	X	X				X			
BASB087	SB-87-GGW	04-Apr-01	X	X				X			X
BASB087	SB-87-4'	04-Apr-01	X	X				X			
DUP	SB-87-5'	04-Apr-01	X	X				X			
BASB087	SB-87-10'	04-Apr-01	X	X				X			
BASB087	SB-87-15'	04-Apr-01	X	X				X			
BASB087	SB-87-25'	04-Apr-01	X	X				X			
Area 6											
BASB001	SB-1-GGW	02-Apr-01	X	X				X			X
BASB001	SB-1-3'	02-Apr-01	X	X				X			
BASB001	SB-1-5'	02-Apr-01	X	X				X			
BASB001	SB-1-10'	02-Apr-01	X	X				X			
BASB001	SB-1-15'	02-Apr-01	X	X				X			

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPS	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 6											
BASB001	SB-1-23'	02-Apr-01	X	X				X			
BASB002	SB-2-3'	31-Mar-01	X	X		X		X	X		
BASB005	SB-5-3'	31-Mar-01	X	X		X		X	X		
BASB011	SB-11-3'	05-Apr-01	X	X		X		X	X		
BASB017	SB-17-3'	05-Apr-01	X	X		X		X	X		
BASB021	SB-21-GGW	29-Mar-01	X	X				X			X
BASB021	SB-21-1'	29-Mar-01	X	X				X			
BASB021	SB-21-5'	29-Mar-01	X	X				X			
BASB021	SB-21-10'	29-Mar-01	X	X				X			
BASB021	SB-21-15'	29-Mar-01	X	X				X			
BASB021	SB-21-25'	29-Mar-01	X	X				X			
BASB051	SB-51-GGW	02-Apr-01	X	X				X			X
BASB051	SB-51-3'	02-Apr-01	X	X				X			
BASB051	SB-51-10'	02-Apr-01	X	X				X	X		
RE	SB-51-10'RE	02-Apr-01							X		
BASB051	SB-51-15'	02-Apr-01	X	X				X			
BASB051	SB-51-23'	02-Apr-01	X	X				X	X		
RE	SB-51-23'RE	02-Apr-01							X		
BASB051	SB-51-GGW	03-Apr-01							X		
BASB081	SB-81-20	04-Apr-01								X	
BASB081	SB-81-27	04-Apr-01								X	
BASB081	SB-81-GGW	05-Apr-01	X	X				X	X		X
DUP	SB-181-GGW	05-Apr-01	X	X				X	X		X
BASB081	SB-81-3'	05-Apr-01	X	X				X			X
BASB081	SB-81-5'	05-Apr-01	X	X				X			X
BASB081	SB-81-10'	05-Apr-01	X	X				X			X
BASB081	SB-81-15'	05-Apr-01	X	X				X			X
BASB081	SB-81-26'	05-Apr-01	X	X				X	X		X
RE	SB-81-26'RE	05-Apr-01							X		
Area 7											
BASB018	SB-18-GGW	05-Apr-01	X	X				X	X		X
BASB018	SB-18-3'	05-Apr-01	X	X				X			
BASB018	SB-18-6'	05-Apr-01	X	X				X			
BASB018	SB-18-12'	05-Apr-01	X	X				X			
BASB018	SB-18-15'	05-Apr-01	X	X				X			
BASB018	SB-18-20'	05-Apr-01	X	X				X			
BASB019	SB-19-GGW	05-Apr-01	X	X				X	X		X
DUP	SB-119-GGW	05-Apr-01	X	X				X	X		X
BASB019	SB-19-2.5'	05-Apr-01	X	X				X			

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 7											
BASB019	SB-19-5'	05-Apr-01	X	X		X		X	X		
BASB019	SB-19-10'	05-Apr-01	X	X				X			
BASB019	SB-19-15'	05-Apr-01	X	X				X			
BASB019	SB-19-25'	05-Apr-01	X	X				X			
BASB052	SB-52-GGW	02-Apr-01	X	X				X			X
BASB052	SB-52-2'	02-Apr-01	X	X				X			
BASB052	SB-52-4'	02-Apr-01	X	X				X	X		
RE	SB-52-4'RE	02-Apr-01							X		
BASB052	SB-52-10'	02-Apr-01	X	X				X			
BASB052	SB-52-15'	02-Apr-01	X	X				X			
BASB052	SB-52-23'	02-Apr-01	X	X				X			
BASB052	SB-52-25'	02-Apr-01	X	X				X	X		
RE	SB-52-25'RE	02-Apr-01							X		
BASB053	SB-53-GGW	03-Apr-01	X	X				X	X		X
BASB053	SB-53-2'	03-Apr-01	X	X				X			
BASB053	SB-53-5'	03-Apr-01	X	X				X			
BASB053	SB-53-11'	03-Apr-01	X	X				X			
BASB053	SB-53-15'	03-Apr-01	X	X				X			
BASB053	SB-53-20'	03-Apr-01	X	X				X			
BASB054	SB-54-GGW	03-Apr-01	X	X				X	X		X
BASB054	SB-54-2'	03-Apr-01	X	X				X			
BASB054	SB-54-5'	03-Apr-01	X	X				X			
BASB054	SB-54-10'	03-Apr-01	X	X				X			
BASB054	SB-54-15'	03-Apr-01	X	X				X			
BASB054	SB-54-22'	03-Apr-01	X	X				X			
BASB055	SB-55-GGW	29-Mar-01	X	X				X			X
BASB055	SB-55-8.5'	29-Mar-01	X	X				X			
BASB055	SB-55-10'	29-Mar-01	X	X				X			
BASB055	SB-55-15'	29-Mar-01	X	X				X			
BASB055	SB-55-20.5'	29-Mar-01	X	X				X			
BASB055	SB-55-25'	29-Mar-01	X	X				X			
BASB056	SB-56-GGW	30-Mar-01	X	X				X			X
BASB056	SB-56-4'	30-Mar-01	X	X				X			
BASB056	SB-56-6'	30-Mar-01	X	X				X			
BASB056	SB-56-10'	30-Mar-01	X	X				X			
BASB056	SB-56-15'	30-Mar-01	X	X				X			
BASB056	SB-56-20'	30-Mar-01	X	X				X			
BASB056	SB-56-25'	30-Mar-01	X	X				X			
BASB057	SB-57-GGW	28-Mar-01	X	X				X			X

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 7											
BASB057	SB-57-4'	28-Mar-01	X	X				X			
BASB057	SB-57-6'	28-Mar-01	X	X				X			
BASB057	SB-57-10'	28-Mar-01	X	X				X			
BASB057	SB-57-15'	28-Mar-01	X	X				X			
BASB057	SB-57-25'	28-Mar-01	X	X				X			
BASB058	SB-58-GGW	21-Mar-01	X	X				X	X		X
BASB058	SB-58-4	21-Mar-01	X	X				X			X
DUP	SB-58-5.5	21-Mar-01	X	X				X			X
BASB058	SB-58-10	21-Mar-01	X	X				X			X
BASB058	SB-58-15	21-Mar-01	X	X				X			X
BASB058	SB-58-25	21-Mar-01	X	X				X			X
BASB080	SB-80-GGW	03-Apr-01	X	X				X	X		X
BASB080	SB-80-2'	03-Apr-01	X	X				X			
BASB080	SB-80-5'	03-Apr-01	X	X				X			
BASB080	SB-80-10'	03-Apr-01	X	X				X			
BASB080	SB-80-15'	03-Apr-01	X	X				X			
BASB080	SB-80-24'	03-Apr-01	X	X				X			
Area 8											
BASB050	SB-50-GGW	20-Mar-01	X	X				X			X
BASB050	SB-50-2.5	20-Mar-01	X	X				X			X
BASB050	SB-50-5	20-Mar-01	X	X				X			X
BASB050	SB-50-10	20-Mar-01	X	X				X			X
BASB050	SB-50-15	20-Mar-01	X	X				X			X
BASB050	SB-50-25	20-Mar-01	X	X				X			X
BASB060	SB-60	05-Apr-01	X	X				X			
BASB061	SB-61	05-Apr-01	X	X	X		X	X			
BASB062	SB-62	05-Apr-01	X	X				X			
BASB063	SB-63	05-Apr-01	X	X				X			
BASB065	SB-65	22-Mar-01	X	X	X		X	X			
Area 9											
BASB088	SB-88-GGW	09-Jul-01	X	X				X			X
DUP	SB-88-GGW DUP	09-Jul-01		X				X			X
BASB088	SB-88-3.5'	09-Jul-01	X	X				X			X
DUP	SB-88-3.5' DUP	09-Jul-01	X	X				X			X
BASB088	SB-88-5'	09-Jul-01	X	X				X			X
BASB088	SB-88-10'	09-Jul-01	X	X				X			X
BASB088	SB-88-15'	09-Jul-01	X	X				X			X
BASB088	SB-88-25.5'	09-Jul-01	X	X				X			X
BASB089	SB-89-GGW	09-Jul-01	X	X				X			X

Table 5
Sample Analysis Summary
Batarse Site, Oakland, California

Location ID	Field Sample ID	Date Sampled	extr-TPH	Metals	OCPs	PAHs	PCBs	purg-TPH	SVOCs	TOC	VOCs
Area 9											
BASB089	SB-89-3.5'	09-Jul-01	X	X				X			X
BASB089	SB-89-5'	09-Jul-01	X	X				X			X
BASB089	SB-89-10'	09-Jul-01	X	X				X			X
BASB089	SB-89-15'	09-Jul-01	X	X				X			X
BASB089	SB-89-27.5'	09-Jul-01	X	X				X			X
BASB090	SB-90-GGW	09-Jul-01	X	X				X			X
BASB090	SB-90-2.5'	09-Jul-01	X	X				X			X
DUP	SB-90-2.5' DUP	09-Jul-01	X	X				X			X
BASB090	SB-90-5'	09-Jul-01	X	X				X			X
BASB090	SB-90-10'	09-Jul-01	X	X				X			X
BASB090	SB-90-15'	09-Jul-01	X	X				X			X
BASB090	SB-90-25.5'	09-Jul-01	X	X				X			X

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

Metals include the Title 22 list of 17 metals.

DUP = Duplicate sample

RE = Samples were re-extracted and reanalyzed because QC did not meet laboratory criteria.

extr-TPH = total extractable hydrocarbons

OCPs = organochlorine pesticides

PAHs = polyaromatic hydrocarbons

PCBs = polychlorinated biphenyls

purg-TPH = total volatile hydrocarbons

SVOCs = semivolatile organic compounds

TOC = total organic carbon

VOCs = volatile organic compounds

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 1								
BASB026	28-Mar-01	(3.5-4.0)	6.3 YZ	<0.91	11 Y	<0.91	NA	NA
BASB026	28-Mar-01	(6.5-7.0)	14 YZ	<1	<5	<1	NA	NA
BASB026	28-Mar-01	(9.5-10.0)	22 YZ	<1	<5	<1	NA	NA
BASB026	28-Mar-01	(14.5-15.0)	26 YZ	<1.1	<5	<1.1	NA	NA
BASB026	28-Mar-01	(24.5-25.0)	5.5 YZ	<1	<5	<1	NA	NA
BASB027	27-Mar-01	(3.5-4.0)	35 YHZ	<0.97	120 YH	<0.97	NA	NA
BASB027	27-Mar-01	(6.0-6.5)	7.4 YZ	<1	<5	<1	NA	NA
BASB027	27-Mar-01	(9.5-10.0)	9.7 YZ	<0.95	<5	<0.95	NA	NA
BASB027	27-Mar-01	(14.5-15.0)	18 YZ	<1	<5	<1	NA	NA
BASB027	27-Mar-01	(24.5-25.0)	26 YZ	<0.91	<5	<0.91	NA	NA
BASB028	27-Mar-01	(0.5-1.0)	24 YZ	<0.99	58 Y	<0.99	NA	NA
BASB028	27-Mar-01	(3.5-4.0)	14 YZ	<1.1	<5	<1.1	NA	NA
BASB028	27-Mar-01	(6.5-7.0)	18 YZ	<1.1	<5	<1.1	NA	NA
BASB028	27-Mar-01	(9.5-10.0)	15 YZ	<0.92	<5	<0.92	NA	NA
BASB028	27-Mar-01	(14.5-15.0)	17 YZ	<1.1	<5	<1.1	NA	NA
BASB028	27-Mar-01	(24.5-25.0)	20 YZ	<0.97	<5	<0.97	NA	NA
BASB029	23-Mar-01	(3.5-4.0)	18 YZ	<1.1	5.5 Y	<1.1	NA	NA
DUP	23-Mar-01	(4.5-5.0)	9.5 YZ	<0.95	<5	<0.95	NA	NA
BASB029	23-Mar-01	(9.5-10.0)	40 YZ	<1	5.3 Y	<1	NA	NA
BASB029	23-Mar-01	(14.5-15.0)	19 YZ	<0.96	<5	<0.96	NA	NA
BASB029	23-Mar-01	(19.5-20.0)	18 YZ	<1	9 Y	<1	NA	NA
BASB029	23-Mar-01	(24.5-25.0)	<1	<0.93	<5	<0.93	NA	NA
BASB030	23-Mar-01	(4.5-5.0)	15 YZ	<1.1	<5	<1.1	NA	NA
BASB030	23-Mar-01	(9.5-10.0)	16 YZ	<0.93	<5	<0.93	NA	NA
BASB030	23-Mar-01	(14.5-15.0)	13 YZ	<0.93	<5	<0.93	NA	NA
BASB030	23-Mar-01	(19.5-20.0)	19 YZ	<0.94	<5	<0.94	NA	NA
BASB030	23-Mar-01	(24.5-25.0)	18 YZ	<0.93	<5	<0.93	NA	NA
BASB031	26-Mar-01	(3.5-4.0)	8.5 YZH	<1.1	12	<1.1	NA	NA
BASB031	26-Mar-01	(6.5-7.0)	21 YZ	440 JYH	5.7 Y	480 JYL	NA	220 J
BASB031	26-Mar-01	(9.5-10.0)	79 YLZ	490 JYH	<5	530 JYL	NA	250 J
BASB031	26-Mar-01	(14.5-15.0)	20 YLZ	180 JYH	<5	190 JYL	NA	89 J
BASB031	26-Mar-01	(22.5-23.0)	49 YLH	80 JYH	36	87 JYL	NA	40 J

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 1								
BASB031	26-Mar-01	(24.5-25.0)	83 YLZ	<0.99	51	<0.99	NA	<0.99
BASB032	26-Mar-01	(3.5-4.0)	33 YZH	<1.1	69	<1.1	NA	<1.1
DUP	26-Mar-01	(4.5-5.0)	85 YH	<0.93	360	<0.93	NA	NA
BASB032	26-Mar-01	(9.0-9.5)	20 YZ	<0.95	<5	<0.95	NA	NA
BASB032	26-Mar-01	(14.5-15.0)	8.6 YZ	<1.1	<5	<1.1	NA	NA
BASB032	26-Mar-01	(24.5-25.0)	23 YZ	<1	<5	<1	NA	NA
BASB033	26-Mar-01	(3.5-4.0)	83 YHZ	<0.97	240	<0.97	NA	NA
BASB033	26-Mar-01	(6.0-6.5)	11 YZ	<1.1	<5	<1.1	NA	NA
BASB033	26-Mar-01	(9.5-10.0)	27 YZ	<1	<5	<1	NA	NA
BASB033	26-Mar-01	(14.5-15.0)	16 YZ	<1	<5	<1	NA	NA
BASB033	26-Mar-01	(24.5-25.0)	5.8 YZ	<0.93	<5	<0.93	NA	NA
BASB034	27-Mar-01	(3.5-4.0)	5 YHZ	<0.92	18 Y	<0.92	NA	NA
BASB034	27-Mar-01	(6.25-6.75)	8.1 YZ	<1.1	<5	<1.1	NA	NA
BASB034	27-Mar-01	(9.5-10.0)	18 YZ	<1.1	5.2 Y	<1.1	NA	NA
BASB034	27-Mar-01	(14.5-15.0)	12 YZ	<0.94	<5	<0.94	NA	NA
BASB034	27-Mar-01	(24.5-25.0)	16 YZ	<0.96	<5	<0.96	NA	NA
BASB036	22-Mar-01	(3.5-4.0)	160 YH	<0.94	630	<0.94	NA	NA
DUP	22-Mar-01	(5.0-5.5)	23 YZ	<1	<5	<1	NA	NA
BASB036	22-Mar-01	(9.5-10.0)	20 YZ	<0.99	<5	<0.99	NA	NA
BASB036	22-Mar-01	(14.5-15.0)	17 YZ	<0.99	<5	<0.99	NA	NA
BASB036	22-Mar-01	(24.5-25.0)	21 YZ	<1	<5	<1	NA	NA
BASB037	22-Mar-01	(4.5-5.0)	17 YZ	<1.1	72 YH	<1.1	NA	NA
BASB037	22-Mar-01	(9.5-10.0)	9.1 YZ	<1	<5	<1	NA	NA
BASB037	22-Mar-01	(14.5-15.0)	16 YZ	<0.94	<5	<0.94	NA	NA
BASB037	22-Mar-01	(24.5-25.0)	11 YZ	<1	<5	<1	NA	NA
BASB070	03-Apr-01	(3.0-3.5)	5.6 YH	<1	51	NA	<1	NA
BASB070	03-Apr-01	(6.0-6.5)	1.1 YZ	<1	<5	NA	<1	NA
BASB070	03-Apr-01	(9.5-10.0)	1.1 YZ	<0.91	<5	NA	<0.91	NA
BASB070	03-Apr-01	(14.5-15.0)	1.3 YZ	<0.98	<5	NA	<0.98	NA
BASB070	03-Apr-01	(22.5-23.0)	23 YL	<1.1	<5	NA	<1.1	NA
BASB070	03-Apr-01	(24.5-25.0)	<1	<1	<5	NA	<1	NA
BASB071	03-Apr-01	(1.5-2.0)	33 YH	<1.1	85	NA	<1.1	NA

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 1								
BASB071	03-Apr-01	(6.5-7.0)	3.1 YZ	<1.1	5.7 Y	NA	<1.1	NA
BASB071	03-Apr-01	(9.5-10.0)	1 YZ	<0.96	<5	NA	<0.96	NA
BASB071	03-Apr-01	(14.5-15.0)	1.3 YZ	<0.99	<5	NA	<0.99	NA
BASB071	03-Apr-01	(18.5-19.0)	<1	<0.97	<5	NA	<0.97	NA
BASB071	03-Apr-01	(19.5-20.0)	8.9 YLZ	5 Y	<5	NA	4.1	NA
BASB071	03-Apr-01	(22.5-23.0)	59 YL	7.5 Y	6	NA	6.2	NA
BASB071	03-Apr-01	(24.5-25.0)	68 YL	60 Y	9.3	NA	38	NA
BASB072	05-Apr-01	(2.0-2.5)	30 YH	<1.1	76 Y	NA	<1.1	NA
BASB072	05-Apr-01	(5.5-6.0)	<1	<0.95	<5	NA	<0.95	NA
BASB072	05-Apr-01	(9.5-10.0)	<1	<0.93	<5	NA	<0.93	NA
BASB072	05-Apr-01	(14.5-15.0)	<1	<0.91	<5	NA	<0.91	NA
BASB072	05-Apr-01	(24.5-25.0)	<0.99	<0.99	<5	NA	<0.99	NA
BASB073	02-Apr-01	(2.5-3.0)	12 YH	<1.1	120 Y	NA	<1.1	NA
BASB073	02-Apr-01	(4.5-5.0)	2 YH	<0.97	12 Y	NA	<0.97	NA
BASB073	02-Apr-01	(9.5-10.0)	<1	<0.94	<5	NA	<0.94	NA
BASB073	02-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB073	02-Apr-01	(19.5-20.0)	1 Y	<1	<5	NA	<1	NA
BASB073	02-Apr-01	(24.5-25.0)	<1	<0.95	<5	NA	<0.95	NA
BASB074	02-Apr-01	(2.5-3.0)	2.2 YH	<0.93	13 Y	NA	<0.93	NA
BASB074	02-Apr-01	(9.5-10.0)	<1	<0.94	<5	NA	<0.94	NA
BASB074	02-Apr-01	(14.5-15.0)	<1	<0.96	<5	NA	<0.96	NA
BASB074	02-Apr-01	(24.5-25.0)	<0.99	<0.97	<5	NA	<0.97	NA
BASB075	02-Apr-01	(6.5-7.0)	<0.99	<0.96	<5	NA	<0.96	NA
BASB075	02-Apr-01	(9.5-10.0)	<1	<0.91	<5	NA	<0.91	NA
BASB075	02-Apr-01	(14.5-15.0)	<1	<0.94	<5	NA	<0.94	NA
BASB075	02-Apr-01	(24.5-25.0)	<1	<1.1	<5	NA	<1.1	NA
BASB076	30-Mar-01	(3.5-4.0)	9.8 YH	<1	25 Y	NA	<1	NA
BASB076	30-Mar-01	(6.5-7.0)	2.9 YZ	<0.99	<5	NA	<0.99	NA
BASB076	30-Mar-01	(9.5-10.0)	6.8 YZ	<0.94	<5	NA	<0.94	NA
BASB076	30-Mar-01	(14.5-15.0)	7.8 YZ	<0.94	<5	NA	<0.94	NA
BASB076	30-Mar-01	(19.5-20.0)	3.8 YZ	<1.1	<5	NA	<1.1	NA
BASB076	30-Mar-01	(24.5-25.0)	5.6 YZ	<1	<5	NA	<1	NA

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 1								
BASB077	30-Mar-01	(3.5-4.0)	270 YH	<1	2200 Y	NA	<1	NA
DUP	30-Mar-01	(4.5-5.0)	13 YZ	<0.99	6 Y	NA	<0.99	NA
BASB077	30-Mar-01	(9.5-10.0)	22 YZ	<0.93	<5	NA	<0.93	NA
BASB077	30-Mar-01	(14.5-15.0)	1.9 YZ	<0.92	<5	NA	<0.92	NA
BASB077	30-Mar-01	(19.5-20.0)	11 YZ	<0.91	<5	NA	<0.91	NA
BASB077	30-Mar-01	(24.5-25.0)	1.9 YZ	<0.96	<5	NA	<0.96	NA
BASB078	05-Apr-01	(3.5-4.0)	4.3 YH	<1	30 Y	NA	<1	NA
BASB078	05-Apr-01	(6.5-7.0)	<0.99	<0.93	<5	NA	<0.93	NA
BASB078	05-Apr-01	(9.5-10.0)	<1	<1.1	<5	NA	<1.1	NA
BASB078	05-Apr-01	(14.5-15.0)	<0.99	<0.94	<5	NA	<0.94	NA
BASB078	05-Apr-01	(24.5-25.0)	<0.99	<1	<5	NA	<1	NA
BASB082	05-Apr-01	(1.5-2.0)	1.1 YH	<0.91	7.5 Y	NA	<0.91	NA
BASB082	05-Apr-01	(4.5-5.0)	<0.99	<1	<5	NA	<1	NA
BASB082	05-Apr-01	(11.5-12.0)	<1	<0.96	13 YH	NA	<0.96	NA
BASB082	05-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB082	05-Apr-01	(19.5-20.0)	<0.99	<1.1	10 YH	NA	<1.1	NA
Area 2								
BASB006	31-Mar-01	(1.5-2.0)	4.4 YZ	<0.96	9.1 Y	NA	<0.96	NA
BASB006	31-Mar-01	(5.5-6.0)	<1	<1.1	<5	NA	<1.1	NA
BASB006	31-Mar-01	(9.5-10.0)	<0.99	<0.99	<5	NA	<0.99	NA
BASB006	31-Mar-01	(14.5-15.0)	<1	<0.92	<5	NA	<0.92	NA
BASB006	31-Mar-01	(26.5-27.0)	<1	<0.94	<5	NA	<0.94	NA
BASB007	31-Mar-01	(1.5-2.0)	2.3 YZ	<1.1	5.6 Y	NA	<1.1	NA
BASB007	31-Mar-01	(4.5-5.0)	1.3 YZ	<1.1	<5	NA	<1.1	NA
BASB007	31-Mar-01	(9.5-10.0)	<1	<1	<5	NA	<1	NA
BASB007	31-Mar-01	(14.5-15.0)	<0.99	<0.97	<5	NA	<0.97	NA
BASB007	31-Mar-01	(25.5-26.0)	<1	<1	<5	NA	<1	NA
BASB008	21-Mar-01	(3.5-4.0)	12 YH	<0.97	22 Y	<0.97	NA	NA
DUP	21-Mar-01	(4.5-5.0)	21 YZ	<0.92	<25	<0.92	NA	NA
BASB008	21-Mar-01	(9.5-10.0)	23 YZ	<0.92	<25	<0.92	NA	NA
BASB008	21-Mar-01	(14.5-15.0)	14 YZ	<0.95	<25	<0.95	NA	NA
BASB008	21-Mar-01	(24.5-25.0)	18 YZ	<0.92	<25	<0.92	NA	NA

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 3								
BASB040	03-Apr-01	(3.5-4.0)	3.7 YZ	<0.93	5.1 Y	NA	<0.93	NA
DUP	03-Apr-01	(4.5-5.0)	2.8 YZ	<0.94	<5	NA	<0.94	NA
BASB040	03-Apr-01	(9.5-10.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB040	03-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB040	03-Apr-01	(19.5-20.0)	1.2 YZ	<0.92	<5	NA	<0.92	NA
BASB040	03-Apr-01	(24.5-25.0)	1.1 YZ	<1.1	<5	NA	<1.1	NA
BASB041	28-Mar-01	(3.5-4.0)	9.5 YZ	<0.99	59 Y	<0.99	NA	NA
DUP	28-Mar-01	(4.5-5.0)	27 YZ	<1	6.5 Y	<1	NA	NA
BASB041	28-Mar-01	(9.5-10.0)	3.1 YZ	<0.95	7.9 Y	<0.95	NA	NA
BASB041	28-Mar-01	(14.5-15.0)	37 YZ	<0.95	8.5 Y	<0.95	NA	NA
BASB041	28-Mar-01	(24.5-25.0)	23 YZ	3.6 YH	29 Y	4.3 b	NA	NA
Area 4								
BASB012	19-Mar-01	(3.5-4.0)	6.6 YH	NA	22	NA	NA	NA
DUP	19-Mar-01	(4.0-4.5)	NA	<1.1	NA	<1.1	NA	NA
BASB012	19-Mar-01	(9.5-10.0)	5.5 YZ	<1.1	<5	<1.1	NA	NA
BASB012	19-Mar-01	(14.5-15.0)	26 YZ	<0.94	<25	<0.94	NA	NA
BASB012	19-Mar-01	(24.0-24.5)	<1	<1.1	<5	<1.1	NA	NA
BASB013	20-Mar-01	(2.5-3.0)	27 YZ	<1.1	5.6 Y	<1.1	NA	NA
BASB013	20-Mar-01	(4.5-5.0)	7.9 YZ	<0.99	<5	<0.99	NA	NA
BASB013	20-Mar-01	(9.5-10.0)	<0.99	<1	<5	<1	NA	NA
BASB013	20-Mar-01	(14.5-15.0)	13 YZ	<1	<9.9	<1	NA	NA
BASB016	04-Apr-01	(2.0-2.5)	12 YHZ	<1	32 Y	NA	<1	NA
BASB016	04-Apr-01	(5.5-6.0)	<1	<0.98	<5	NA	<0.98	NA
BASB016	04-Apr-01	(9.5-10.0)	<1	<1	<5	NA	<1	NA
BASB016	04-Apr-01	(14.5-15.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB016	04-Apr-01	(24.5-25.0)	<1	<0.93	<5	NA	<0.93	NA
Area 5								
BASB022	04-Apr-01	(1.5-2.0)	220 YLH	<1	1300	NA	<1	NA
BASB022	04-Apr-01	(4.5-5.0)	970 YLH	<1.1	490	NA	<1.1	NA
BASB022	04-Apr-01	(9.5-10.0)	600 YLH	<1	300	NA	<1	NA
BASB022	04-Apr-01	(14.5-15.0)	7 YL	<1.1	<5	NA	<1.1	NA
BASB022	04-Apr-01	(20.5-21.0)	14 YLH	2.5 YH	13	NA	1.6 YH	NA

Table 6
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Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 5								
BASB023	04-Apr-01	(1.5-2.0)	11 YH	<0.92	63	NA	<0.92	NA
BASB023	04-Apr-01	(4.5-5.0)	<1	<1.1	5 Y	NA	<1.1	NA
BASB023	04-Apr-01	(10.5-11.0)	<1	<0.91	<5	NA	<0.91	NA
BASB023	04-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB023	04-Apr-01	(20.5-21.0)	24 YH	<1.1	150	NA	<1.1	NA
BASB024	04-Apr-01	(1.5-2.0)	3.9 YH	<1.1	39	NA	<1.1	NA
BASB024	04-Apr-01	(3.5-4.0)	<1	<1.1	5.2 Y	NA	<1.1	NA
BASB024	04-Apr-01	(9.5-10.0)	<1	<0.93	9.1 Y	NA	<0.93	NA
BASB024	04-Apr-01	(14.5-15.0)	<1	<1.1	<5	NA	<1.1	NA
BASB024	04-Apr-01	(21.5-22.0)	3.8 YH	<1	27 H	NA	<1	NA
BASB025	04-Apr-01	(3.5-4.0)	1.4 YH	<1	10 Y	NA	<1	NA
DUP	04-Apr-01	(4.5-5.0)	<0.99	<0.93	<5	NA	<0.93	NA
BASB025	04-Apr-01	(9.5-10.0)	<1	<1	<5	NA	<1	NA
BASB025	04-Apr-01	(14.5-15.0)	<1	<0.92	<5	NA	<0.92	NA
BASB025	04-Apr-01	(24.5-25.0)	<1	<1	<5	NA	<1	NA
BASB086	04-Apr-01	(1.5-2.0)	2.5 YH	<0.92	33 H	NA	<0.92	NA
BASB086	04-Apr-01	(3.5-4.0)	<1	<0.93	5.2 Y	NA	<0.93	NA
BASB086	04-Apr-01	(9.5-10.0)	<1	<0.97	8.2 H	NA	<0.97	NA
BASB086	04-Apr-01	(15.5-16.0)	1.1 YH	<1	14 H	NA	<1	NA
BASB086	04-Apr-01	(19.5-20.0)	<0.99	<1	<5	NA	<1	NA
BASB087	04-Apr-01	(3.5-4.0)	9.3 YH	<0.94	45	NA	<0.94	NA
DUP	04-Apr-01	(4.5-5.0)	1.4 YH	<0.96	6.7 Y	NA	<0.96	NA
BASB087	04-Apr-01	(9.5-10.0)	<1	<1.1	<5	NA	<1.1	NA
BASB087	04-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB087	04-Apr-01	(24.5-25.0)	<1	<1	<5	NA	<1	NA
Area 6								
BASB001	02-Apr-01	(2.5-3.0)	16 YH	<1	56 Y	NA	<1	NA
BASB001	02-Apr-01	(4.5-5.0)	4.6 YH	<1.1	27 Y	NA	<1.1	NA
BASB001	02-Apr-01	(9.5-10.0)	<0.99	<1	<5	NA	<1	NA
BASB001	02-Apr-01	(14.5-15.0)	<1	<0.93	<5	NA	<0.93	NA
BASB001	02-Apr-01	(22.5-23.0)	19 YH	<1.1	140 Y	NA	<1.1	NA
BASB002	31-Mar-01	(2.5-3.0)	150 YH	<0.98	1000 Y	NA	<0.98	NA

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 6								
BASB005	31-Mar-01	(2.5-3.0)	<1	<0.91	5.3 Y	NA	<0.91	NA
BASB011	05-Apr-01	(2.5-3.0)	4.3 YH	<1.1	39 Y	NA	<1.1	NA
BASB017	05-Apr-01	(2.5-3.0)	3.7 YH	<1	11 Y	NA	<1	NA
BASB021	29-Mar-01	(0.5-1.0)	2.8 YH	<1	20 Y	<1	NA	NA
BASB021	29-Mar-01	(4.5-5.0)	20 YZ	<0.92	6.1 Y	<0.92	NA	NA
BASB021	29-Mar-01	(9.5-10.0)	4.9 YZ	<1.1	<5	<1.1	NA	NA
BASB021	29-Mar-01	(14.5-15.0)	48 YZ	<1	6.5 Y	<1	NA	NA
BASB021	29-Mar-01	(24.5-25.0)	2.6 YZ	<0.91	<5	<0.91	NA	NA
BASB051	02-Apr-01	(2.5-3.0)	<1	<1	6.4 Y	NA	<1	NA
BASB051	02-Apr-01	(9.5-10.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB051	02-Apr-01	(14.5-15.0)	<0.99	<0.98	<5	NA	<0.98	NA
BASB051	02-Apr-01	(22.5-23.0)	<1	<0.95	<5	NA	<0.95	NA
BASB081	05-Apr-01	(2.5-3.0)	<1	<0.95	10 Y	NA	<0.95	NA
BASB081	05-Apr-01	(4.5-5.0)	<1	<0.94	5.4 Y	NA	<0.94	NA
BASB081	05-Apr-01	(9.5-10.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB081	05-Apr-01	(14.5-15.0)	<0.99	<1	<5	NA	<1	NA
BASB081	05-Apr-01	(25.5-26.0)	<1	<0.92	<5	NA	<0.92	NA
Area 7								
BASB018	05-Apr-01	(2.5-3.0)	<1	<0.98	6.1 Y	NA	<0.98	NA
BASB018	05-Apr-01	(5.5-6.0)	1.2 YH	<1.1	7.2 Y	NA	<1.1	NA
BASB018	05-Apr-01	(11.5-12.0)	27 YH	<0.98	130	NA	<0.98	NA
BASB018	05-Apr-01	(14.5-15.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB018	05-Apr-01	(19.5-20.0)	<0.99	<1.1	<5	NA	<1.1	NA
BASB019	05-Apr-01	(2.0-2.5)	92 YH	<1.1	330	NA	<1.1	NA
BASB019	05-Apr-01	(4.5-5.0)	1.2 YH	<0.94	<5	NA	<0.94	NA
BASB019	05-Apr-01	(9.5-10.0)	<1	<0.99	<5	NA	<0.99	NA
BASB019	05-Apr-01	(14.5-15.0)	<0.99	<0.98	<5	NA	<0.98	NA
BASB019	05-Apr-01	(24.5-25.0)	<1	<1.1	<5	NA	<1.1	NA
BASB052	02-Apr-01	(1.5-2.0)	1.9 YH	<0.91	16 Y	NA	<0.91	NA
BASB052	02-Apr-01	(3.5-4.0)	39 YH	<0.97	290 Y	NA	<0.97	NA
BASB052	02-Apr-01	(9.5-10.0)	<1	<0.98	<5	NA	<0.98	NA
BASB052	02-Apr-01	(14.5-15.0)	<0.99	<0.93	<5	NA	<0.93	NA

Table 6
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Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 7								
BASB052	02-Apr-01	(22.5-23.0)	2.4 YH	<0.92	30 Y	NA	<0.92	NA
BASB052	02-Apr-01	(24.5-25.0)	71 HY	<1	480	NA	<1	NA
BASB053	03-Apr-01	(1.5-2.0)	29 YH	<1.1	460 YH	NA	<1.1	NA
BASB053	03-Apr-01	(4.5-5.0)	1.7 YH	<1	25	NA	<1	NA
BASB053	03-Apr-01	(10.5-11.0)	<0.99	<0.97	<5	NA	<0.97	NA
BASB053	03-Apr-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB053	03-Apr-01	(19.5-20.0)	<0.99	<0.91	<5	NA	<0.91	NA
BASB054	03-Apr-01	(1.5-2.0)	39 YH	<0.96	290	NA	<0.96	NA
BASB054	03-Apr-01	(4.5-5.0)	<0.99	<0.97	7.5 Y	NA	<0.97	NA
BASB054	03-Apr-01	(9.5-10.0)	<0.99	<0.97	<5	NA	<0.97	NA
BASB054	03-Apr-01	(14.5-15.0)	<1	<1.1	<5	NA	<1.1	NA
BASB054	03-Apr-01	(21.5-22.0)	24 YH	<0.93	170	NA	<0.93	NA
BASB055	29-Mar-01	(8.0-8.5)	36 YZ	<0.95	13 Y	<0.95	NA	NA
BASB055	29-Mar-01	(9.5-10.0)	3.4 YHZ	<0.94	20 YH	<0.94	NA	NA
BASB055	29-Mar-01	(14.5-15.0)	32 YZ	<0.93	<5	<0.93	NA	NA
BASB055	29-Mar-01	(20.0-20.5)	37 YZ	<1	6.7 Y	<1	NA	NA
BASB055	29-Mar-01	(24.5-25.0)	3 YZ	<1	<5	<1	NA	NA
BASB056	30-Mar-01	(3.5-4.0)	38 YH	<0.97	120 Y	NA	<0.97	NA
BASB056	30-Mar-01	(5.5-6.0)	6.7 YZH	<1.1	15 Y	NA	<1.1	NA
BASB056	30-Mar-01	(9.5-10.0)	<1	<1	<5	NA	<1	NA
BASB056	30-Mar-01	(14.5-15.0)	<1	<1	<5	NA	<1	NA
BASB056	30-Mar-01	(19.5-20.0)	<1	<0.96	<5	NA	<0.96	NA
BASB056	30-Mar-01	(24.5-25.0)	<1	<0.99	<5	NA	<0.99	NA
BASB057	28-Mar-01	(3.5-4.0)	13 YZ	<0.93	74 Y	<0.93	NA	NA
BASB057	28-Mar-01	(5.5-6.0)	17 YZ	<1.1	<5	<1.1	NA	NA
BASB057	28-Mar-01	(9.5-10.0)	14 YZ	<0.93	<5	<0.93	NA	NA
BASB057	28-Mar-01	(14.5-15.0)	44 YZ	<0.96	<5	<0.96	NA	NA
BASB057	28-Mar-01	(24.5-25.0)	1.5 YZ	<0.95	<5	<0.95	NA	NA
BASB058	21-Mar-01	(3.5-4.0)	45 YH	<0.97	310 Y	<0.97	NA	NA
DUP	21-Mar-01	(5.0-5.5)	23 YZ	<1	<25	<1	NA	NA
BASB058	21-Mar-01	(9.5-10.0)	12 YZ	<0.91	<25	<0.91	NA	NA
BASB058	21-Mar-01	(14.5-15.0)	12 YZ	<0.93	<25	<0.93	NA	NA

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Area 7								
BASB058	21-Mar-01	(24.5-25.0)	25 YZ	<0.99	<25	<0.99	NA	NA
BASB080	03-Apr-01	(1.5-2.0)	1.4 YH	<0.96	9.8 Y	NA	<0.96	NA
BASB080	03-Apr-01	(4.5-5.0)	2.5 YH	<0.91	17	NA	<0.91	NA
BASB080	03-Apr-01	(9.5-10.0)	<1	<1	<5	NA	<1	NA
BASB080	03-Apr-01	(14.5-15.0)	<0.99	<1	<5	NA	<1	NA
BASB080	03-Apr-01	(23.5-24.0)	<1	<0.99	<5	NA	<0.99	NA
Area 8								
BASB050	20-Mar-01	(2.0-2.5)	6.2 YZ	<0.93	<5	<0.93	NA	NA
BASB050	20-Mar-01	(4.5-5.0)	28 YZ	<1.1	<25	<1.1	NA	NA
BASB050	20-Mar-01	(9.5-10.0)	1.2 YZ	<0.91	<5	<0.91	NA	NA
BASB050	20-Mar-01	(14.5-15.0)	14 YZ	<1.1	<9.9	<1.1	NA	NA
BASB050	20-Mar-01	(24.5-25.0)	28 YZ	<0.95	<25	<0.95	NA	NA
BASB060	05-Apr-01	(0.0-0.5)	3.2 YH	<1.1	21 Y	NA	<1.1	NA
BASB061	05-Apr-01	(0.0-0.5)	14 YH	<0.98	120	NA	<0.98	NA
BASB062	05-Apr-01	(0.0-0.5)	5.4 YH	<1	67	NA	<1	NA
BASB063	05-Apr-01	(0.0-0.5)	6.3 YH	<1	54	NA	<1	NA
BASB065	22-Mar-01	(0.0-0.5)	8.2 YH	<0.93	24 Y	<0.93	NA	NA
Area 9								
BASB088	09-Jul-01	(3.0-3.5)	1.7 Y	<0.96	<5	NA	NA	NA
DUP	09-Jul-01	(3.0-3.5)	<1	<1.1	<5	NA	NA	NA
BASB088	09-Jul-01	(4.5-5.0)	1.9 Y	<0.93	<5	NA	NA	NA
BASB088	09-Jul-01	(9.5-10.0)	<1	<1.1	<5	NA	NA	NA
BASB088	09-Jul-01	(14.5-15.0)	3.2 YH	<1.1	18	NA	NA	NA
BASB088	09-Jul-01	(25.0-25.5)	<1	<1	<5	NA	NA	NA
BASB089	09-Jul-01	(3.0-3.5)	1.7 Y	<1	5 Y	NA	NA	NA
BASB089	09-Jul-01	(4.5-5.0)	<1	<0.95	<5	NA	NA	NA
BASB089	09-Jul-01	(9.5-10.0)	1.8 Y	<0.99	<5	NA	NA	NA
BASB089	09-Jul-01	(14.5-15.0)	2.6 Y	<0.94	<5	NA	NA	NA
BASB089	09-Jul-01	(27.0-27.5)	3.3 Y	<1	<5	NA	NA	NA
BASB090	09-Jul-01	(2.0-2.5)	46 YH	<1	360	NA	NA	NA
DUP	09-Jul-01	(2.0-2.5)	38 YH	<1	310	NA	NA	NA
BASB090	09-Jul-01	(4.5-5.0)	3.4 YH	<0.95	17	NA	NA	NA

Table 6
Total Petroleum Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 9								
BASB090	09-Jul-01	(9.5-10.0)	1.2 Y	<1.1	<5	NA	NA	NA
BASB090	09-Jul-01	(14.5-15.0)	2.6 Y	<1	<5	NA	NA	NA
BASB090	09-Jul-01	(25.0-25.5)	2.8 YH	<1	29	NA	NA	NA

Data prepared by: TIH . Data QA/QC by: LDF .

Notes:

bgs = below ground surface

b = Continuing calibration verification percent difference was slightly above acceptance limits in batch.

DUP = Duplicate sample

H = Heavier hydrocarbons contributed to the quantitation.

J = Reported value is estimated.

L = Lighter hydrocarbons contributed to the quantitation.

NA = Not analyzed

Y = Sample exhibits fuel pattern which does not resemble standard.

Z = Sample exhibits unknown single peak or peaks.

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

TPHmo = total petroleum hydrocarbons as motor oil

TPHms = total petroleum hydrocarbons as mineral spirits

TPHpt = total petroleum hydrocarbons as paint thinner

TPHss = total petroleum hydrocarbons as stoddard solvent

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for all compounds using EPA test method 8015 modified.

Table 7
Volatile Organic Compounds Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Acetone	Methylene chloride
Area 1				
BASB036	22-Mar-01	(3.5-4.0)	<0.019	<0.019
DUP	22-Mar-01	(5.0-5.5)	<0.019	<0.019
BASB036	22-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB036	22-Mar-01	(14.5-15.0)	<0.02	<0.02
BASB036	22-Mar-01	(24.5-25.0)	<0.019	<0.019
BASB037	22-Mar-01	(4.5-5.0)	0.025	<0.02
BASB037	22-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB037	22-Mar-01	(14.5-15.0)	<0.019	<0.019
BASB037	22-Mar-01	(24.5-25.0)	<0.019	<0.019
BASB029	23-Mar-01	(3.5-4.0)	<0.019	<0.019
DUP	23-Mar-01	(4.5-5.0)	<0.019	<0.019
BASB029	23-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB029	23-Mar-01	(14.5-15.0)	<0.02	<0.02
BASB029	23-Mar-01	(19.5-20.0)	<0.019	<0.019
BASB029	23-Mar-01	(24.5-25.0)	<0.02	<0.02
BASB030	23-Mar-01	(4.5-5.0)	<0.02	<0.02
BASB030	23-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB030	23-Mar-01	(14.5-15.0)	<0.021	<0.021
BASB030	23-Mar-01	(19.5-20.0)	<0.019	<0.019
BASB030	23-Mar-01	(24.5-25.0)	<0.02	<0.02
BASB070	03-Apr-01	(22.5-23.0)	<0.021	<0.021
BASB070	03-Apr-01	(24.5-25.0)	<0.02	<0.02
BASB071	03-Apr-01	(19.5-20.0)	<0.019	<0.019
BASB071	03-Apr-01	(22.5-23.0)	<0.019	<0.019
BASB071	03-Apr-01	(24.5-25.0)	<0.02	<0.02
BASB082	05-Apr-01	(1.5-2.0)	<0.02	<0.02
BASB082	05-Apr-01	(4.5-5.0)	<0.021	<0.021
BASB082	05-Apr-01	(11.5-12.0)	<0.019	0.034
BASB082	05-Apr-01	(14.5-15.0)	<0.02	<0.02
BASB082	05-Apr-01	(19.5-20.0)	<0.019	0.034
Area 2				
BASB008	21-Mar-01	(3.5-4.0)	<0.02	<0.02
DUP	21-Mar-01	(4.5-5.0)	<0.019	<0.019
BASB008	21-Mar-01	(9.5-10.0)	<0.019	<0.019
BASB008	21-Mar-01	(14.5-15.0)	<0.019	<0.019
BASB008	21-Mar-01	(24.5-25.0)	<0.019	<0.019

Table 7
Volatile Organic Compounds Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Acetone	Methylene chloride
Area 2				
BASB006	31-Mar-01	(1.5-2.0)	<0.02	<0.02
BASB006	31-Mar-01	(5.5-6.0)	<0.02	<0.02
BASB006	31-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB006	31-Mar-01	(14.5-15.0)	<0.019	<0.019
BASB006	31-Mar-01	(26.5-27.0)	<0.02	<0.02
BASB007	31-Mar-01	(1.5-2.0)	<0.02	<0.02
BASB007	31-Mar-01	(4.5-5.0)	<0.019	<0.019
BASB007	31-Mar-01	(9.5-10.0)	<0.019	<0.019
BASB007	31-Mar-01	(14.5-15.0)	<0.019	<0.019
BASB007	31-Mar-01	(25.5-26.0)	<0.02	<0.02
Area 4				
DUP	19-Mar-01	(4.0-4.5)	<0.02	<0.02
BASB012	19-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB012	19-Mar-01	(14.5-15.0)	<0.02	<0.02
BASB012	19-Mar-01	(24.0-24.5)	<0.02	<0.02
BASB013	20-Mar-01	(2.5-3.0)	<0.021	<0.021
BASB013	20-Mar-01	(4.5-5.0)	<0.019	<0.019
BASB013	20-Mar-01	(9.5-10.0)	<0.02	<0.02
BASB013	20-Mar-01	(14.5-15.0)	<0.019	<0.019
BASB016	04-Apr-01	(2.0-2.5)	<0.02	<0.02
BASB016	04-Apr-01	(5.5-6.0)	<0.019	<0.019
BASB016	04-Apr-01	(9.5-10.0)	<0.019	<0.019
BASB016	04-Apr-01	(14.5-15.0)	<0.022	<0.022
BASB016	04-Apr-01	(24.5-25.0)	<0.019	<0.019
Area 5				
BASB022	04-Apr-01	(1.5-2.0)	<0.019	<0.019
BASB022	04-Apr-01	(4.5-5.0)	<0.019	<0.019
BASB022	04-Apr-01	(9.5-10.0)	<0.02	<0.02
BASB022	04-Apr-01	(14.5-15.0)	<0.019	<0.019
BASB022	04-Apr-01	(20.5-21.0)	<0.019	<0.019
Area 6				
BASB081	05-Apr-01	(2.5-3.0)	<0.02	<0.02
BASB081	05-Apr-01	(4.5-5.0)	<0.019	<0.019
BASB081	05-Apr-01	(9.5-10.0)	<0.021	<0.021
BASB081	05-Apr-01	(14.5-15.0)	<0.02	<0.02
BASB081	05-Apr-01	(25.5-26.0)	<0.021	<0.021

Table 7
Volatile Organic Compounds Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Acetone	Methylene chloride
Area 7				
BASB058	21-Mar-01	(3.5-4.0)	<0.019	<0.019
DUP	21-Mar-01	(5.0-5.5)	<0.02	<0.02
BASB058	21-Mar-01	(9.5-10.0)	<0.019	<0.019
BASB058	21-Mar-01	(14.5-15.0)	<0.02	<0.02
BASB058	21-Mar-01	(24.5-25.0)	<0.02	<0.02
Area 8				
BASB050	20-Mar-01	(2.0-2.5)	<0.02	<0.02
BASB050	20-Mar-01	(4.5-5.0)	<0.02	<0.02
BASB050	20-Mar-01	(9.5-10.0)	<0.019	<0.019
BASB050	20-Mar-01	(14.5-15.0)	<0.02	<0.02
BASB050	20-Mar-01	(24.5-25.0)	<0.019	<0.019
Area 9				
BASB088	09-Jul-01	(3.0-3.5)	<0.02	0.025
DUP	09-Jul-01	(3.0-3.5)	<0.019	0.028
BASB088	09-Jul-01	(4.5-5.0)	<0.02	<0.02
BASB088	09-Jul-01	(9.5-10.0)	<0.02	<0.02
BASB088	09-Jul-01	(14.5-15.0)	<0.019	<0.019
BASB088	09-Jul-01	(25.0-25.5)	<0.02	<0.02
BASB089	09-Jul-01	(3.0-3.5)	<0.019	0.02
BASB089	09-Jul-01	(4.5-5.0)	<0.019	<0.019
BASB089	09-Jul-01	(9.5-10.0)	<0.02	<0.02
BASB089	09-Jul-01	(14.5-15.0)	<0.021	<0.021
BASB089	09-Jul-01	(27.0-27.5)	<0.019	0.02
BASB090	09-Jul-01	(2.0-2.5)	<0.02	<0.02
DUP	09-Jul-01	(2.0-2.5)	<0.02	0.025
BASB090	09-Jul-01	(4.5-5.0)	<0.02	<0.02
BASB090	09-Jul-01	(9.5-10.0)	<0.019	<0.019
BASB090	09-Jul-01	(14.5-15.0)	<0.019	<0.019
BASB090	09-Jul-01	(25.0-25.5)	<0.021	0.06

Data prepared by: TIH . Data QA/QC by: LDF .

Notes:

bgs = Below ground surface

DUP = Duplicate sample

VOCs = Volatile organic compounds

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for VOCs using EPA test method 8260B.

Table 8
Semivolatile Organic Compounds Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	B(a)A	B(a)P	B(b)F	B(g,h,i)P	CHR	D(a,h)A	DEHP	I(1,2,3-cd)P	Phenol	PYR
Area 1												
BASB082	05-Apr-01	(1.50-2.00)	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
BASB082	05-Apr-01	(4.50-5.00)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.34	<0.05	<0.34	<0.05
BASB082	05-Apr-01	(11.50-12.00)	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.34	<0.051	<0.34	<0.051
BASB082	05-Apr-01	(14.50-15.00)	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
BASB082	05-Apr-01	(19.50-20.00)	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.34	<0.051	<0.34	<0.051
Area 6												
BASB002	31-Mar-01	(2.50-3.00)	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.87	<0.33	0.82	<0.33
BASB005	31-Mar-01	(2.50-3.00)	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
BASB011	05-Apr-01	(2.50-3.00)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.33	<0.05	<0.33	<0.05
BASB017	05-Apr-01	(2.50-3.00)	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<3.3	<0.49	<3.3	<0.49
BASB051	02-Apr-01	(9.50-10.00)	<0.049 J	<0.049 J	<0.049 J	<0.049 J	<0.049 J	<0.049 J	<0.33 J	<0.049 J	<0.33 J	<0.049 J
RE	02-Apr-01	(9.50-10.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
BASB051	02-Apr-01	(22.50-23.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
RE	02-Apr-01	(22.50-23.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.34 J	<0.05 J	<0.34 J	<0.05 J
BASB081	05-Apr-01	(25.50-26.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
RE	05-Apr-01	(25.50-26.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
Area 7												
BASB019	05-Apr-01	(4.50-5.00)	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.34	<0.051	<0.34	<0.051
BASB052	02-Apr-01	(3.50-4.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
RE	02-Apr-01	(3.50-4.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J
BASB052	02-Apr-01	(24.50-25.00)	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.05 J	<0.33 J	<0.05 J	<0.33 J	<0.05 J

Table 8
Semivolatile Organic Compounds Detected in Soil
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	B(a)A	B(a)P	B(b)F	B(g,h,i)P	CHR	D(a,h)A	DEHP	I(1,2,3-cd)P	Phenol	PYR
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Area 7

RE 02-Apr-01 (24.50-25.00) <0.05 J <0.05 J <0.05 J <0.05 J <0.05 J <0.05 J <0.33 J <0.05 J <0.33 J <0.05 J <0.05 J

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

DUP = Duplicate sample

J = Reported value is estimated.

bgs = Below ground surface

RE = Samples were re-extracted and reanalyzed because QC did not meet laboratory criteria.

SVOCs = Semivolatile organic compounds

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for SVOCs using EPA method 8270C.

B(a)A = Benzo(a)anthracene

B(a)P = Benzo(a)pyrene

B(b)F = Benzo(b)fluoranthene

B(g,h,i)P = Benzo(g,h,i)perylene

CHR = Chrysene

D(a,h)A = Dibenzo(a,h)anthracene

DEHP = Bis(2-Ethylhexyl) phthalate

I(1,2,3-cd)P = Indeno(1,2,3-c,d)pyrene

PYR = Pyrene

Table 9
Polynuclear Aromatic Hydrocarbons Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	B(a)A	B(a)P	B(b)F	B(g,h,i)P	CHR	D(a,h)A	I(1,2,3-cd)P	PYR
Area 1										
BASB082	05-Apr-01	(1.5-2.0)	<0.0033	0.0081	<0.0068	<0.0068	0.0047	0.011	<0.0033	0.0091
BASB082	05-Apr-01	(4.5-5.0)	<0.0033	<0.0033	<0.0067	<0.0067	<0.0033	<0.0067	<0.0033	<0.0067
BASB082	05-Apr-01	(11.5-12.0)	<0.0033	<0.0033	<0.0068	<0.0068	<0.0033	<0.0068	<0.0033	<0.0068
BASB082	05-Apr-01	(14.5-15.0)	<0.0033	<0.0033	<0.0068	<0.0068	<0.0033	<0.0068	<0.0033	<0.0068
BASB082	05-Apr-01	(19.5-20.0)	<0.0034	<0.0034	<0.0069	<0.0069	<0.0034	<0.0069	<0.0034	<0.0069
Area 6										
BASB002	31-Mar-01	(2.5-3.0)	<0.013	<0.013	<0.027	<0.027	0.062	<0.027	<0.013	<0.027
BASB005	31-Mar-01	(2.5-3.0)	<0.0033	<0.0033	<0.0067	<0.0067	<0.0033	<0.0067	<0.0033	<0.0067
BASB011	05-Apr-01	(2.5-3.0)	0.0036 J	0.0079 J	0.0067 J	0.0071 J	0.0064 J	0.016 J	0.0059 J	0.0097
BASB017	05-Apr-01	(2.5-3.0)	<0.0033	<0.0033	<0.0068	<0.0068	<0.0033	<0.0068	<0.0033	<0.0068
Area 7										
BASB019	05-Apr-01	(4.5-5.0)	<0.0034	<0.0034	<0.0068	<0.0068	<0.0034	<0.0068	<0.0034	<0.0068

Data prepared by: TIH . Data QA/QC by: LDF .

Notes:

bgs = Below ground surface

DUP = Duplicate sample

J = Reported value is estimated.

PAH = Polyaromatic hydrocarbons

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for PAHs using EPA test method 8310.

B(a)A = Benzo(a)anthracene

B(a)P = Benzo(a)pyrene

B(b)F = Benzo(b)fluoranthene

B(g,h,i)P = Benzo(g,h,i)perylene

CHR = Chrysene

D(a,h)A = Dibenzo(a,h)anthracene

I(1,2,3-cd)P = Indeno(1,2,3-c,d)pyrene

PYR = Pyrene

Table 10
Organochlorine Pesticides Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	4,4'-DDT	alpha-Chlordane	gamma-Chlordane
Area 8					
BASB061	05-Apr-01	(0.0-0.5)	0.012	0.012	0.0075
BASB065	22-Mar-01	(0.0-0.5)	<0.06	<0.03	<0.03

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

bgs = below ground surface

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for organochlorine pesticides using EPA test method 8081A.

4,4'-DDT = Dichlorodiphenyltrichloroethane

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 1																		
BASB026	28-Mar-01	(3.5-4.0)	<0.24	3	130	0.36	1.7	7.9	28	18	0.097	<0.97	46	22	0.44	<0.24	26	46
BASB026	28-Mar-01	(6.5-7.0)	<0.24	3.5	110	0.45	1.5	7.6	31	19	0.031	<0.95	45	6	<0.24	<0.24	26	37
BASB026	28-Mar-01	(9.5-10.0)	<0.24	2.7	110	0.48	1.5	7.2	33	17	0.05	<0.94	45	6.1	<0.24	<0.24	24	36
BASB026	28-Mar-01	(14.5-15.0)	<0.25	2.5	130	0.51	1.8	8.5	39	21	0.076	<0.99	59	5.9	<0.25	<0.25	25	45
BASB026	28-Mar-01	(24.5-25.0)	<0.24	3.8	130	0.44	1.7	8	38	19	0.046	<0.98	57	6.1	<0.24	0.39	28	37
BASB027	27-Mar-01	(3.5-4.0)	<0.24	5.4	290	0.33	2	6.9	28	29	0.05	<0.96	41	74	0.29	<0.24	26	140
BASB027	27-Mar-01	(6.0-6.5)	<0.24	2	43	0.18	0.85	3.8	16	6.2	0.024	<0.96	24	2.4	<0.24	<0.24	13	17
BASB027	27-Mar-01	(9.5-10.0)	<0.24	3.2	130	0.44	1.5	7.1	29	16	0.059	<0.95	45	6.3	<0.24	<0.24	24	35
BASB027	27-Mar-01	(14.5-15.0)	<0.23	3.4	170	0.54	2.2	9.2	42	24	1.1	<0.93	62	7.1	<0.23	<0.23	29	51
BASB027	27-Mar-01	(24.5-25.0)	<0.24	2.8	110	0.35	1.5	8.7	33	16	0.044	<0.97	58	5.2	0.34	0.39	22	34
BASB028	27-Mar-01	(0.5-1.0)	<0.24	7.8	170	0.35	1.8	7.1	29	25	0.16	<0.96	43	83	0.26	0.27	23	120
BASB028	27-Mar-01	(3.5-4.0)	<0.23	3.2	130	0.38	1.8	9.3	30	16	0.047	<0.94	54	5.4	<0.23	0.43	25	38
BASB028	27-Mar-01	(6.5-7.0)	<0.24	3.6	170	0.48	2	9	35	22	0.1	<0.95	53	6.7	<0.24	<0.24	31	43
BASB028	27-Mar-01	(9.5-10.0)	<0.23	2.9	130	0.43	1.6	6	29	16	0.025	<0.91	44	5.9	<0.23	<0.23	24	35
BASB028	27-Mar-01	(14.5-15.0)	<0.25	3.1	150	0.49	1.9	8.7	35	22	0.19	<1	54	6.3	<0.25	<0.25	25	44
BASB028	27-Mar-01	(24.5-25.0)	<0.23	2.6	110	0.32	1.5	8.1	29	17	0.047	<0.91	53	5.4	<0.23	0.5	21	31
BASB029	23-Mar-01	(3.5-4.0)	<0.23	4.3	120	0.57	2	10	38	20 J	0.046	<0.93	60	6.8	<0.23	0.53	37	49
DUP	23-Mar-01	(4.5-5.0)	<0.23	3.4	100	0.43	1.3	7.9	29	12 J	0.028	<0.91	50	4.6	<0.23	0.75	26	32
BASB029	23-Mar-01	(9.5-10.0)	<0.23	2.6	110	0.54	1.5	5.6	32	16 J	0.043	<0.9	44	5.6	<0.23	<0.23	28	40
BASB029	23-Mar-01	(14.5-15.0)	<0.23	3.1	140	0.66	2	9.7	42	23 J	0.13	<0.94	61	7	<0.23	0.55	35	55
BASB029	23-Mar-01	(19.5-20.0)	<0.24	4.8	150	0.61	2	7.8	42	21 J	0.073	<0.96	58	5.9	<0.24	<0.24	37	54
BASB029	23-Mar-01	(24.5-25.0)	<0.25	3	96	0.43	1.4	5.9	34	15 J	0.29	<0.99	46	4.4	<0.25	<0.25	28	37
BASB030	23-Mar-01	(4.5-5.0)	<0.24	3.6	120	0.35	2	6.8	29	15 J	0.033	<0.97	46	4.5	<0.24	<0.24	29	38

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 1																		
BASB030	23-Mar-01	(9.5-10.0)	<0.24	4.9	110	0.63	1.9	9.3	38	19 J	0.06	<0.96	57	7.1	<0.24	0.3	37	46
BASB030	23-Mar-01	(14.5-15.0)	<0.23	3.1	110	0.65	2.1	10	43	22 J	0.088	<0.93	62	7.3	<0.23	0.42	36	55
BASB030	23-Mar-01	(19.5-20.0)	<0.24	4.6	150	0.67	2.1	7.5	44	25 J	0.063	<0.95	61	8.1	<0.24	<0.24	38	59
BASB030	23-Mar-01	(24.5-25.0)	<0.24	4.6	100	0.47	1.7	11	34	18 J	0.049	<0.95	61	6.7	<0.24	0.69	31	38
BASB031	26-Mar-01	(3.5-4.0)	<0.24	3.2	130	0.48	1.9	8.9	33	19	0.045	<0.97	57	8.5	0.38	0.38	28	45
BASB031	26-Mar-01	(6.5-7.0)	<0.24	2.6	150	0.46	1.5	9	31	17	0.056	<0.95	46	6.7	<0.24	0.36	24	35
BASB031	26-Mar-01	(9.5-10.0)	<0.23	2.3	160	0.51	1.7	7.5	35	18	0.038	<0.93	54	8.1	<0.23	<0.23	27	40
BASB031	26-Mar-01	(14.5-15.0)	<0.23	2.6	170	0.56	2	9.8	39	22	0.084	<0.93	62	7.9	<0.23	<0.23	26	50
BASB031	26-Mar-01	(22.5-23.0)	<0.25	2.3	120	0.37	1.6	6.9	35	18	0.047	<0.98	53	4.7	<0.25	<0.25	24	38
BASB031	26-Mar-01	(24.5-25.0)	<0.24	2.8	110	0.29	1.4	9.4	26	15	0.045	<0.97	54	5.3	<0.24	<0.24	19	30
BASB032	26-Mar-01	(3.5-4.0)	<0.25	2.9	110	0.36	1.5	8.1	28	15	0.021	<0.99	46	7.5	0.54	<0.25	24	38
DUP	26-Mar-01	(4.5-5.0)	<0.25	1.8	71	0.22	1.1	6.6	19	9.3	0.022	<0.98	36	3.3	<0.25	<0.25	16	24
BASB032	26-Mar-01	(9.0-9.5)	<0.24	3	170	0.49	1.7	9	33	18	0.069	<0.97	54	8.2	<0.24	<0.24	26	39
BASB032	26-Mar-01	(14.5-15.0)	<0.25	1.8	140	0.49	1.7	7.8	34	19	0.15	<0.99	53	6.6	<0.25	<0.25	22	46
BASB032	26-Mar-01	(24.5-25.0)	<0.24	2.8	120	0.33	1.6	8.3	28	16	0.069	<0.97	58	5.4	<0.24	1.1	22	33
BASB033	26-Mar-01	(3.5-4.0)	<0.25	6	340	0.33	2.7	7.4	30	41	0.049	<0.98	44	160	0.42	<0.25	25	430
BASB033	26-Mar-01	(6.0-6.5)	<0.24	2	63	0.23	1	5	19	8.6	0.024	<0.97	30	3.4	<0.24	<0.24	17	24
BASB033	26-Mar-01	(9.5-10.0)	<0.24	3.1	120	0.46	1.6	5.7	31	16	0.067	<0.96	41	5.6	<0.24	<0.24	25	36
BASB033	26-Mar-01	(14.5-15.0)	<0.24	3	130	0.44	1.7	7.9	31	18	0.16	<0.96	51	6.1	<0.24	<0.24	24	41
BASB033	26-Mar-01	(24.5-25.0)	<0.24	3	120	0.38	1.8	8.9	38	18	0.055	<0.96	61	5.7	0.26	0.31	26	39
BASB034	27-Mar-01	(3.5-4.0)	<0.25	5.7	130	0.35	2	8.1	29	22	0.04	<0.98	46	24	0.5	<0.25	25	85
BASB034	27-Mar-01	(6.25-6.75)	<0.23	2.1	53	0.2	1	5.2	17	8.7	0.055	<0.92	29	3:1	<0.23	<0.23	15	22
BASB034	27-Mar-01	(9.5-10.0)	<0.24	2.9	110	0.41	1.4	6.6	26	16	0.067	<0.96	38	6.6	<0.24	<0.24	22	32

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 1																		
BASB034	27-Mar-01	(14.5-15.0)	<0.24	2.3	130	0.45	1.7	8.3	31	19	0.22	<0.98	51	7	<0.24	<0.24	22	42
BASB034	27-Mar-01	(24.5-25.0)	<0.24	3	97	0.32	1.5	5	29	16	0.072	<0.94	42	5.9	<0.24	<0.24	23	32
BASB036	22-Mar-01	(3.5-4.0)	<0.21	0.68	48	0.38	3.1	7.9	2.1	14	0.18	<0.83	19 J	4.9	0.45	0.28	27	64 J
DUP	22-Mar-01	(5.0-5.5)	<0.2	4.2	150	0.47	2.1	9.3	38	19	0.041	<0.81	52 J	5.9	<0.2	<0.2	31	44 J
BASB036	22-Mar-01	(9.5-10.0)	<0.24	3.5	100	0.5	1.9	8.4	35	17	0.046	<0.94	53 J	6.2	<0.24	<0.24	25	41 J
BASB036	22-Mar-01	(14.5-15.0)	<0.23	3.5	130	0.49	2.2	8.8	42	20	0.06	<0.93	57 J	6.6	<0.23	<0.23	29	47 J
BASB036	22-Mar-01	(24.5-25.0)	<0.19	3.5	120	0.42	1.7	7.2	38	18	0.055	<0.75	50 J	5.2	<0.19	<0.19	25	39 J
BASB037	22-Mar-01	(4.5-5.0)	<0.25	2.6	130	0.45	1.6	6.2	35	22	0.069	<0.99	47 J	14	<0.25	<0.25	27	52 J
BASB037	22-Mar-01	(9.5-10.0)	<0.22	3.1	170	0.49	1.9	8.6	35	17	0.054	<0.88	60 J	6.1	0.22	<0.22	24	41 J
BASB037	22-Mar-01	(14.5-15.0)	<0.23	4.8	160	0.59	2.6	8.5	50	23	0.067	<0.93	69 J	6.8	<0.23	<0.23	35	56 J
BASB037	22-Mar-01	(24.5-25.0)	<0.23	2.3	100	0.36	1.6	5.4	36	15	0.12	<0.93	49 J	3.6	<0.23	<0.23	22	38 J
BASB070	03-Apr-01	(3.0-3.5)	<0.21	4.1	140	0.44	1.9	8.6	33	20	0.057	<0.84	51	27	<0.21	<0.21	29	70 J
BASB070	03-Apr-01	(6.0-6.5)	<0.2	1.5	72	0.22	0.82	4.2	17	8.1	0.063	<0.81	29	3	<0.2	<0.2	14	21
BASB070	03-Apr-01	(9.5-10.0)	<0.2	2.5	140	0.44	1.3	8.5	25	14	0.043	<0.81	50	5.4	<0.2	0.34	19	32
BASB070	03-Apr-01	(14.5-15.0)	<0.22	2.5	130	0.49	1.6	7.8	30	17	0.058	<0.87	53	5.7	<0.22	0.45	19	41
BASB070	03-Apr-01	(22.5-23.0)	<0.2	3	120	0.44	1.7	9.9	41	19	0.06	<0.81	60	5.4	<0.2	0.21	25	42
BASB070	03-Apr-01	(24.5-25.0)	<0.22	2.4	100	0.34	1.3	7.8	26	14	0.044	<0.87	47	4.8	0.34	0.39	19	31
BASB071	03-Apr-01	(1.5-2.0)	<0.21	4.1	170	0.35	2	6.9	26	35	0.23	<0.82	38	130	0.49	<0.21	21	240
BASB071	03-Apr-01	(6.5-7.0)	<0.23	3.6	140	0.52	1.6	8.1	32	17	0.039	<0.91	42	6.5	<0.23	<0.23	28	38
BASB071	03-Apr-01	(9.5-10.0)	<0.23	3.5	160	0.53	1.6	9.2	33	17	0.058	<0.91	56	6.6	<0.23	0.33	23	37 J
BASB071	03-Apr-01	(14.5-15.0)	<0.22	2.8	150	0.56	1.8	8	37	20	0.064	<0.89	58	6.3	<0.22	<0.22	24	48 J
BASB071	03-Apr-01	(18.5-19.0)	<0.22	5.1	180	0.53	2.2	9.9	40	21	0.069	<0.87	64	6.2	<0.22	<0.22	34	48 J
BASB071	03-Apr-01	(19.5-20.0)	<0.22	2.2	150	0.46	1.7	11	37	20	0.054	<0.9	53	5.9	<0.22	<0.22	24	47

Table 11
Title 22 Metals Detected in Soil
Batarese Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn	
Area 1																			
BASB071	03-Apr-01	(22.5-23.0)	<0.2	2.9	140	0.43	1.6	8	37	19	0.049	<0.82	54	5.9	<0.2	<0.2	27	37 J	
BASB071	03-Apr-01	(24.5-25.0)	<0.23	3.4	120	0.4	1.5	8.2	34	17	0.048	<0.92	54	5.9	<0.23	<0.23	25	35 J	
BASB072	05-Apr-01	(2.0-2.5)	<0.24	4.7	170	0.4	1.9	7.5	30	23	0.13	<0.94	44	44	<0.24	<0.24	28	110	
BASB072	05-Apr-01	(5.5-6.0)	<0.2	2.6	77	0.31	1.2	5.1	24	11	0.035	<0.81	35	3.8	<0.2	<0.2	19	25	
BASB072	05-Apr-01	(9.5-10.0)	<0.23	2.9	110	0.41	1.3	5.7	26	11	0.046	<0.91	40	4.4	<0.23	<0.23	21	27	
BASB072	05-Apr-01	(14.5-15.0)	<0.23	2.5	130	0.48	1.6	7.6	32	17	0.069	<0.93	48	5.3	<0.23	<0.23	22	40	
BASB072	05-Apr-01	(24.5-25.0)	<0.25	3.4	110	0.36	1.5	9.7	28	16	0.057	<0.99	58	5.4	<0.25	0.6	22	30	
BASB073	02-Apr-01	(2.5-3.0)	<0.23	3.3	140	0.34	1.8	7.5	26	28	0.066	<0.91	42	16	<0.23	<0.23	26	60	
BASB073	02-Apr-01	(4.5-5.0)	<0.22	2.9	110	0.34	1.5	5.9	27	14	0.15	<0.87	46	4.4	<0.22	<0.22	22	33	
BASB073	02-Apr-01	(9.5-10.0)	<0.22	2	94	0.31	0.93	4.6	17	9.3	0.051	<0.87	34	3.9	<0.22	0.24	11	24	
BASB073	02-Apr-01	(14.5-15.0)	<0.21	1.7	86	0.31	0.97	5.1	18	11	0.052	<0.84	33	3.9	<0.21	<0.21	11	26	
BASB073	02-Apr-01	(19.5-20.0)	<0.22	1.4	100	0.3	1.1	6.5	21	12	0.05	<0.88	37	4.5	<0.22	<0.22	12	32	
BASB073	02-Apr-01	(24.5-25.0)	<0.22	3.3	99	0.31	1.4	8	26	15	0.052	<0.89	50	5.6	<0.22	<0.22	19	31	
BASB074	02-Apr-01	(2.5-3.0)	<0.22	4	120	0.39	1.9	7.4	30	17	0.036	<0.9	53	5.8	<0.22	<0.22	27	41	
BASB074	02-Apr-01	(9.5-10.0)	<0.23	1.8	98	0.32	0.99	3.9	19	10	0.057	<0.92	29	4	<0.23	<0.23	12	24	
BASB074	02-Apr-01	(14.5-15.0)	<0.24	2.2	110	0.37	1.3	5.9	24	13	0.076	<0.95	41	4.6	<0.24	<0.24	14	36	
BASB074	02-Apr-01	(24.5-25.0)	<0.22	2.8	96	0.29	1.4	8.1	26	13	0.054	<0.88	48	8.1	<0.22	<0.22	19	28	
BASB075	02-Apr-01	(6.5-7.0)	<0.22	3.2	140	0.42	1.5	6.6	26	16	0.023	<0.88	42	5.4	0.3	0.61	20	33	
BASB075	02-Apr-01	(9.5-10.0)	<0.23	3.3	160	0.44	1.6	8	28	15	0.061	<0.93	60	7.1	<0.23	0.84	19	33	
BASB075	02-Apr-01	(14.5-15.0)	<0.2	2	91	0.33	1.1	5.4	21	12	0.064	<0.82	37	4.1	<0.2	<0.2	12	29	
BASB075	02-Apr-01	(24.5-25.0)	<0.23	1.6	88	0.24	1	4.1	22	9.8	0.051	<0.92	31	3.4	<0.23	<0.23	12	25	
BASB076	30-Mar-01	(3.5-4.0)	<0.21	6.5	130	0.46	1.9	9.5	31	19	0.047	<0.82	47	12	0.51	0.28	37	49 J	
BASB076	30-Mar-01	(6.5-7.0)	<0.22	3.9	150	0.52	1.7	10	34	17	0.025	<0.89	51	5.6	0.53	0.52	31	38 J	

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn	
Area 1																			
BASB076	30-Mar-01	(9.5-10.0)	<0.22	3.6	140	0.53	1.7	8	35	17	0.06	<0.87	51	5.7	<0.22	0.25	27	39 J	
BASB076	30-Mar-01	(14.5-15.0)	<0.22	4.6	150	0.63	2.2	10	45	23	0.04	<0.86	67	7.4	0.28	<0.22	33	53 J	
BASB076	30-Mar-01	(19.5-20.0)	<0.23	7.6	210	0.61	2.5	12	45	25	0.055	<0.9	65	7.2	0.37	0.77	40	57 J	
BASB076	30-Mar-01	(24.5-25.0)	<0.23	4.4	120	0.44	1.8	9.9	38	19	0.054	<0.93	58	6	0.32	0.29	31	38 J	
BASB077	30-Mar-01	(3.5-4.0)	<0.22	2.9	130	0.31	1.5	5.7	23	18	0.087	<0.86	32	30	0.22	<0.22	24	55 J	
DUP	30-Mar-01	(4.5-5.0)	<0.24	3.7	110	0.47	1.6	5.6	33	15	0.036	<0.94	44	5	0.33	<0.24	30	34 J	
BASB077	30-Mar-01	(9.5-10.0)	<0.23	4.8	92	0.56	1.8	8.4	39	19	0.069	<0.91	53	6	<0.23	<0.23	33	41 J	
BASB077	30-Mar-01	(14.5-15.0)	<0.2	2.7	140	0.51	1.8	8.8	35	19	0.027	<0.82	50	6	<0.2	<0.2	25	43 J	
BASB077	30-Mar-01	(19.5-20.0)	<0.22	5.4	150	0.49	2	13	39	20	0.044	<0.86	60	6.8	<0.22	0.82	32	44 J	
BASB077	30-Mar-01	(24.5-25.0)	<0.22	4.5	150	0.43	1.6	11	36	16	0.067	<0.89	55	5.6	0.44	0.51	29	34 J	
BASB078	05-Apr-01	(3.5-4.0)	<0.21	3.9	120	0.42	1.8	9.6	29	18	0.073	<0.83	46	20	0.26	0.92	26	50	
BASB078	05-Apr-01	(6.5-7.0)	<0.22	5.7	190	0.62	2.6	14	46	24	0.034	<0.87	70	7.2	<0.22	0.46	42	51	
BASB078	05-Apr-01	(9.5-10.0)	<0.23	2.2	120	0.42	1.3	4.6	26	13	0.059	<0.93	35	4.6	<0.23	<0.23	17	30	
BASB078	05-Apr-01	(14.5-15.0)	<0.23	2.4	91	0.36	1.1	5.6	24	12	0.046	<0.91	37	4.4	0.34	0.46	15	29	
BASB078	05-Apr-01	(24.5-25.0)	<0.22	3.6	100	0.36	1.5	9.6	30	16	0.051	<0.89	51	5.9	<0.22	0.53	22	32	
BASB082	05-Apr-01	(1.5-2.0)	<0.23	4.1	86	0.31	1.3	5.7	21	12	0.12	<0.93	32	9.6	0.41	<0.23	20	36	
BASB082	05-Apr-01	(4.5-5.0)	<0.22	1.9	54	0.22	0.82	3.5	15	7.5	0.024	<0.88	24	2.5	<0.22	<0.22	14	19	
BASB082	05-Apr-01	(11.5-12.0)	<0.21	2.6	110	0.39	1.2	7.5	25	13	0.063	<0.85	41	4.6	<0.21	<0.21	18	31	
BASB082	05-Apr-01	(14.5-15.0)	<0.24	3.4	130	0.47	1.6	7.5	33	18	0.086	<0.97	49	5.3	<0.24	<0.24	22	40	
BASB082	05-Apr-01	(19.5-20.0)	<0.22	3.2	120	0.39	1.4	6	27	16	0.053	<0.87	41	5	<0.22	<0.22	21	35	
Area 2																			
BASB006	31-Mar-01	(1.5-2.0)	<0.23	2.6	98	0.34	1.6	6.4	15	14	0.056	<0.9	29	4.2	<0.23	0.49	17	34 J	
BASB006	31-Mar-01	(5.5-6.0)	<0.22	3.4	150	0.52	1.7	7.1	34	18	0.029	<0.9	47	5.8	<0.22	<0.22	26	40 J	

Table 11
Title 22 Metals Detected in Soil
Batarese Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 2																		
BASB006	31-Mar-01	(9.5-10.0)	<0.23	4	160	0.5	1.7	7.7	34	17	0.13	<0.93	52	5.6	<0.23	<0.23	26	38 J
BASB006	31-Mar-01	(14.5-15.0)	<0.22	3.3	140	0.51	1.8	8.3	37	20	0.068	<0.87	56	5.9	<0.22	<0.22	25	45 J
BASB006	31-Mar-01	(26.5-27.0)	<0.22	2.6	190	0.34	1.4	7.5	29	14	0.053	<0.88	48	4.3	0.32	0.93	21	32 J
BASB007	31-Mar-01	(1.5-2.0)	<0.2	5.6	130	0.39	1.7	7.5	30	15	0.031	<0.82	45	6.7	<0.2	<0.2	27	35 J
BASB007	31-Mar-01	(4.5-5.0)	<0.23	3.2	160	0.56	1.6	7.5	34	18	0.023	<0.92	47	6.2	<0.23	<0.23	25	41 J
BASB007	31-Mar-01	(9.5-10.0)	<0.24	3.3	170	0.51	1.7	8.4	35	19	0.072	<0.95	54	5.9	<0.24	<0.24	26	41 J
BASB007	31-Mar-01	(14.5-15.0)	<0.23	3	140	0.49	1.7	6.9	36	19	0.076	<0.91	49	5.7	<0.23	<0.23	22	43 J
BASB007	31-Mar-01	(25.5-26.0)	<0.22	3.3	120	0.37	1.6	7.9	34	17	0.066	<0.89	51	5	<0.22	<0.22	23	36 J
BASB008	21-Mar-01	(3.5-4.0)	<0.23	4.5	200	0.41	2.1	9.3	36	23	0.065	<0.93	53 J	26	0.25	<0.23	30	76 J
DUP	21-Mar-01	(4.5-5.0)	<0.24	3.2	90	0.34	1.2	7.6	24	12	<0.02	<0.95	46 J	4.1	0.44	0.49	22	28 J
BASB008	21-Mar-01	(9.5-10.0)	<0.24	3.3	140	0.58	1.7	8.8	39	19	0.067	<0.97	57 J	6.9	<0.24	<0.24	29	40 J
BASB008	21-Mar-01	(14.5-15.0)	<0.23	2.8	150	0.56	1.8	8.3	41	21	0.063	<0.92	60 J	6.5	<0.23	0.42	26	50 J
BASB008	21-Mar-01	(24.5-25.0)	<0.22	2.5	120	0.36	1.5	6.5	35	17	0.049	<0.88	48 J	4.9	<0.22	<0.22	21	35 J
Area 3																		
BASB040	03-Apr-01	(3.5-4.0)	<0.23	2.6	79	0.31	1.1	6.1	18	10	0.037	<0.91	35	3.9	<0.23	<0.23	18	25
DUP	03-Apr-01	(4.5-5.0)	<0.21	2.4	68	0.26	1.1	5.5	20	9.7	0.059	<0.84	37	3.1	<0.21	<0.21	16	23
BASB040	03-Apr-01	(9.5-10.0)	<0.22	2.5	110	0.39	1.3	6.9	24	14	0.072	<0.88	45	5	<0.22	0.47	17	31
BASB040	03-Apr-01	(14.5-15.0)	<0.23	3.3	150	0.48	1.8	7.7	32	18	0.046	<0.92	53	5.6	<0.23	0.49	25	43
BASB040	03-Apr-01	(19.5-20.0)	<0.22	2.6	120	0.39	1.6	5.5	32	17	0.062	<0.89	41	4.8	<0.22	<0.22	20	39
BASB040	03-Apr-01	(24.5-25.0)	<0.23	3.3	120	0.38	1.5	6.7	32	16	0.062	<0.92	46	4.6	<0.23	<0.23	24	34
BASB041	28-Mar-01	(3.5-4.0)	0.8	2.7	120	0.4	1.4	5.4	25	13	0.035	<0.97	32	28	<0.24	<0.24	24	36
DUP	28-Mar-01	(4.5-5.0)	<0.24	2.8	65	0.4	2.1	5.2	31	21	0.056	<0.97	36	49	<0.24	<0.24	26	50
BASB041	28-Mar-01	(9.5-10.0)	<0.24	2.5	110	0.49	1.4	6.9	31	15	0.06	<0.97	46	5.6	<0.24	<0.24	24	36

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 3																		
BASB041	28-Mar-01	(14.5-15.0)	<0.24	4.4	130	0.54	1.7	7.5	37	18	0.061	<0.96	53	6.4	<0.24	<0.24	30	43
BASB041	28-Mar-01	(24.5-25.0)	<0.25	3.6	130	0.44	1.4	8	36	17	0.044	<0.99	52	6.3	<0.25	<0.25	27	34
Area 4																		
BASB012	19-Mar-01	(3.5-4.0)	<0.19	1.1	69	0.26	2.7	5.9	5.1	12	0.054	<0.75	20	17	<0.19	0.55	29	93
BASB012	19-Mar-01	(9.5-10.0)	<0.24	3.4	100	0.46	1.9	8.6	37	20	0.054	<0.98	59	6.2	<0.24	0.34	24	43
BASB012	19-Mar-01	(14.5-15.0)	<0.2	3	94	0.37	1.8	6.9	31	17	0.063	<0.79	47	5.3	<0.2	<0.2	24	39
BASB012	19-Mar-01	(24.0-24.5)	<0.22	3.3	160	0.37	1.9	9.1	37	21	0.056	<0.88	67	6	<0.22	0.73	23	42
BASB013	20-Mar-01	(2.5-3.0)	<0.22	1.3	55	0.15	2.2	20	160	35	0.041	<0.87	94	1.9	<0.22	<0.22	20	21
BASB013	20-Mar-01	(4.5-5.0)	<0.21	4.4	190	0.47	2.4	9.7	35	19	<0.02	<0.85	58	5.7	<0.21	0.29	29	42
BASB013	20-Mar-01	(9.5-10.0)	<0.23	3.2	130	0.45	2.1	8.7	31	18	0.052	<0.93	56	5.9	<0.23	0.35	21	43
BASB013	20-Mar-01	(14.5-15.0)	<0.21	2.7	150	0.4	2.1	6	29	17	0.069	<0.84	46	4.8	<0.21	<0.21	21	41
BASB016	04-Apr-01	(2.0-2.5)	<0.22	2.6	100	0.21	1.4	5.4	19	32	0.14	<0.86	29	60	0.39	<0.22	17	81
BASB016	04-Apr-01	(5.5-6.0)	<0.23	2.7	120	0.38	1.5	6.8	30	15	0.069	<0.91	47	4.8	<0.23	0.31	25	34
BASB016	04-Apr-01	(9.5-10.0)	<0.22	2.7	110	0.35	1.3	5.6	25	12	0.036	<0.86	37	4.4	<0.22	<0.22	21	27
BASB016	04-Apr-01	(14.5-15.0)	<0.21	2.8	120	0.41	1.7	6.9	33	17	0.079	<0.84	47	5.2	<0.21	<0.21	24	38
BASB016	04-Apr-01	(24.5-25.0)	<0.22	2.8	99	0.3	1.5	8	30	16	0.075	<0.87	53	5	<0.22	0.3	21	31
Area 5																		
BASB022	04-Apr-01	(1.5-2.0)	<0.23	5.4	140	0.46	2.2	10	33	25	0.072	<0.93	54	31	<0.23	<0.23	31	64
BASB022	04-Apr-01	(4.5-5.0)	<0.18	7.6	130	0.27	1.6	6	22	21	0.061	2.1	32	63	<0.18	0.47	23	100
BASB022	04-Apr-01	(9.5-10.0)	<0.23	3.9	88	0.26	1.7	5.4	16	24	0.08	1.6	26	23	<0.23	<0.23	21	84
BASB022	04-Apr-01	(14.5-15.0)	<0.23	4.1	150	0.53	2.3	8.9	41	23	0.058	<0.93	62	6.4	<0.23	<0.23	31	50
BASB022	04-Apr-01	(20.5-21.0)	<0.19	4.3	120	0.38	1.6	7.2	28	17	0.076	<0.75	45	6.9	<0.19	<0.19	25	39
BASB023	04-Apr-01	(1.5-2.0)	0.52	33	220	0.21	2.3	6.3	11	25	0.25	1.6	17	130	0.55	1.9	16	400

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 5																		
BASB023	04-Apr-01	(4.5-5.0)	<0.24	2.1	63	0.26	0.91	4.5	16	8	0.033	<0.97	27	3.6	<0.24	<0.24	16	23
BASB023	04-Apr-01	(10.5-11.0)	<0.23	4.5	140	0.56	2	9.5	37	18	0.048	<0.92	55	6.5	<0.23	<0.23	32	40
BASB023	04-Apr-01	(14.5-15.0)	<0.24	3.5	100	0.5	2	9.1	35	20	0.067	<0.97	60	6.2	<0.24	<0.24	26	44
BASB023	04-Apr-01	(20.5-21.0)	<0.24	4.8	190	0.41	2	8	38	24	0.078	4.8	49	33	<0.24	0.25	28	120
BASB024	04-Apr-01	(1.5-2.0)	<0.23	3	130	0.36	1.5	6.7	25	17	0.06	<0.9	40	17	<0.23	<0.23	23	47
BASB024	04-Apr-01	(3.5-4.0)	<0.21	4.1	140	0.48	1.9	8.1	33	18	0.039	<0.83	50	6.4	<0.21	<0.21	30	41
BASB024	04-Apr-01	(9.5-10.0)	<0.21	3.5	120	0.53	2	8.8	35	20	0.062	<0.85	57	6.3	<0.21	<0.21	25	47
BASB024	04-Apr-01	(14.5-15.0)	<0.23	4.1	160	0.5	2	11	31	21	0.05	<0.9	60	6.4	<0.23	0.45	25	42
BASB024	04-Apr-01	(21.5-22.0)	<0.21	2.9	110	0.39	1.4	6.5	31	15	0.06	1.4	38	6.1	<0.21	<0.21	22	92
BASB025	04-Apr-01	(3.5-4.0)	<0.23	3.9	120	0.33	1.7	6.4	25	16	0.041	<0.94	35	18	0.48	<0.23	25	110
DUP	04-Apr-01	(4.5-5.0)	<0.21	3.3	150	0.45	1.7	6.6	32	20	0.023	<0.86	42	6	<0.21	0.32	29	41
BASB025	04-Apr-01	(9.5-10.0)	<0.25	3.5	110	0.44	1.7	8	30	17	0.046	<0.98	48	5.7	<0.25	<0.25	24	40
BASB025	04-Apr-01	(14.5-15.0)	<0.25	2.6	130	0.4	1.5	6.5	28	17	0.045	<0.99	43	5	<0.25	<0.25	21	37
BASB025	04-Apr-01	(24.5-25.0)	<0.22	2.5	250	0.32	1.5	7.6	29	16	0.063	<0.87	49	4.9	0.39	1.3	21	31
BASB086	04-Apr-01	(1.5-2.0)	<0.23	0.87	50	0.41	3	10	3.2	15	0.11	<0.91	18	3.4	<0.23	0.61	61	71
BASB086	04-Apr-01	(3.5-4.0)	<0.21	4.2	85	0.28	1.3	8	20	10	0.033	<0.83	37	4.6	0.39	1.5	20	27
BASB086	04-Apr-01	(9.5-10.0)	<0.23	3.5	100	0.38	1.5	6.8	28	13	0.071	<0.92	41	4.8	<0.23	0.34	25	31
BASB086	04-Apr-01	(15.5-16.0)	<0.23	3.7	120	0.45	1.7	7.8	33	18	0.062	<0.9	52	5.7	<0.23	<0.23	25	42
BASB086	04-Apr-01	(19.5-20.0)	<0.25	3.3	160	0.42	1.9	8.5	34	20	0.06	<0.99	55	5.8	<0.25	0.71	23	43
BASB087	04-Apr-01	(3.5-4.0)	<0.24	3.3	110	0.39	2.8	6.8	5.8	21	0.13	<0.96	18	14	0.62	0.51	26	92
DUP	04-Apr-01	(4.5-5.0)	<0.22	2	130	0.44	1.7	6.2	38	20	0.031	<0.89	46	5.3	<0.22	<0.22	30	43
BASB087	04-Apr-01	(9.5-10.0)	<0.21	2.8	97	0.37	1.5	7.4	27	16	0.063	<0.85	47	4.8	<0.21	<0.21	21	34
BASB087	04-Apr-01	(14.5-15.0)	<0.24	4.2	130	0.4	1.7	8.8	31	17	0.051	<0.94	48	5.8	<0.24	<0.24	25	36

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 5																		
BASB087	04-Apr-01	(24.5-25.0)	<0.22	1.9	130	0.21	1.2	5.6	20	11	0.12	<0.9	31	3.4	<0.22	0.49	23	27
Area 6																		
BASB001	02-Apr-01	(2.5-3.0)	<0.23	3.5	95	0.31	1.3	6.4	23	15	0.062	<0.9	40	8.4	<0.23	<0.23	20	39
BASB001	02-Apr-01	(4.5-5.0)	<0.23	7.7	220	0.51	2.5	18	40	21	0.047	<0.93	70	6.3	<0.23	2.3	36	51
BASB001	02-Apr-01	(9.5-10.0)	<0.23	4	160	0.4	2.2	8	33	20	0.078	<0.93	51	5.6	0.57	<0.23	26	40
BASB001	02-Apr-01	(14.5-15.0)	<0.22	3.7	140	0.48	1.8	8.7	31	19	0.068	<0.9	57	6.5	<0.22	<0.22	25	44
BASB001	02-Apr-01	(22.5-23.0)	<0.23	3.2	120	0.39	1.5	6.5	28	14	0.047	<0.91	44	7.2	<0.23	<0.23	22	35
BASB002	31-Mar-01	(2.5-3.0)	<0.23	4.3	110	0.23	2.3	7.9	24	20	0.047	<0.9	39	24	<0.23	<0.23	25	48 J
BASB005	31-Mar-01	(2.5-3.0)	<0.23	4	170	0.52	1.6	7.8	31	19	0.027	<0.91	48	5.7	<0.23	0.27	25	37 J
BASB011	05-Apr-01	(2.5-3.0)	<0.23	1.7	49	0.14	0.88	3.7	11	7	0.026	<0.92	19	4.3	0.44	<0.23	14	25
BASB017	05-Apr-01	(2.5-3.0)	<0.22	3.4	100	0.37	1.5	6.6	28	15	0.026	<0.88	39	5.7	0.24	0.29	28	37
BASB021	29-Mar-01	(0.5-1.0)	<0.23	18	120	0.41	2.1	7.3	25	31	0.1	<0.93	29	19	<0.23	0.81	43	93
BASB021	29-Mar-01	(4.5-5.0)	<0.2	1.7	88	0.4	1.1	6.1	22	16	0.033	<0.79	37	4.7	<0.2	0.33	20	31
BASB021	29-Mar-01	(9.5-10.0)	<0.24	4.4	130	0.6	1.9	10	38	23	0.07	<0.97	57	7.4	<0.24	0.53	35	49
BASB021	29-Mar-01	(14.5-15.0)	<0.23	3.6	140	0.51	1.6	8.5	33	18	0.056	<0.91	51	6	<0.23	0.54	27	39
BASB021	29-Mar-01	(24.5-25.0)	<0.23	2.8	110	0.4	1.4	6.7	29	15	0.055	<0.91	47	4.8	<0.23	0.5	24	31
BASB051	02-Apr-01	(2.5-3.0)	<0.23	2.3	100	0.36	1.3	6.2	23	14	0.033	<0.9	42	4.7	<0.23	<0.23	16	33
BASB051	02-Apr-01	(9.5-10.0)	<0.21	2.6	95	0.32	1.3	6	22	14	0.061	<0.85	36	4.8	<0.21	<0.21	20	33
BASB051	02-Apr-01	(14.5-15.0)	<0.23	3	120	0.37	1.6	7.1	27	18	0.07	<0.93	46	5.5	<0.23	<0.23	24	40
BASB051	02-Apr-01	(22.5-23.0)	<0.22	2.8	83	0.26	1.1	5.2	17	11	0.092	<0.89	30	4.3	<0.22	<0.22	16	51
BASB081	05-Apr-01	(2.5-3.0)	<0.22	3.6	130	0.36	1.6	8.1	31	19	0.044	<0.87	45	10	0.29	0.39	29	47
BASB081	05-Apr-01	(4.5-5.0)	<0.22	2.9	98	0.29	1.2	5.2	24	13	0.05	<0.9	35	4.1	0.25	<0.22	22	30
BASB081	05-Apr-01	(9.5-10.0)	<0.23	2.7	120	0.38	1.2	6.1	25	13	0.056	<0.92	36	4.7	<0.23	<0.23	18	28

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn	
Area 7																			
DUP	21-Mar-01	(5.0-5.5)	<0.25	3.6	160	0.52	1.7	9.2	35	18	0.022	<0.99	47 J	6	<0.25	<0.25	30	40 J	
BASB058	21-Mar-01	(9.5-10.0)	<0.21	2.7	120	0.47	1.5	4.5	32	15	0.052	<0.85	38 J	4.3	<0.21	<0.21	19	34 J	
BASB058	21-Mar-01	(14.5-15.0)	<0.23	2.1	130	0.41	1.5	6.7	28	14	0.043	<0.93	41 J	4.9	<0.23	<0.23	20	34 J	
BASB058	21-Mar-01	(24.5-25.0)	<0.21	2.4	120	0.37	1.6	6.7	34	16	0.067	<0.85	51 J	5	<0.21	<0.21	21	38 J	
BASB080	03-Apr-01	(1.5-2.0)	<0.25	3.6	140	0.47	1.8	8.5	35	19	0.098	<1	49	8.6	<0.25	<0.25	31	45	
BASB080	03-Apr-01	(4.5-5.0)	<0.21	3.5	130	0.43	1.7	7.7	32	16	0.16	<0.86	46	4.9	<0.21	<0.21	29	38	
BASB080	03-Apr-01	(9.5-10.0)	<0.21	4.6	160	0.6	2.2	9.9	45	23	0.067	<0.82	61	6.5	<0.21	<0.21	33	50	
BASB080	03-Apr-01	(14.5-15.0)	<0.22	3.8	130	0.49	1.8	7.7	36	18	0.091	<0.88	56	5.6	<0.22	0.38	27	42	
BASB080	03-Apr-01	(23.5-24.0)	<0.25	0.58	36	0.12	0.38	1.8	9.3	4.3	0.063	<0.99	16	1.3	<0.25	<0.25	4.8	11	
Area 8																			
BASB050	20-Mar-01	(2.0-2.5)	<0.22	4.5	160	0.45	1.8	7.3	30	23	0.028	<0.88	45	38	<0.22	0.46	28	77	
BASB050	20-Mar-01	(4.5-5.0)	<0.23	4.3	170	0.56	1.8	12	35	19	0.032	<0.92	50	6.6	<0.23	0.7	29	41	
BASB050	20-Mar-01	(9.5-10.0)	<0.24	2.6	120	0.46	1.6	7.6	31	18	0.21	<0.96	49	5.6	<0.24	0.46	20	41	
BASB050	20-Mar-01	(14.5-15.0)	<0.2	4.5	100	0.33	1.6	7.8	34	14	0.058	<0.82	44	3.6	<0.2	0.78	24	29	
BASB050	20-Mar-01	(24.5-25.0)	<0.22	1.5	90	0.32	1.3	4.1	31	13	0.068	<0.86	40	3.7	<0.22	<0.22	17	32	
BASB060	05-Apr-01	(0.0-0.5)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	NA	NA	NA	NA	
BASB061	05-Apr-01	(0.0-0.5)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	
BASB062	05-Apr-01	(0.0-0.5)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	
BASB063	05-Apr-01	(0.0-0.5)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	
BASB065	22-Mar-01	(0.0-0.5)	<0.23	7.5	150	0.42	1.9	8.1	32	25	0.1	<0.92	48 J	31	0.37	<0.23	29	82 J	
Area 9																			
BASB088	09-Jul-01	(3.0-3.5)	<0.25	3	120	0.37	1.5	7.5	30	17	0.047	<1	46	4.9	<0.25	<0.25	26	35	
DUP	09-Jul-01	(3.0-3.5)	<0.25	3.4	92	0.32	1.6	6.5	26	13	0.36	<1	41	4.8	0.45	<0.25	25	33	

Table 11
 Title 22 Metals Detected in Soil
 Batarese Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
Area 9																		
BASB088	09-Jul-01	(4.5-5.0)	<0.25	3.4	170	0.48	1.7	10	34	20	0.042	<0.98	53	6.3	<0.25	<0.25	28	39
BASB088	09-Jul-01	(9.5-10.0)	<0.25	2.7	150	0.47	1.7	7.8	38	21	0.067	<1	53	6	<0.25	<0.25	25	42
BASB088	09-Jul-01	(14.5-15.0)	<0.24	2.6	140	0.39	1.7	7.9	36	21	0.071	<0.95	49	7.1	<0.24	<0.24	24	44
BASB088	09-Jul-01	(25.0-25.5)	<0.24	2.9	110	0.33	1.5	9.3	28	18	0.074	<0.95	51	6.5	<0.24	<0.24	21	34
BASB089	09-Jul-01	(3.0-3.5)	<0.25	2.3	110	0.35	1.2	6	26	15	0.051	<0.99	37	4.9	<0.25	<0.25	20	33
BASB089	09-Jul-01	(4.5-5.0)	<0.24	3	160	0.51	1.5	7.4	34	18	0.044	<0.95	46	6.3	<0.24	<0.24	25	40
BASB089	09-Jul-01	(9.5-10.0)	<0.24	3.5	160	0.49	1.9	9	39	22	0.058	<0.95	60	6.1	<0.24	<0.24	28	46
BASB089	09-Jul-01	(14.5-15.0)	<0.25	2	130	0.4	1.6	7	32	18	0.079	<1	49	4.7	<0.25	<0.25	22	38
BASB089	09-Jul-01	(27.0-27.5)	<0.24	4.5	130	0.44	1.9	8	41	25	0.06	<0.95	56	7.3	<0.24	<0.24	28	47
BASB090	09-Jul-01	(2.0-2.5)	<0.25	7.6	94	0.18	2.5	6.7	24	52	0.05	<0.98	44	66	0.39	<0.25	25	83
DUP	09-Jul-01	(2.0-2.5)	<0.25	5.9	100	0.23	2.5	7.8	29	34	0.049	<1	49	43	0.82	<0.25	26	71
BASB090	09-Jul-01	(4.5-5.0)	<0.24	2.9	170	0.49	1.7	7.4	35	21	0.13	<0.96	48	6.4	<0.24	<0.24	27	44
BASB090	09-Jul-01	(9.5-10.0)	<0.24	3	150	0.49	1.9	9.1	38	23	0.096	<0.98	64	6.3	<0.24	<0.24	28	46
BASB090	09-Jul-01	(14.5-15.0)	<0.25	2.1	120	0.33	1.4	6.1	27	15	0.14	<1	40	4.1	<0.25	<0.25	23	34
BASB090	09-Jul-01	(25.0-25.5)	<0.25	3.3	150	0.42	1.8	6.9	45	21	0.065	<1	54	5.9	<0.25	<0.25	28	44

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

J = Reported value is estimated.

bgs = below ground surface

DUP = Duplicate sample

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for mercury using EPA test method 7470 and EPA test method 7470A and all other metals were analyzed by EPA test method 6010B.

Ag = Silver As = Arsenic Ba = Barium Be = Beryllium Cd = Cadmium Co = Cobalt Cr = Chromium Cu = Copper

Table 11
Title 22 Metals Detected in Soil
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Tl	V	Zn
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Hg = Mercury Mo = Molybdenum Ni = Nickel Pb = Lead Se = Selenium Tl = Thallium V = Vanadium Zn = Zinc

Table 12
Total Petroleum Hydrocarbons Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 1							
BASB026	28-Mar-01	130 Y	< 50	< 300	< 50	NA	NA
DUP	28-Mar-01	140 Y	< 50	< 300	< 50	NA	NA
BASB027	27-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB028	27-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB029	23-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB030	23-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB031	26-Mar-01	800 YL	610 YH	< 300	920 YLb	NA	320
BASB032	26-Mar-01	61 Y	< 50	< 300	< 50	NA	NA
BASB033	26-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB034	27-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB036	22-Mar-01	73 Y	< 50	< 300	< 50	NA	NA
BASB037	22-Mar-01	100 Y	< 50	< 300	< 50	NA	NA
BASB070	03-Apr-01	< 50	< 50	< 300	NA	< 50	NA
BASB071	03-Apr-01	150 YL	320 Y	< 300	NA	240	NA
BASB072	05-Apr-01	80 Y	< 50	< 300	NA	< 50	NA
BASB073	02-Apr-01	73 Y	< 50	< 300	NA	< 50	NA
BASB074	02-Apr-01	< 50	< 50	< 300	NA	< 50	NA
BASB075	02-Apr-01	< 50	< 50	< 300	NA	< 50	NA
BASB076	30-Mar-01	530 Y	< 50	530	< 50	NA	NA
BASB077	30-Mar-01	52 Y	< 50	< 300	< 50	NA	NA
BASB078	05-Apr-01	< 50	< 50	< 300	NA	< 50	NA
BASB082	05-Apr-01	< 50	< 50	< 300	NA	< 50	NA
Area 2							
BASB006	31-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB007	31-Mar-01	70 Y	< 50	< 300	< 50	NA	NA
BASB008	21-Mar-01	150 YZ	< 50	< 300	< 50	NA	NA
Area 3							
BADW001	23-Mar-01	< 50	< 50	< 300	< 50	NA	NA
BASB040	03-Apr-01	< 50	< 50	< 300	NA	< 50	NA
BASB041	28-Mar-01	120 Y	< 50	< 300	< 50	NA	NA
Area 4							
BASB012	19-Mar-01	61 Y	< 50	< 300	< 50	NA	NA
BASB016	04-Apr-01	71 Y	< 50	< 300	NA	< 50	NA
DUP	04-Apr-01	61 Y	< 50	< 300	NA	< 50	NA

Table 12
Total Petroleum Hydrocarbons Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
Area 5							
BASB022	04-Apr-01	110 Y	<50	<300	NA	<50	NA
BASB023	04-Apr-01	310 YH	<50	1100	NA	<50	NA
BASB024	04-Apr-01	<50	<50	<300	NA	<50	NA
BASB025	04-Apr-01	<50	<50	<300	NA	<50	NA
BASB086	04-Apr-01	<50	<50	<300	NA	<50	NA
BASB087	04-Apr-01	<50	<50	<300	NA	<50	NA
Area 6							
BASB001	02-Apr-01	360 YH	<50	1200 Y	NA	<50	NA
BASB021	29-Mar-01	66 Y	<50	<300	<50	NA	NA
BASB051	02-Apr-01	20000 Y	19000	<3000	NA	14000 Y	NA
BASB081	05-Apr-01	210000 Y	7700	<15000	NA	5800 Y	NA
DUP	05-Apr-01	90000 Y	7200	<7500	NA	5400 Y	NA
Area 7							
BASB018	05-Apr-01	160 YH	<50	<300	NA	<50	NA
BASB019	05-Apr-01	<50	<50	<300	NA	<50	NA
DUP	05-Apr-01	<50	<50	<300	NA	<50	NA
BASB052	02-Apr-01	100 YH	<50	360 YH	NA	<50	NA
BASB053	03-Apr-01	<50	<50	<300	NA	<50	NA
BASB054	03-Apr-01	<50	<50	<300	NA	<50	NA
BASB055	29-Mar-01	51 Y	<50	<300	<50	NA	NA
BASB056	30-Mar-01	<50	<50	<300	<50	NA	NA
BASB057	28-Mar-01	<50	<50	<300	<50	NA	NA
BASB058	21-Mar-01	57 Y	<50	<300	<50	NA	NA
BASB080	03-Apr-01	<50	<50	<300	NA	<50	NA
Area 8							
BASB050	20-Mar-01	65 Y	<50	<300	<50	NA	NA
Area 9							
BASB088	09-Jul-01	<50	<50	<300	NA	NA	NA
DUP	09-Jul-01	NA	<50	NA	NA	NA	NA
BASB089	09-Jul-01	<50	<50	<300	NA	NA	NA
BASB090	09-Jul-01	<50	<50	<300	NA	NA	NA

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

b = Continuing calibration verification percent difference was slightly above acceptance limits in batch.
DUP = Duplicate sample

Table 12
Total Petroleum Hydrocarbons Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	TPHd	TPHg	TPHmo	TPHms	TPHpt	TPHss
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H = Heavier hydrocarbons contributed to the quantitation.

J = Reported value is estimated.

L = Lighter hydrocarbons contributed to the quantitation.

Y = Sample exhibits fuel pattern which does not resemble standard.

Z = Sample exhibits unknown single peak or peaks.

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

TPHmo = total petroleum hydrocarbons as motor oil

TPHms = total petroleum hydrocarbons as mineral spirits

TPHpt = total petroleum hydrocarbons as paint thinner

TPHss = total petroleum hydrocarbons as stoddard solvent

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for all compounds using EPA test method 8015 modified.

Table 13
Volatile Organic Compounds Detected in Groundwater
Batarse Site, Oakland, California

Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	1,2,4-TMB	1,2,5-TMB	CF	cis-1,2-DCE	CS2	EBENZ	ISPB	m,p-XYL	MTBE	NAPH	n-BBENZ	PBENZ	PCE	p-ISPT	s-BBENZ	TCE	TOL	VC
Area 1																			
BASB026	28-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP	28-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB027	27-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB028	27-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB029	23-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB030	23-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB031	26-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB032	26-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB033	26-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB034	27-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB036	22-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB037	22-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB070	03-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB071	03-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB072	05-Apr-01	<0.5	<0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB073	02-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB074	02-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB075	02-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB076	30-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB077	30-Mar-01	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB078	05-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB082	05-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 2																			
BASB006	31-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5
BASB007	31-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5
BASB008	21-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5

Table 13
Volatile Organic Compounds Detected in Groundwater
Batarse Site, Oakland, California

Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	1,2,4-TMB	1,2,5-TMB	CF	cis-1,2-DCE	CS2	EBENZ	ISPB	m,p-XYL	MTBE	NAPH	n-BBENZ	PBENZ	PCE	P-ISPT	s-BBENZ	TCE	TOL	VC
Area 3																			
BADW001	23-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB040	03-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB041	28-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 4																			
BASB012	19-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB016	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5
DUP	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5
Area 5																			
BASB022	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB023	04-Apr-01	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	1.1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB024	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB025	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB086	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB087	04-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 6																			
BASB001	02-Apr-01	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	5.2	<0.5	<0.5
BASB021	29-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB051	02-Apr-01	2600	820	<8.3	9.7	<8.3	210	190	390	<8.3	180	550	700	<8.3	65	140	15	<8.3	<8.3
BASB081	05-Apr-01	610	110	<2.5	7.5	<2.5	32	89	56	<2.5	78	110	250	<2.5	14	32	5.4	<2.5	4.4
DUP	05-Apr-01	580	110	<2.5	10	<2.5	31	93	54	<2.5	68	93	240	<2.5	14	31	11	<2.5	5.7
Area 7																			
BASB018	05-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB019	05-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP	05-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB052	02-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB053	03-Apr-01	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 13
Volatile Organic Compounds Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	1,2,4-TMB	1,2,5-TMB	CF	cis-1,2-DCE	CS2	EBENZ	ISPB	m,p-XYL	MTBE	NAPH	n-BENZ	PBENZ	PCE	P-ISPT	s-BENZ	TCE	TOL	VC
Area 7																			
BASB054	03-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5
BASB055	29-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB056	30-Mar-01	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB057	28-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB058	21-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB080	03-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 8																			
BASB050	20-Mar-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 9																			
BASB088	09-Jul-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP	09-Jul-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB089	09-Jul-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BASB090	09-Jul-01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

DUP = Duplicate sample

J = Reported value is estimated.

VOCs = volatile organic compounds

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for VOCs using EPA test method 8260B.

1,2,4-TMB = 1,2,4-Trimethylbenzene

1,2,5-TMB = 1,3,5-Trimethylbenzene

CF = Chloroform

c-1,2-DCE = cis-1,2-Dichloroethene

CS2 = Carbon Disulfide

EBENZ = Ethylbenzene

ISPB = Isopropylbenzene

m,p-XYL = m,p-Xylenes

Table 13
Volatile Organic Compounds Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	1,2,4-TMB	1,2,5-TMB	CF	cis-1,2-DCE	CS2	EBENZ	ISPB	m,p-XYL	MTBE	NAPH	n-BBENZ	pBBENZ	PCE	p-ISPT	s-BBENZ	TCE	TOL	VC
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MTBE = Methyl-tertiary-butyl ether
n-BBENZ = n-Butylbenzene
NAPH = Naphthalene
p-ISPT = para-Isopropyl Toluene
pBBENZ = Propylbenzene
PCE = Tetrachloroethene
s-BBENZ = sec-Butylbenzene
TCE = Trichloroethene
TOL = Toluene
VC = Vinyl chloride

Other Detected Compounds:

- 1.2 µg/l of Bromodichloromethane was detected at BASB072 on 04/05/2001
- 7.3 µg/l of Bromoform was detected at BASB075 on 04/02/2001
- 0.6 µg/l of Dibromochloromethane was detected at BASB075-DUP on 04/02/2001
- 0.5 µg/l of Trichlorofluoromethane was detected at BADW001 on 03/23/2001
- 1.4 µg/l of Styrene was detected at BASB016 on 04/04/2001
- 0.6 µg/l of Styrene was detected at BASB016-DUP on 04/04/2001

Table 14
Semivolatile Organic Compounds
Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	2-MNAPH	DEHP	NAPH
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Area 1

BASB071	03-Apr-01	<9.4	<9.4	<9.4
BASB071	03-Apr-01	NA	<3	NA
BASB072	05-Apr-01	<9.4	<9.4	<9.4
BASB072	05-Apr-01	NA	3.1	NA
BASB078	05-Apr-01	<9.6	<9.6	<9.6
BASB078	05-Apr-01	NA	<3	NA

Area 3

BASB040	03-Apr-01	<9.4	<9.4	<9.4
BASB040	03-Apr-01	NA	<3	NA

Area 6

BASB051	03-Apr-01	<9.9	<9.9	<9.9
BASB051	03-Apr-01	NA	<3	NA
BASB081	05-Apr-01	15000	<4800	7000
BASB081	05-Apr-01	NA	<3	NA
DUP	05-Apr-01	570	<470	<470
DUP	05-Apr-01	NA	<60	NA

Area 7

BASB018	05-Apr-01	<9.4	<9.4	<9.4
BASB018	05-Apr-01	NA	<3	NA
BASB019	05-Apr-01	<9.4	<9.4	<9.4
BASB019	05-Apr-01	NA	<3	NA
DUP	05-Apr-01	<9.6	<9.6	<9.6
DUP	05-Apr-01	NA	<3	NA
BASB053	03-Apr-01	<9.6	<9.6	<9.6
BASB053	03-Apr-01	NA	<3	NA
BASB054	03-Apr-01	<9.7	<9.7	<9.7
BASB054	03-Apr-01	NA	<3	NA
BASB058	21-Mar-01	<10	<10	<10
BASB058	21-Mar-01	NA	<3	NA
BASB080	03-Apr-01	<10	<10	<10
BASB080	03-Apr-01	NA	<3	NA

Table 14
Semivolatile Organic Compounds
Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter ($\mu\text{g/l}$)

Location ID	Date Sampled	2-MNAPH	DEHP	NAPH
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Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

J = Reported value is estimated.

DUP = Duplicate sample

NA = Not analyzed

SVOCs = Semivolatile organic compounds

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for SVOCs using EPA method 8270C. The second record for any sample was analyzed by BC Laboratories using EPA method 525.2.

2-MNAPH = 2-Methylnaphthalene

DEHP = Bis(2-Ethylhexyl) phthalate

NAPH = Naphthalene

Table 15
Title 22 Metals Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	As	Ba	Co	Cu	Mo	Ni	Pb	Sb	Zn
Area 1										
BASB036	22-Mar-01	<5	98	<20	<10	<20	<20	<3	<1	<20
BASB037	22-Mar-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB029	23-Mar-01	<5	77	<20	<10	<20	<20	<3	<1	<20
BASB030	23-Mar-01	<5	64	<20	<10	<20	<20	<3	<1	<20
BASB031	26-Mar-01	<5	73	<20	<10	<20	<20	<3	<1	<20
BASB032	26-Mar-01	<5	99	<20	<10	<20	<20	<3	<1	<20
BASB033	26-Mar-01	<5	110	50	<10	<20	<20	<3	<1	<20
BASB027	27-Mar-01	<5	100	<20	<10	<20	<20	<3	<1	<20
BASB028	27-Mar-01	<5	120	<20	<10	<20	<20	<3	<1	<20
BASB034	27-Mar-01	<5	120	<20	<10	<20	<20	<3	<1	<20
BASB026	28-Mar-01	<5	97	37	15	<20	130	<3	<1	<20
DUP	28-Mar-01	<5	95	37	16	<20	130	<3	<1	<20
BASB076	30-Mar-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB077	30-Mar-01	<5	140	<20	<10	<20	<20	<3	<1	<20
BASB073	02-Apr-01	<5	99	<20	<10	<20	<20	<3	<1	<20
BASB074	02-Apr-01	<5	87	<20	<10	<20	<20	<3	<1	<20
BASB075	02-Apr-01	<5	100	<20	<10	<20	<20	<3	<1	<20
BASB070	03-Apr-01	<5	77	<20	<10	<20	<20	<3	<1	<20
BASB071	03-Apr-01	<5	92	<20	<10	<20	<20	<3	<1	<20
BASB072	05-Apr-01	<5	100	<20	<10	<20	<20	<3	<1	<20
BASB078	05-Apr-01	<5	28	<20	<10	<20	<20	<3	<1	<20
BASB082	05-Apr-01	<5	79	<20	<10	<20	<20	<3	<1	<20
Area 2										
BASB008	21-Mar-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB006	31-Mar-01	<5	120	<20	<10	<20	<20	<3	<1	<20
BASB007	31-Mar-01	<5	120	<20	<10	<20	<20	<3	<1	<20
Area 3										
BADW001	23-Mar-01		130						1.3	
BASB041	28-Mar-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB040	03-Apr-01	<5	99	<20	<10	<20	<20	<3	<1	<20
Area 4										
BASB012	19-Mar-01	<5	110	<20 J	<10 J	<20	<20 J	<3	<1	<20 J
BASB016	04-Apr-01	<5	99	<20	<10	<20	33	<3	<1	<20
DUP	04-Apr-01	<5	95	<20	<10	<20	33	<3	<1	<20

Table 15
Title 22 Metals Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	As	Ba	Co	Cu	Mo	Ni	Pb	Sb	Zn
Area 5										
BASB022	04-Apr-01	<5	66	<20	<10	<20	38	<3	<1	<20
BASB023	04-Apr-01	<5	90	<20	<10	25	69	<3	<1	<20
BASB024	04-Apr-01	<5	91	<20	<10	<20	<20	<3	<1	<20
BASB025	04-Apr-01	<5	90	<20	<10	<20	64	<3	<1	<20
BASB086	04-Apr-01	<5	68	<20	<10	<20	<20	<3	<1	<20
BASB087	04-Apr-01	<5	68	<20	<10	<20	39	<3	<1	<20
Area 6										
BASB021	29-Mar-01	<5	130	<20	<10	<20	<20	<3	<1	<20
BASB001	02-Apr-01	<5	94	<20	<10	<20	<20	<3	<1	<20
BASB051	02-Apr-01	<5	88	<20	<10	36	23	<3	<1	<20
BASB081	05-Apr-01	9.4	230	<20	<10	<20	26	12	<1	26
DUP	05-Apr-01	9.1	230	<20	<10	<20	23	16	<1	<20
Area 7										
BASB058	21-Mar-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB057	28-Mar-01	<5	120	<20	<10	<20	<20	<3	<1	27
BASB055	29-Mar-01	<5	95	<20	<10	<20	<20	<3	<1	<20
BASB056	30-Mar-01	<5	99	<20	<10	<20	<20	<3	<1	<20
BASB052	02-Apr-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB053	03-Apr-01	<5	87	<20	<10	<20	<20	<3	<1	<20
BASB054	03-Apr-01	<5	69	<20	<10	<20	<20	<3	<1	<20
BASB080	03-Apr-01	<5	79	<20	<10	<20	<20	<3	<1	<20
BASB018	05-Apr-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB019	05-Apr-01	<5	90	<20	<10	<20	<20	<3	<1	44
DUP	05-Apr-01	<5	87	<20	<10	<20	<20	<3	<1	<20
Area 8										
BASB050	20-Mar-01	<5	2000	<20	<10	<410	<20	100	490	<20
Area 9										
BASB088	09-Jul-01	<5	72	<20	<10	<20	<20	<3	<1	<20
DUP	09-Jul-01	<5	74	<20	<10	20	<20	<3	<1	<20
BASB089	09-Jul-01	<5	110	<20	<10	<20	<20	<3	<1	<20
BASB090	09-Jul-01	<5	70	<20	<10	<20	<20	<3	<1	<20

Table 15
Title 22 Metals Detected in Groundwater
Batarse Site, Oakland, California
Concentrations in micrograms per liter ($\mu\text{g/l}$)

Location ID	Date Sampled	As	Ba	Co	Cu	Mo	Ni	Pb	Sb	Zn
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Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

DUP = Duplicate sample

J = Reported value is estimated.

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for metals using EPA test method 6020A.

As = Silver Ba = Barium Co = Cobalt Cu = Copper Mo = Molybdenum
Ni = Nickel Pb = Lead Sb = Antimony Zn = Zinc

Table 16
Total Petroleum Hydrocarbons in Soil -
Concentrations Above 100 mg/kg
Batarse Site, Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Chemical	Result	Comparison Value
Area 1					
BASB027	27-Mar-01	(3.50-4.00)	TPHmo	120 YH	100
BASB031	26-Mar-01	(6.50-7.00)	TPHg	440 JYH	100
BASB031	26-Mar-01	(6.50-7.00)	TPHms	480 JYL	100
BASB031	26-Mar-01	(6.50-7.00)	TPHss	220 J	100
BASB031	26-Mar-01	(9.50-10.00)	TPHg	490 JYH	100
BASB031	26-Mar-01	(9.50-10.00)	TPHms	530 JYL	100
BASB031	26-Mar-01	(9.50-10.00)	TPHss	250 J	100
BASB031	26-Mar-01	(14.50-15.00)	TPHg	180 JYH	100
BASB031	26-Mar-01	(14.50-15.00)	TPHms	190 JYL	100
BASB032-DUP	26-Mar-01	(4.50-5.00)	TPHmo	360	100
BASB033	26-Mar-01	(3.50-4.00)	TPHmo	240	100
BASB036	22-Mar-01	(3.50-4.00)	TPHd	160 YH	100
BASB036	22-Mar-01	(3.50-4.00)	TPHmo	630	100
BASB073	02-Apr-01	(2.50-3.00)	TPHmo	120 Y	100
BASB077	30-Mar-01	(3.50-4.00)	TPHd	270 YH	100
BASB077	30-Mar-01	(3.50-4.00)	TPHmo	2200 Y	100
Area 5					
BASB022	04-Apr-01	(1.50-2.00)	TPHd	220 YL	100
BASB022	04-Apr-01	(1.50-2.00)	TPHmo	1300	100
BASB022	04-Apr-01	(4.50-5.00)	TPHd	970 YL	100
BASB022	04-Apr-01	(4.50-5.00)	TPHmo	490	100
BASB022	04-Apr-01	(9.50-10.00)	TPHd	600 YL	100
BASB022	04-Apr-01	(9.50-10.00)	TPHmo	300	100
BASB023	04-Apr-01	(20.50-21.00)	TPHmo	150	100
Area 6					
BASB001	02-Apr-01	(22.50-23.00)	TPHmo	140 Y	100
BASB002	31-Mar-01	(2.50-3.00)	TPHd	150 YH	100
BASB002	31-Mar-01	(2.50-3.00)	TPHmo	1000 Y	100
Area 7					
BASB018	05-Apr-01	(11.50-12.00)	TPHmo	130	100
BASB019	05-Apr-01	(2.00-2.50)	TPHmo	330	100
BASB052	02-Apr-01	(3.50-4.00)	TPHmo	290 Y	100
BASB052	02-Apr-01	(24.50-25.00)	TPHmo	480	100
BASB053	03-Apr-01	(1.50-2.00)	TPHmo	460 YH	100

Table 16
Total Petroleum Hydrocarbons in Soil -
Concentrations Above 100 mg/kg
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Chemical	Result	Comparison Value
Area 7					
BASB054	03-Apr-01	(1.50-2.00)	TPHmo	290	100
BASB054	03-Apr-01	(21.50-22.00)	TPHmo	170	100
BASB056	30-Mar-01	(3.50-4.00)	TPHmo	120 Y	100
BASB058	21-Mar-01	(3.50-4.00)	TPHmo	310 Y	100
Area 8					
BASB061	05-Apr-01	(0.00-0.50)	TPHmo	120	100
Area 9					
BASB090	09-Jul-01	(2.00-2.50)	TPHmo	360	100
BASB090-DUP	09-Jul-01	(2.00-2.50)	TPHmo	310	100

Data prepared by: TIH . Data QA/QC by: LDF .

Notes:

bgs = below ground surface

DUP = Duplicate sample

H = Heavier hydrocarbons contributed to the quantitation.

J = Reported value is estimated.

L = Lighter hydrocarbons contributed to the quantitation.

Y = Sample exhibits fuel pattern which does not resemble standard.

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

TPHmo = total petroleum hydrocarbons as motor oil

TPHms = total petroleum hydrocarbons as mineral spirits

TPHpt = total petroleum hydrocarbons as paint thinner

TPHss = total petroleum hydrocarbons as stoddard solvent

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for all compounds using EPA test method 8015 modified.

Table 17
Title 22 Metals in Soil - Concentrations Above Background Levels
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Chemical	Result	Background Level
Area 1					
BASB026	28-Mar-01	(4.00-4.50)	Pb	22.0	16.1
BASB027	27-Mar-01	(4.00-4.50)	Pb	74.0	16.1
BASB027	27-Mar-01	(4.00-4.50)	Zn	140.0	106.1
BASB027	27-Mar-01	(15.00-15.50)	Hg	1.1	0.4
BASB028	27-Mar-01	(1.00-1.50)	Pb	83.0	16.1
BASB028	27-Mar-01	(1.00-1.50)	Zn	120.0	106.1
BASB033	26-Mar-01	(4.00-4.50)	Ba	340.0	323.6
BASB033	26-Mar-01	(4.00-4.50)	Pb	160.0	16.1
BASB033	26-Mar-01	(4.00-4.50)	Zn	430.0	106.1
BASB034	27-Mar-01	(4.00-4.50)	Pb	24.0	16.1
BASB036	22-Mar-01	(4.00-4.50)	Cd	3.1	2.7
BASB070	03-Apr-01	(3.50-4.00)	Pb	27.0	16.1
BASB071	03-Apr-01	(2.00-2.50)	Pb	130.0	16.1
BASB071	03-Apr-01	(2.00-2.50)	Zn	240.0	106.1
BASB072	05-Apr-01	(2.50-3.00)	Pb	44.0	16.1
BASB072	05-Apr-01	(2.50-3.00)	Zn	110.0	106.1
BASB077	30-Mar-01	(4.00-4.50)	Pb	30.0	16.1
BASB078	05-Apr-01	(4.00-4.50)	Pb	20.0	16.1
Area 2					
BASB008	21-Mar-01	(4.00-4.50)	Pb	26.0	16.1
Area 3					
BASB041	28-Mar-01	(4.00-4.50)	Pb	28.0	16.1
BASB041	28-Mar-01	(5.00-5.50)	Pb	49.0	16.1
Area 4					
BASB012	19-Mar-01	(4.00-4.50)	Pb	17.0	16.1
BASB013	20-Mar-01	(3.00-3.50)	Cr	160.0	99.6
BASB016	04-Apr-01	(2.50-3.00)	Pb	60.0	16.1
Area 5					
BASB022	04-Apr-01	(2.00-2.50)	Pb	31.0	16.1
BASB022	04-Apr-01	(5.00-5.50)	Pb	63.0	16.1
BASB022	04-Apr-01	(10.00-10.50)	Pb	23.0	16.1
BASB023	04-Apr-01	(2.00-2.50)	As	33.0	19.1
BASB023	04-Apr-01	(2.00-2.50)	Pb	130.0	16.1
BASB023	04-Apr-01	(2.00-2.50)	Zn	400.0	106.1
BASB023	04-Apr-01	(21.00-21.50)	Pb	33.0	16.1

Table 17
Title 22 Metals in Soil - Concentrations Above Background Levels
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Chemical	Result	Background Level
Area 5					
BASB023	04-Apr-01	(21.00-21.50)	Zn	120.0	106.1
BASB024	04-Apr-01	(2.00-2.50)	Pb	17.0	16.1
BASB025	04-Apr-01	(4.00-4.50)	Pb	18.0	16.1
BASB025	04-Apr-01	(4.00-4.50)	Zn	110.0	106.1
BASB086	04-Apr-01	(2.00-2.50)	Cd	3.0	2.7
BASB087	04-Apr-01	(4.00-4.50)	Cd	2.8	2.7
Area 6					
BASB002	31-Mar-01	(3.00-3.50)	Pb	24.0	16.1
BASB021	29-Mar-01	(1.00-1.50)	Pb	19.0	16.1
Area 7					
BASB019	05-Apr-01	(2.50-3.00)	Pb	54.0	16.1
BASB019	05-Apr-01	(2.50-3.00)	Zn	130.0	106.1
BASB052	02-Apr-01	(4.00-4.50)	Zn	130.0	106.1
BASB052	02-Apr-01	(25.00-25.50)	Zn	150.0	106.1
BASB055	29-Mar-01	(8.50-9.00)	Pb	20.0	16.1
BASB056	30-Mar-01	(25.00-25.50)	Ba	410.0	323.6
BASB057	28-Mar-01	(4.00-4.50)	Pb	140.0	16.1
BASB057	28-Mar-01	(4.00-4.50)	Zn	140.0	106.1
Area 8					
BASB050	20-Mar-01	(2.50-3.00)	Pb	38.0	16.1
BASB060	05-Apr-01	(0.00-0.50)	Pb	36.0	16.1
BASB061	05-Apr-01	(0.00-0.50)	Pb	130.0	16.1
BASB062	05-Apr-01	(0.00-0.50)	Pb	18.0	16.1
BASB063	05-Apr-01	(0.00-0.50)	Pb	110.0	16.1
BASB065	22-Mar-01	(0.00-0.50)	Pb	31.0	16.1
Area 9					
BASB090	09-Jul-01	(2.50-3.00)	Pb	66.0	16.1
DUP	09-Jul-01	(2.50-3.00)	Pb	43.0	16.1

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

Metals background concentrations from Oakland Urban Land Development.

bgs = below ground surface

DUP = Duplicate sample

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for mercury using EPA test method 7470 and EPA test method 7470A and all other metals were analyzed by EPA test method 6010B.

As = Arsenic Ba = Barium Cd = Cadmium Cr = Chromium

Table 17
Title 22 Metals in Soil - Concentrations Above Background Levels
Batarse Site, Oakland, California
Concentrations in milligrams per kilogram (mg/kg)

Location ID	Date Sampled	Depth (feet bgs)	Chemical	Result	Background Level
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Hg = Mercury Pb = Lead Zn = Zinc

Table 18
Total Petroleum Hydrocarbons in Water -
Concentrations Above SNARLs
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	Chemical	Result	SNARL value
Area 1				
BASB026	28-Mar-01	TPHd	130 Y	100
DUP	28-Mar-01	TPHd	140 Y	100
BASB031	26-Mar-01	TPHd	800 YL	100
BASB031	26-Mar-01	TPHg	610 YH	5
BASB031	26-Mar-01	TPHms	920 YLb	5
BASB031	26-Mar-01	TPHss	320	5
BASB032	26-Mar-01	TPHd	61 Y	100
BASB036	22-Mar-01	TPHd	73 Y	100
BASB037	22-Mar-01	TPHd	100 Y	100
BASB071	03-Apr-01	TPHd	150 YL	100
BASB071	03-Apr-01	TPHg	320 Y	5
BASB071	03-Apr-01	TPHpt	240	5
BASB072	05-Apr-01	TPHd	80 Y	100
BASB073	02-Apr-01	TPHd	73 Y	100
BASB076	30-Mar-01	TPHd	530 Y	100
BASB076	30-Mar-01	TPHmo	530	100
BASB077	30-Mar-01	TPHd	52 Y	100
Area 2				
BASB007	31-Mar-01	TPHd	70 Y	100
BASB008	21-Mar-01	TPHd	150 YZ	100
Area 3				
BASB041	28-Mar-01	TPHd	120 Y	100
Area 4				
BASB012	19-Mar-01	TPHd	61 Y	100
BASB016	04-Apr-01	TPHd	71 Y	100
DUP	04-Apr-01	TPHd	61 Y	100
Area 5				
BASB022	04-Apr-01	TPHd	110 Y	100
BASB023	04-Apr-01	TPHd	310 YH	100
BASB023	04-Apr-01	TPHmo	1100	100
Area 6				
BASB001	02-Apr-01	TPHd	360 YH	100
BASB001	02-Apr-01	TPHmo	1200 Y	100
BASB021	29-Mar-01	TPHd	66 Y	100

Table 18
Total Petroleum Hydrocarbons in Water -
Concentrations Above SNARLs
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	Chemical	Result	SNARL value
Area 6				
BASB051	02-Apr-01	TPHd	20000 Y	100
BASB051	02-Apr-01	TPHg	19000	5
BASB051	02-Apr-01	TPHpt	14000 Y	5
BASB081	05-Apr-01	TPHd	210000 Y	100
BASB081	05-Apr-01	TPHg	7700	5
BASB081	05-Apr-01	TPHpt	5800 Y	5
DUP	05-Apr-01	TPHd	90000 Y	100
DUP	05-Apr-01	TPHg	7200	5
DUP	05-Apr-01	TPHpt	5400 Y	5
Area 7				
BASB018	05-Apr-01	TPHd	160 YH	100
BASB052	02-Apr-01	TPHd	100 YH	100
BASB052	02-Apr-01	TPHmo	360 YH	100
BASB055	29-Mar-01	TPHd	51 Y	100
BASB058	21-Mar-01	TPHd	57 Y	100
Area 8				
BASB050	20-Mar-01	TPHd	65 Y	100

Data prepared by: TIH. Data QA/QC by: LDF.

Notes:

SNARLs = Suggested No-Adverse-Response Levels, Regional Water Quality Control Board, Central Valley Region, A Compilation of Water Quality Goals, August 2000
 SNARLs only exist for TPHg and TPHd but were applied to similiar TPH fractions.

bgs = below ground surface

b = Continuing calibration verification percent difference was slightly above acceptance limits in batch.

DUP = Duplicate sample

H = Heavier hydrocarbons contributed to the quantitation.

L = Lighter hydrocarbons contributed to the quantitation.

Y = Sample exhibits fuel pattern which does not resemble standard.

Z = Sample exhibits unknown single peak or peaks.

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

TPHmo = total petroleum hydrocarbons as motor oil

TPHms = total petroleum hydrocarbons as mineral spirits

TPHpt = total petroleum hydrocarbons as paint thinner

TPHss = total petroleum hydrocarbons as stoddard solvent

Samples were analyzed by Curtis and Tompkins Analytical

Table 18
Total Petroleum Hydrocarbons in Water -
Concentrations Above SNARLs
Batarse Site, Oakland, California
Concentrations in micrograms per liter ($\mu\text{g/l}$)

Location ID	Date Sampled	Chemical	Result	SNARL value
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Laboratories Ltd. for all compounds using EPA test method 8015 modified.

Table 19
Title 22 Metals and Volatile Organic Compounds
in Groundwater - Concentrations Above MCLs
Batarse Site, Oakland, California
Concentrations in micrograms per liter (µg/l)

Location ID	Date Sampled	Chemical	Result	MCL value
Area 1				
BASB026	28-Mar-01	Ni	130	100
DUP	28-Mar-01	Ni	130	100
Area 5				
BASB022	04-Apr-01	MTBE	16	13
Area 6				
BASB001	02-Apr-01	TCE	5.2	5
BASB051	02-Apr-01	c-1,2-DCE	9.7	6
BASB051	02-Apr-01	TCE	15	5
BASB081	05-Apr-01	c-1,2-DCE	7.5	6
BASB081	05-Apr-01	TCE	5.4	5
BASB081	05-Apr-01	VC	4.4	0.5
DUP	05-Apr-01	Pb	16	15
DUP	05-Apr-01	c-1,2-DCE	10	6
DUP	05-Apr-01	TCE	11	5
DUP	05-Apr-01	VC	5.7	0.5
Area 8				
BASB050	20-Mar-01	Ba	2000	1000
BASB050	20-Mar-01	Pb	100	15
BASB050	20-Mar-01	Sb	490	6

Data prepared by: TIH . Data QA/QC by: LDF .

Notes:

DUP = Duplicate sample

MCL = Maximum concentration limit

MCL values were derived from the California Department of Health Services Primary MCL list, Regional Water Quality Control Board, Central Valley Region, A Compilation of Water Quality Goals, August 2000

Samples were analyzed by Curtis and Tompkins Analytical Laboratories Ltd. for metals using EPA test method 6010B and for volatile organic compounds using EPA test method 8260B.

Ba = Barium

c-1,2-DCE = cis-1,2-Dichloroethene

MTBE = Methyl-tertiary-butyl ether

Ni = Nickel

Pb = Lead

Sb = Antimony

TCE = Trichloroethene

VC = Vinyl Chloride

Table 20
Selection of Chemicals of Potential Concern in Soil
Batarse Site, Oakland, California

Chemical	Detection Frequency	Minimum Reporting Limit ¹ (mg/kg)	Maximum Reporting Limit ¹ (mg/kg)	Minimum Detected Value ¹ (mg/kg)	Maximum Detected Value ¹ (mg/kg)	Background Values ² (mg/kg)	Selected as COPC	Rationale for Selection or Exclusion
Metals								
Arsenic	279 / 279	0.18	0.25	0.58	33	19.1	No	Within Background Levels ³
Barium	279 / 279	0.36	9.8	36	410	323.6	Yes	Above Background Levels
Beryllium	279 / 279	0.072	0.10	0.12	0.67	1.0	No	Within Background Levels
Cadmium	279 / 279	0.18	0.25	0.38	3.1	2.7	Yes	Above Background Levels
Chromium	279 / 279	0.36	0.50	2.1	160	99.6	Yes	Above Background Levels
Cobalt	279 / 279	0.72	1.0	1.8	20	22.2	No	Within Background Levels
Copper	279 / 279	0.36	0.50	4.3	67	69.4	No	Within Background Levels
Lead	283 / 283	0.11	0.15	1.3	160	16.1	Yes	Above Background Levels
Mercury	277 / 279	0.017	0.091	0.021	1.1	0.40	Yes	Above Background Levels
Molybdenum	6 / 279	0.72	1.0	1.0	4.8	7.4	No	Within Background Levels
Nickel	279 / 279	0.72	1.0	16	94	119.8	No	Within Background Levels
Selenium	54 / 279	0.18	0.25	0.22	0.86	5.6	No	Within Background Levels
Silver	2 / 279	0.18	0.25	0.52	0.8	1.8	No	Within Background Levels
Thallium	89 / 279	0.18	0.25	0.21	2.8	27.1	No	Within Background Levels
Vanadium	279 / 279	0.36	0.50	4.8	61	74.3	No	Within Background Levels
Zinc	279 / 279	0.72	20	11.0	430	106	Yes	Above Background Levels
OCPs								
4,4'-DDT	1 / 2	0.0059	0.060	0.012	0.012	NA	Yes	Detected
alpha-Chlordane	1 / 2	0.003	0.030	0.012	0.012	NA	Yes	Detected
gamma-Chlordane	1 / 2	0.003	0.030	0.0075	0.0075	NA	Yes	Detected
PAHs								
Benzo(a)anthracene	1 / 15	0.0033	0.050	0.0036	0.0036	NA	Yes	Detected
Benzo(a)pyrene	2 / 15	0.0033	0.050	0.0079	0.0081	NA	Yes	Detected
Benzo(b)fluoranthene	1 / 15	0.0067	0.050	0.0067	0.0067	NA	Yes	Detected
Benzo(g,h,i)perylene	1 / 15	0.0067	0.050	0.007	0.0071	NA	Yes	Detected
Chrysene	3 / 15	0.0033	0.050	0.0047	0.062	NA	Yes	Detected
Dibenz(a,h)anthracene	2 / 15	0.0067	0.050	0.011	0.016	NA	Yes	Detected

Table 20
Selection of Chemicals of Potential Concern in Soil
Batarese Site, Oakland, California

Chemical	Detection Frequency	Minimum Reporting Limit ¹ (mg/kg)	Maximum Reporting Limit ¹ (mg/kg)	Minimum Detected Value ¹ (mg/kg)	Maximum Detected Value ¹ (mg/kg)	Background Values ² (mg/kg)	Selected as COPC	Rationale for Selection or Exclusion
Indeno(1,2,3-cd)pyrene	1 / 15	0.0033	0.050	0.0059	0.0059	NA	Yes	Detected
Pyrene	2 / 15	0.0067	0.050	0.0091	0.0097	NA	Yes	Detected
<u>SVOCS</u>								
bis(2-Ethylhexyl)phthalate	1 / 15	0.33	3.3	0.87	0.87	NA	Yes	Detected
Phenol	1 / 15	0.33	3.3	0.82	0.82	NA	Yes	Detected
<u>VOCS</u>								
Acetone	1 / 95	0.019	0.022	0.025	0.025	NA	Yes	Detected
Methylene Chloride	8 / 95	0.019	0.022	0.020	0.060	NA	Yes	Detected

Notes:

¹ Minimum and maximum reporting limits and detecteds value from LFR sampling program.

² Metal background concentrations from Oakland Urban Land Development.

³ Arsenic maximum detected value of 33 mg/kg is anomalous and considered an outlier; the other 278 arsenic results are below the background level of 19.1 mg/kg.

mg/kg = Milligrams per kilogram

NA = Not applicable

OCPs = Organochlorine Pesticides

PAH = Polynuclear Aromatic Hydrocarbons

SVOCS = Semivolatile organic compound

VOCs = Volatile organic compound

Table 21
Selection of Chemicals of Potential Concern in Groundwater
Batarse Site, Oakland, California

Chemical	Detection Frequency	Minimum Reporting Limit ¹ (µg/l)	Maximum Reporting Limit ¹ (µg/l)	Minimum Detected Value ¹ (µg/l)	Maximum Detected Value ¹ (µg/l)	Selected as COPC	Rationale for Selection or Exclusion
Metals							
Antimony	2 / 58	1.0	20	1.3	490	Yes	Detected
Arsenic	2 / 58	5.0	5.0	9.1	9.4	Yes	Detected
Barium	58 / 58	10	200	28	2000	Yes	Detected
Cobalt	3 / 58	20	20	37	50	Yes	Detected
Copper	2 / 58	10	10	15	16	Yes	Detected
Lead	3 / 58	3.0	3.0	12	100	Yes	Detected
Molybdenum	3 / 58	20	410	20	36	Yes	Detected
Nickel	11 / 58	20	20	23	130	Yes	Detected
Zinc	3 / 58	20	20	26	44	Yes	Detected
SVOCs							
2-Methylnaphthalene	2 / 14	9.4	4800	570	15000	Yes	Detected
Naphthalene	1 / 14	9.4	4800	7000	7000	Yes	Detected
bis(2-Ethylhexyl)phthalate	1 / 28	3.0	4800	3.1	3.1	Yes	Detected
VOCs							
1,2,4-Trimethylbenzene	3 / 58	0.50	8.3	580	2600	Yes	Detected
1,3,5-Trimethylbenzene	3 / 58	0.50	8.3	110	820	Yes	Detected
Bromodichloromethane	1 / 58	0.50	8.3	1.2	1.2	Yes	Detected
Bromoform	1 / 58	1.0	17	7.3	7.3	Yes	Detected
Carbon Disulfide	3 / 58	0.50	8.3	0.60	0.80	Yes	Detected
Chloroform	2 / 58	0.50	8.3	1.3	11	Yes	Detected
cis-1,2-Dichloroethene	4 / 58	0.50	8.3	2.3	10	Yes	Detected
Dibromochloromethane	1 / 58	0.50	8.3	0.60	0.60	Yes	Detected
Ethylbenzene	3 / 58	0.50	8.3	31	210	Yes	Detected
Isopropylbenzene	3 / 58	0.50	8.3	89	190	Yes	Detected
m,p-Xylenes	4 / 58	0.50	8.3	0.50	390	Yes	Detected
MTBE	4 / 58	0.50	8.3	0.50	16	Yes	Detected
n-Butylbenzene	3 / 58	0.50	8.3	93	550	Yes	Detected

Table 21
 Selection of Chemicals of Potential Concern in Groundwater
 Batarse Site, Oakland, California

Chemical	Detection Frequency	Minimum Reporting Limit ¹ (µg/l)	Maximum Reporting Limit ¹ (µg/l)	Minimum Detected Value ¹ (µg/l)	Maximum Detected Value ¹ (µg/l)	Selected as COPC	Rationale for Selection or Exclusion
Naphthalene	3 / 58	1.0	17	68	180	Yes	Detected
para-Isopropyl Toluene	3 / 58	0.50	8.3	14	65	Yes	Detected
Propylbenzene	3 / 58	0.50	8.3	240	700	Yes	Detected
sec-Butylbenzene	3 / 58	0.50	8.3	31	140	Yes	Detected
Styrene	2 / 58	0.50	8.3	0.60	1.4	Yes	Detected
Tetrachloroethene	1 / 58	0.50	8.3	1.3	1.3	Yes	Detected
Toluene	5 / 58	0.50	8.3	0.50	2.3	Yes	Detected
Trichloroethene	4 / 58	0.50	8.3	5.2	15	Yes	Detected
Trichlorofluoromethane	1 / 58	0.50	8.3	0.50	0.50	Yes	Detected
Vinyl Chloride	2 / 58	0.50	8.3	4.4	5.7	Yes	Detected

Notes:

¹ Minimum and maximum reporting limits and detecteds value from LFR sampling program.

µg/l = Micrograms per liter

NA = Not applicable

SVOCs = Semivolatile organic compound

VOCs = Volatile organic compounds

Table 22
Chemical Properties for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	CAS Number	Vapor Pressure ¹ (mmHg @ 20-30C)	Solubility ¹ (mg/l @ 20-30C)	Henry's Law ¹ (atm-m ³ /mol)
Metals				
Antimony	7440-36-0	1.00E+00	---	NA
Arsenic	7440-38-2	0.00E+00	---	NA
Barium	7440-39-3	---	---	NA
Cadmium	7440-43-9	0.00E+00	---	NA
Chromium	7440-47-3	0.00E+00	---	NA
Cobalt	7440-48-4	---	---	NA
Copper	7440-50-8	0.00E+00	---	NA
Lead	7439-92-1	0.00E+00	---	NA
Mercury	7439-97-6	2.00E-03	---	NA
Molybdenum	7439-98-7	0.00E+00	---	NA
Nickel	7440-02-0	0.00E+00	---	NA
Zinc	7440-66-6	0.00E+00	---	NA
OCPs				
4,4'-DDT	50-29-3	5.50E-06	5.00E-03	5.13E-04
alpha-Chlordane	5103-71-9	1.00E-05	5.60E-01	9.63E-06
gamma-Chlordane	5103-74-2	1.00E-05	5.60E-01	9.63E-06
PAHs				
2-Methylnaphthalene	91-57-6	---	---	---
Benzo(a)anthracene	56-55-3	2.20E-08	5.70E-03	1.16E-06
Benzo(a)pyrene	50-32-8	5.60E-09	1.20E-03	1.55E-06
Benzo(b)fluoranthene	205-99-2	5.00E-07	1.40E-02	1.19E-05
Benzo(g,h,i)perylene	191-24-2	1.03E-10	7.00E-04	5.34E-08
Chrysene	218-01-9	6.3E-09	1.80E-03	1.05E-06
Dibenz(a,h)anthracene	53-70-3	1.00E-10	5.00E-04	7.33E-08
Indeno(1,2,3-cd)pyrene	193-39-5	1.00E-10	5.30E-04	6.86E-08
Naphthalene ²	91-20-3	8.50E-02	3.10E+01	4.40E-04
Pyrene	129-00-0	2.50E-06	1.32E-01	5.04E-06
SVOCs				
bis(2-Ethylhexyl)phthalate ²	117-81-7	1.42E-07	2.70E-01	2.70E-07
Phenol	108-95-2	3.41E-01	9.30E+04	4.54E-07
VOCs				
1,2,4-Trimethylbenzene ²	95-63-6	2.10E+00	5.70E+01	6.16E-03
1,3,5-Trimethylbenzene ²	108-67-8	2.48E+00	4.82E+01	8.77E-03
Acetone	67-64-1	2.70E+02	1.00E+06	2.06E-05

Table 22
Chemical Properties for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	CAS Number	Vapor Pressure ¹ (mmHg @ 20-30C)	Solubility ¹ (mg/l @ 20-30C)	Henry's Law ¹ (atm-m ³ /mol)
Bromodichloromethane ²	75-27-4	5.00E+01	3.03E+03	2.12E-03
Bromoform	75-25-2	5.00E+00	3.01E+03	5.52E-04
Carbon Disulfide	75-15-0	3.60E+02	2.94E+03	1.23E-02
Chloroform	67-66-3	1.51E+02	8.20E+03	2.87E-03
cis-1,2-Dichloroethene	156-59-2	2.08E+02	3.50E+03	7.58E-03
Dibromochloromethane ²	124-48-1	5.54E+00	2.70E+03	7.83E-04
Ethylbenzene	100-41-4	7.00E+00	1.52E+02	6.43E-03
Isopropylbenzene ²	98-82-8	4.50E+00	6.13E+01	1.15E-02
m,p-Xylenes	1330-20-7	1.00E+01	1.98E+02	7.04E-03
Methylene Chloride	75-09-2	4.31E+03	6.50E+03	4.40E-02
MTBE ²	1634-04-4	2.50E+02	5.10E+04	5.87E-04
n-Butylbenzene ²	104-51-8	1.06E+00	1.18E+01	1.59E-02
para-Isopropyl Toluene ²	99-87-6	1.46E+00	2.34E+01	1.10E-02
Propylbenzene ²	103-65-1	3.42E+00	5.22E+01	1.05E-02
sec-Butylbenzene ²	135-98-8	1.75E+00	1.76E+01	1.76E-02
Styrene ²	100-42-5	6.40E+00	3.10E+02	2.75E-03
Tetrachloroethene	127-18-4	1.78E+01	1.50E+02	2.59E-02
Toluene	108-88-3	2.81E+01	5.35E+02	6.37E-03
Trichloroethene	79-01-6	5.79E+01	1.10E+03	9.10E-03
Trichlorofluoromethane ²	75-69-4	8.03E+02	1.10E+03	9.70E-02
Vinyl Chloride	75-01-4	2.66E+03	2.67E+03	8.19E-02

Notes:

¹ Values from Exhibit A-1, U.S.EPA Superfund Public Health Evaluation Manual, October 1986.

² Values from Environmental Science Center Database; <http://esc.syrres.com/interknow/physdemo.htm>

mg/l = Milligrams per liter

atm-m³/mol = atmosphere-cubic meter per mole

NA = Not applicable

--- = Not available

OCPs = Organochlorine Pesticides

PAH = Polynuclear Aromatic Hydrocarbons

SVOCs = Semivolatile organic compound

VOCs = Volatile organic compound

Table 23
Carcinogenic Toxicity Information for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	Oral Cancer Slope Factor (Sfo) (mg/kg-day) ⁻¹	Inhalation Cancer Slope Factor (Sfi) (mg/kg-day) ⁻¹	Weight-of Evidence Classification	Toxicity Information Reference Source ¹
Metals				
Antimony	NA	NA	---	IRIS 2001
Arsenic	1.5E+00	1.2E+01	A	CAL/EPA 2001, IRIS 2001
Barium	NA	NA	D	IRIS 2001
Cadmium	3.8E-01	1.5E+01	B1	CAL/EPA 2001, IRIS 2001
Chromium	NA	NA	D	IRIS 2001
Cobalt	NA	NA	---	IRIS 2001
Copper	NA	NA	D	IRIS 2001
Lead	NA	NA	B2	IRIS 2001
Mercury	NA	NA	D	IRIS 2001
Molybdenum	NA	NA	---	IRIS 2001
Nickel	NA	9.1E-01	A	CAL/EPA 2001, IRIS 2001
Zinc	NA	NA	D	IRIS 2001
OCPs				
4,4'-DDT	3.4E-01	3.4E-01	B2	CAL/EPA 2001, IRIS 2001
alpha-Chlordane	1.3E+00	1.2E+00	B2	CAL/EPA 2001, IRIS 2001
gamma-Chlordane	1.3E+00	1.2E+00	B2	CAL/EPA 2001, IRIS 2001
PAHs				
2-Methylnaphthalene	NA	NA	---	IRIS 2001
Benzo(a)anthracene	1.2E+00	3.9E-01	B2	CAL/EPA 2001, IRIS 2001
Benzo(a)pyrene	1.2E+01	3.9E+00	B2	CAL/EPA 2001, IRIS 2001
Benzo(b)fluoranthene	1.2E+00	3.9E-01	B2	CAL/EPA 2001, IRIS 2001
Benzo(g,h,i)perylene	NA	NA	---	IRIS 2001
Chrysene	1.2E-01	3.9E-02	B2	CAL/EPA 2001, IRIS 2001
Dibenz(a,h)anthracene	4.1E+00	4.1E+00	B2	CAL/EPA 2001, IRIS 2001
Indeno(1,2,3-cd)pyrene	1.2E+00	3.9E-01	B2	CAL/EPA 2001, IRIS 2001
Naphthalene	NA	NA	C	IRIS 2001
Pyrene	NA	NA	D	IRIS 2001
SVOCs				
bis(2-Ethylhexyl)phthalate	3.0E-03	8.4E-03	B2	CAL/EPA 2001, IRIS 2001
Phenol	NA	NA	D	IRIS 2001
VOCs				
1,2,4-Trimethylbenzene	NA	NA	---	IRIS 2001
1,3,5-Trimethylbenzene	NA	NA	---	IRIS 2001
Acetone	NA	NA	D	IRIS 2001
Bromodichloromethane	1.3E-01	1.3E-01	B2	CAL/EPA 2001, IRIS 2001
Bromoform	7.9E-03	3.9E-03	B2	IRIS 2001
Carbon Disulfide	NA	NA	---	IRIS 2001
Chloroform	3.1E-02	1.9E-02	B2	CAL/EPA 2001, IRIS 2001
cis-1,2-Dichloroethene	NA	NA	D	IRIS 2001
Dibromochloromethane	9.4E-02	9.4E-02	C	CAL/EPA 2001, IRIS 2001
Ethylbenzene	NA	NA	D	IRIS 2001

Table 23
Carcinogenic Toxicity Information for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	Oral Cancer Slope Factor (Sfo) (mg/kg-day)⁻¹	Inhalation Cancer Slope Factor (Sfi) (mg/kg-day)⁻¹	Weight-of Evidence Classification	Toxicity Information Reference Source¹
Isopropylbenzene	NA	NA	D	IRIS 2001
m,p-Xylenes	NA	NA	D	IRIS 2001
Methylene Chloride	1.4E-02	3.5E-03	B2	CAL/EPA 2001, IRIS 2001
MTBE	1.8E-03	1.8E-03	---	CAL/EPA 2001, IRIS 2001
n-Butylbenzene	NA	NA	---	IRIS 2001
para-Isopropyl Toluene	NA	NA	---	IRIS 2001
Propylbenzene	NA	NA	---	IRIS 2001
sec-Butylbenzene	NA	NA	---	IRIS 2001
Styrene	NA	NA	---	IRIS 2001
Tetrachloroethene	5.1E-02	2.1E-02	---	CAL/EPA 2001, IRIS 2001
Toluene	NA	NA	D	IRIS 2001
Trichloroethene	1.5E-02	1.0E-02	---	CAL/EPA 2001, IRIS 2001
Trichlorofluoromethane	NA	NA	D	IRIS 2001
Vinyl Chloride	2.7E-01	2.7E-01	A	CAL/EPA 2001, IRIS 2001

Notes:

¹ California EPA OEHHA Cancer Potency Values, March 2001;

U.S. EPA Integrated Risk Information System (IRIS) database, May 2001.

mg/kg-day = Milligrams per kilogram per day

OCPs = Organochlorine Pesticides

PAH = Polynuclear Aromatic Hydrocarbons

SVOCs = Semivolatile organic compound

VOCs = Volatile organic compound

NA = Not applicable

--- = Not available

Weight-of Evidence Classification:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as to human carcinogenicity

Table 24
Noncarcinogenic Toxicity Information for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	Oral Reference Dose (RfDo) (mg/kg-day)	Inhalation Reference Dose (RfDi) (mg/kg-day)	Primary Target Organs	Toxicity Information Reference Source ¹
Metals				
Antimony	4.0E-04	---	Blood	NCEA
Arsenic	3.0E-04	---	Skin	NCEA
Barium	7.0E-02	1.4E-04	Blood Pressure	NCEA
Cadmium	5.0E-04	---	Kidney	NCEA
Chromium	3.0E-03	---	Liver	NCEA
Cobalt	6.0E-02	---	---	
Copper	3.7E-02	---	GI	NCEA
Lead	---	---	Neurotoxicity	NCEA
Mercury	---	2.6E-05	Neurotoxicity	CAL/EPA OEHHA 2001
Molybdenum	5.0E-03	---	---	NCEA
Nickel	2.0E-02	---	Weight Loss	NCEA
Zinc	3.0E-01	---	Blood	NCEA
OCPs				
4,4'-DDT	5.0E-04	5.0E-04	Liver	IRIS 2001
alpha-Chlordane	5.0E-04	2.0E-04	Liver	IRIS 2001
gamma-Chlordane	5.0E-04	2.0E-04	Liver	IRIS 2001
PAHs				
2-Methylnaphthalene	---	---	---	---
Benzo(a)anthracene	---	---	---	---
Benzo(a)pyrene	---	---	---	---
Benzo(b)fluoranthene	---	---	---	---
Benzo(g,h,i)perylene	---	---	---	---
Chrysene	---	---	---	---
Dibenz(a,h)anthracene	---	---	---	---
Indeno(1,2,3-cd)pyrene	---	---	---	---
Naphthalene	2.0E-02	2.6E-03	Body Weight, Respiratory System	IRIS 2001, CAL/EPA OEHHA 2001
Pyrene	3.0E-02	3.0E-02	Kidney	IRIS 2001
SVOCs				
bis(2-Ethylhexyl)phthalate	2.0E-02	2.0E-02	Liver	IRIS 2001
Phenol	6.0E-01	6.0E-01	Fetal Body Weight	IRIS 2001
VOCs				
1,2,4-Trimethylbenzene	5.0E-02	1.7E-03	---	NCEA
1,3,5-Trimethylbenzene	5.0E-02	1.7E-03	---	NCEA
Acetone	1.0E-01	1.0E-01	Liver, Kidney	IRIS 2001
Bromodichloromethane	2.0E-02	2.0E-02	Kidney	IRIS 2001
Bromoform	2.0E-02	2.0E-02	Liver	IRIS 2001
Carbon Disulfide	1.0E-01	2.0E-01	Fetal Toxicity, PNS	IRIS 2001

Table 24
Noncarcinogenic Toxicity Information for Chemicals of Potential Concern
Batarse Site, Oakland, California

Chemical	Oral Reference Dose (RfDo) (mg/kg-day)	Inhalation Reference Dose (RfDi) (mg/kg-day)	Primary Target Organs	Toxicity Information Reference Source¹
Chloroform	1.0E-02	1.0E-02	Liver	IRIS 2001
cis-1,2-Dichloroethene	1.0E-02	1.0E-02	Blood	HEAST 1997
Dibromochloromethane	2.0E-02	2.0E-02	Liver	IRIS 2001
Ethylbenzene	1.0E-01	5.7E-01	Liver, Kidney, Fetus	IRIS 2001, CAL/EPA OEHHA 2001
Isopropylbenzene	1.0E-01	1.1E-01	Kidney	IRIS 2001
m,p-Xylenes	2.0E+00	2.0E-01	Body weight, CNS, Whole Body	IRIS 2001, CAL/EPA OEHHA 2001
Methylene Chloride	6.0E-02	1.1E-01	Liver	IRIS 2001, CAL/EPA OEHHA 2001
MTBE	8.6E-01	2.2E+00	Liver, Kidney	OEHHA 2001
n-Butylbenzene	1.0E-02	1.0E-02	---	NCEA
para-Isopropyl Toluene	---	---	---	---
Propylbenzene	1.0E-02	1.0E-02	---	NCEA
sec-Butylbenzene	1.0E-02	1.0E-02	---	NCEA
Styrene	2.0E-01	3.0E-01	Blood, Liver, CNS	IRIS 2001
Tetrachloroethene	1.0E-02	1.1E-01	Liver	IRIS 2001, NCEA
Toluene	2.0E-01	8.6E-02	Liver, Kidney, CNS, PNS	IRIS 2001, CAL/EPA OEHHA 2001
Trichloroethene	1.0E-02	1.0E-02	---	IRIS, withdrawn value
Trichlorofluoromethane	3.0E-01	3.0E-01	---	IRIS 2001
Vinyl Chloride	3.0E-03	2.9E-02	CNS/PNS, GI System	IRIS 2001

Notes:

- ¹ National Center for Environmental Assessment (NCEA) as cited in
U.S. EPA Region 9 Preliminary Remedial Goals, November 2000.
U.S. EPA Integrated Risk Information System (IRIS) database, May 2001.
U.S. EPA Health Effects Assessment Summary Tables (HEAST), Annual Update, FY 1997.
CAL/EPA Office of Environmental Health Hazard Assessment (OEHHA) database, August 2001.

mg/kg-day = Milligrams per kilogram per day

NA = Not applicable

--- = Not available

OCPs = Organochlorine Pesticides

PAH = Polynuclear Aromatic Hydrocarbons

SVOCs = Semivolatile organic compound

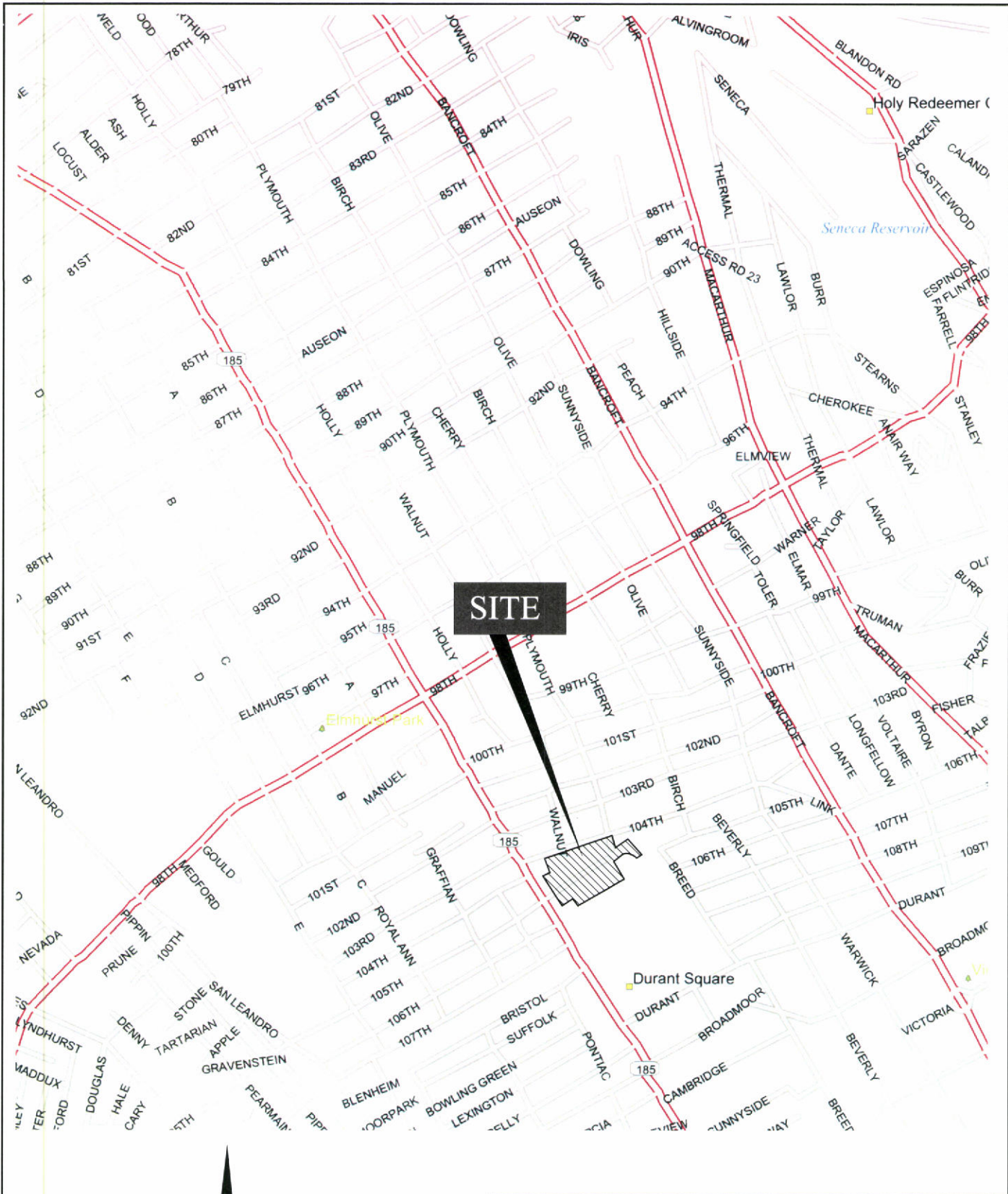
VOCs = Volatile organic compound

PNS = Peripheral Nervous System

CNS = Central Nervous System

Table 25
Carcinogenic Risk Estimate for Chemicals of Potential Concern
Batarse Site, Oakland, California

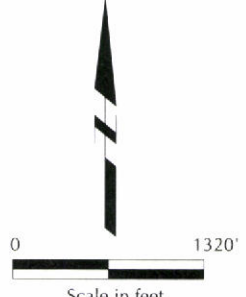
Chemical	Oral Cancer Slope Factor (Sfo) (mg/kg-day) ⁻¹	Inhalation Cancer Slope Factor (Sfi) (mg/kg-day) ⁻¹	Dermal Permeability Coefficient (Kp) (cm/hr)	Dermal Absorption Fraction (ABS) (dimensionless)	Concentration in Water ¹ (Cw) (mg/l)	Concentration in Soil ¹ (Cs) (mg/kg)	Concentration in Air (Ca) (mg/m ³)	RISK for Water Pathway	RISK for Soil Pathway	RISK for Air Pathway
Metals										
Antimony	NA	NA	0.00016	0.01	0.0011	NA	NA	NA	NA	NA
Arsenic	1.5E+00	1.2E+01	0.00016	0.03	0.0028	NA	NA	NA	NA	NA
Barium	NA	NA	0.00016	0.001	0.13	131	6.6E-06	NA	NA	NA
Cadmium	3.8E-01	1.5E+01	NA	0.001	NA	1.7	8.5E-08	NA	1.0E-06	1.9E-07
Chromium	NA	NA	NA	0.01	NA	32	1.6E-06	NA	NA	NA
Cobalt	NA	NA	0.00016	0.01	0.012	NA	NA	NA	NA	NA
Copper	NA	NA	0.00016	0.01	0.0056	NA	NA	NA	NA	NA
Lead	NA	NA	0.00016	0.01	0.0026	10	5.0E-07	NA	NA	NA
Mercury	NA	NA	NA	0.01	NA	0.071	3.6E-09	NA	NA	NA
Molybdenum	NA	NA	0.00016	0.01	0.014	NA	NA	NA	NA	NA
Nickel	NA	9.1E-01	0.00016	0.01	0.020	NA	NA	NA	NA	NA
Zinc	NA	NA	0.00016	0.01	0.012	47	2.4E-06	NA	NA	NA
OCES										
4,4'-DDT	3.4E-01	3.4E-01	NA	0.05	NA	0.012	6.0E-10	NA	1.0E-08	3.0E-11
alpha-Chlordane	1.3E+00	1.2E+00	NA	0.05	NA	0.012	6.0E-10	NA	3.9E-08	1.1E-10
gamma-Chlordane	1.3E+00	1.2E+00	NA	0.05	NA	0.0075	3.8E-10	NA	2.4E-08	6.7E-11
SVOCs										
2-Methylnaphthalene	NA	NA	0.069	NA	9.1	NA	6.7E-05	NA	NA	NA
Benzo(a)anthracene	1.2E+00	3.9E-01	NA	0.1	NA	0.0036	1.8E-10	NA	1.5E-08	1.0E-11
Benzo(a)pyrene	1.2E+01	3.9E+00	NA	0.1	NA	0.0081	4.1E-10	NA	3.3E-07	2.4E-10
Benzo(b)fluoranthene	1.2E+00	3.9E-01	NA	0.1	NA	0.0067	3.4E-10	NA	2.8E-08	1.9E-11
Benzo(g,h,i)perylene	NA	NA	NA	0.1	NA	0.0071	3.6E-10	NA	NA	NA
Chrysene	1.2E-01	3.9E-02	NA	0.1	NA	0.057	2.9E-09	NA	2.4E-08	1.7E-11
Dibenz(a,h)anthracene	4.1E+00	4.1E+00	NA	0.1	NA	0.016	8.0E-10	NA	2.3E-07	4.9E-10
Indeno(1,2,3-cd)pyrene	1.2E+00	3.9E-01	NA	0.1	NA	0.0059	3.0E-10	NA	2.4E-08	1.7E-11
Naphthalene	NA	NA	0.069	0.1	0.0046	NA	3.4E-08	NA	NA	NA
Pyrene	NA	NA	NA	0.1	NA	0.0097	1.3E-11	NA	NA	NA
SVOCs										
bis(2-Ethylhexyl)phthalate	3.0E-03	8.4E-03	0.033	0.1	0.0031	0.43	2.2E-08	1.5E-07	4.4E-09	2.7E-11
Phenol	NA	NA	NA	0.1	NA	0.42	2.1E-08	NA	NA	NA



SITE

Site Location Map

Batarse Site, Oakland, CA

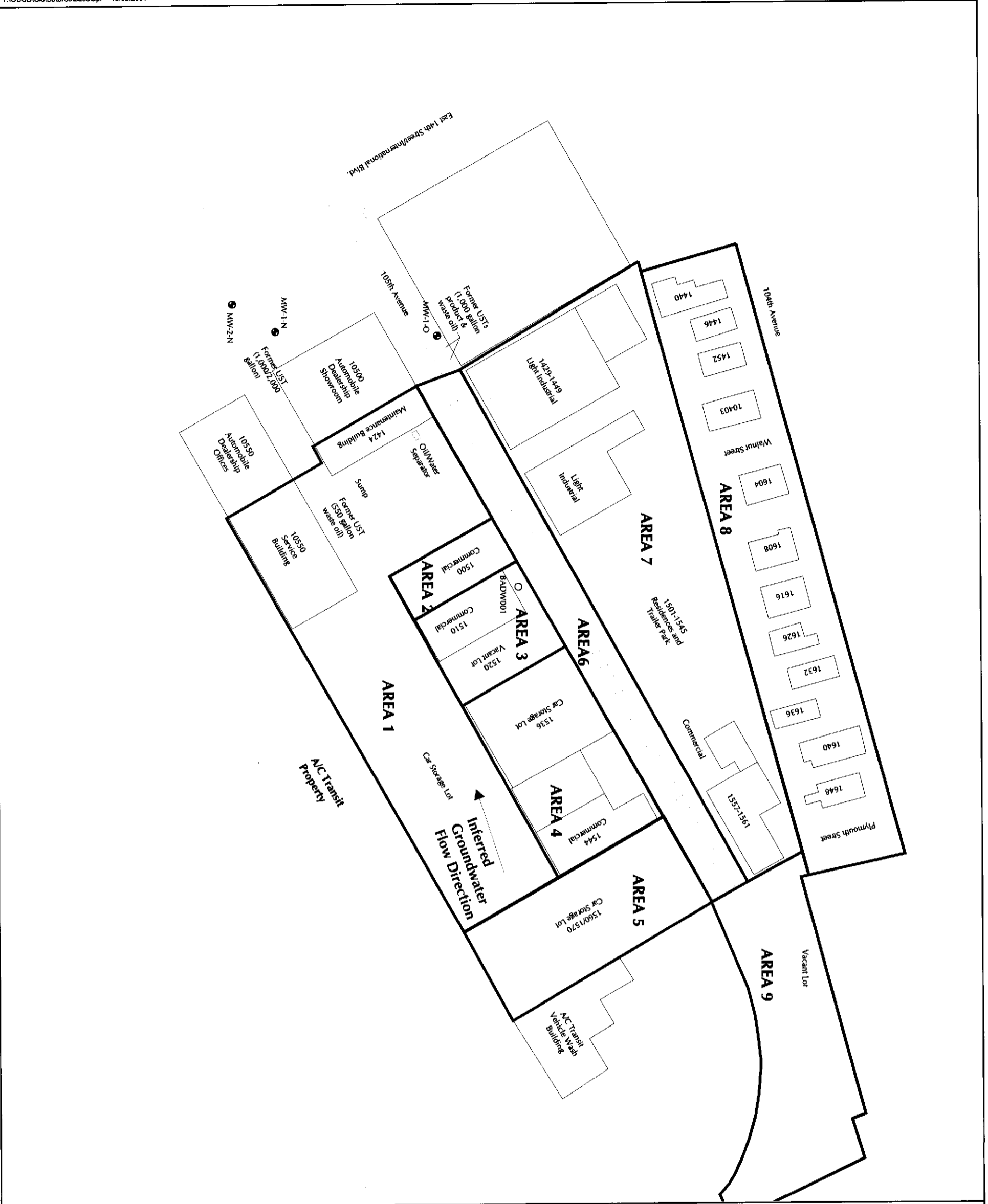


SOURCE: Delorme Street Atlas USA Version 6.0

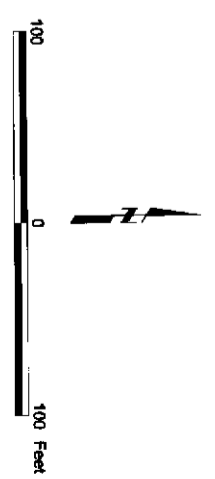


Figure 1

7962SV01.CDR 1215000



- LEGEND**
- Groundwater monitoring well
 - BADW001 Domestic water supply well
 - Building
 - Former underground storage tank
 - Existing oil/water separator
 - Existing sump
 - ▬ Railroad tracks
 - Area of investigation

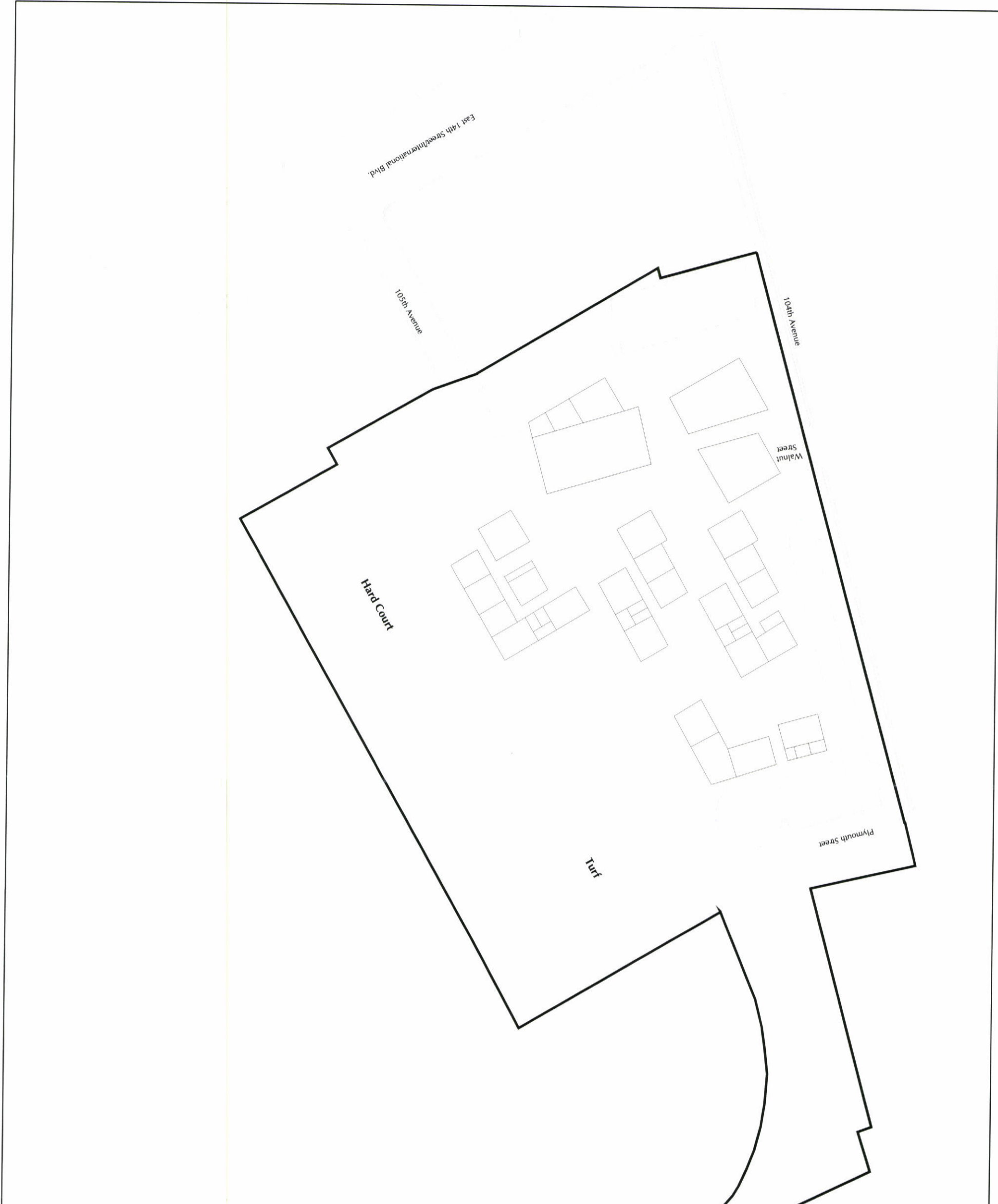





Site Plan

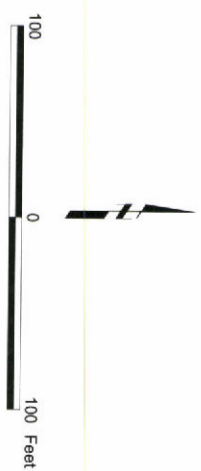
Balarse Site, Oakland, California



Figure 2



- LEGEND**
-  Proposed building
 -  Railroad tracks
 -  Site boundary (approximate)



Proposed School Layout

Batarse Site, Oakland, California



Figure 3



LEGEND

- ⊕ BASB001 Sample location
- ▭ Building
- ▭ Tank
- ▭ Railroad tracks
- ▭ Area of investigation



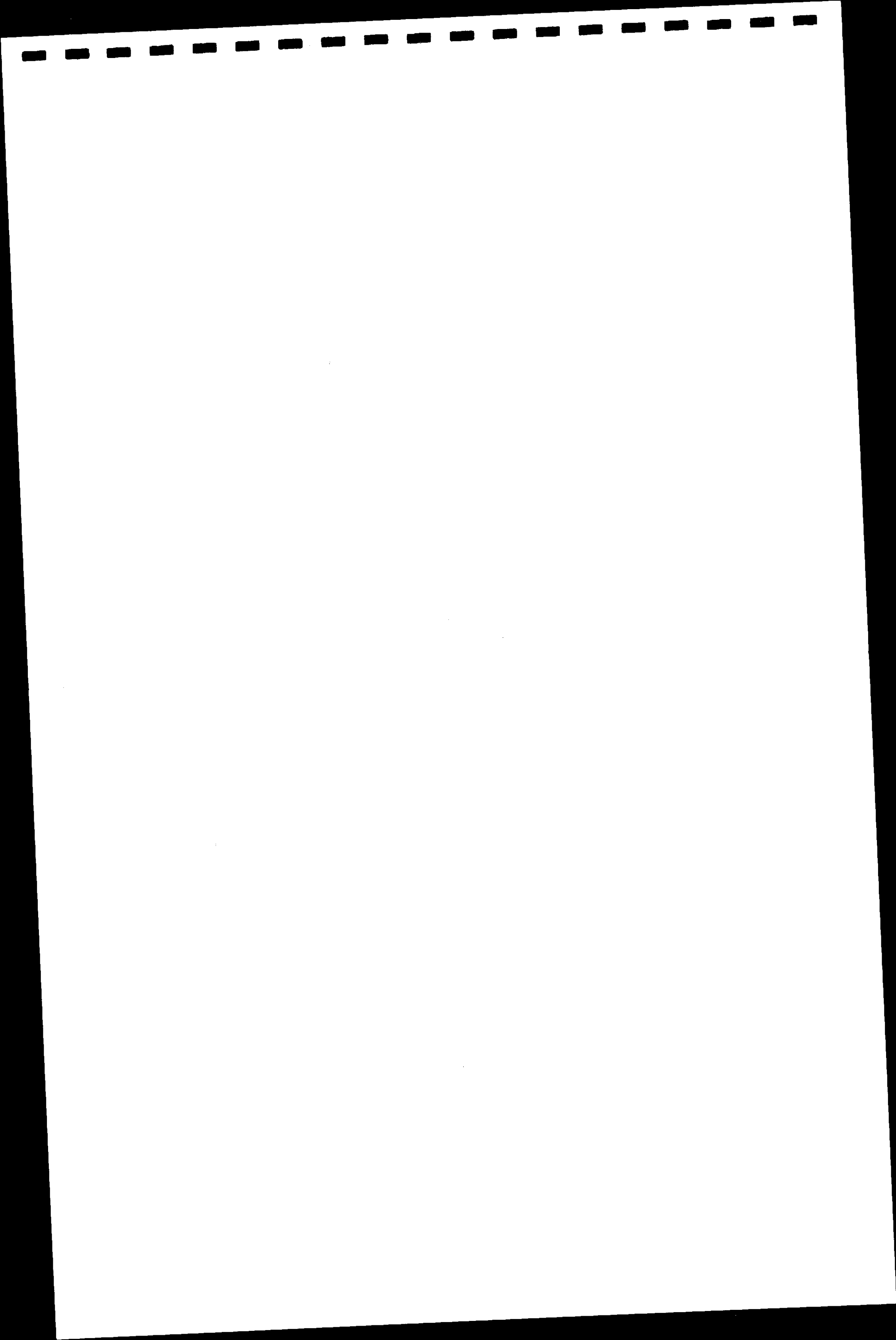
Sampling Locations

Batarse Site, Oakland, California



LEVINE • FRICKE

Figure 4



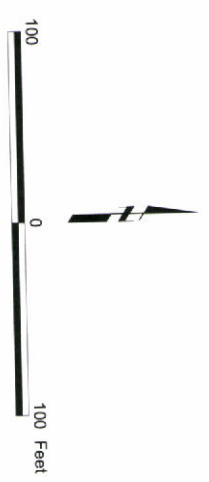


LEGEND

- Building
- Railroad tracks
- Area of investigation
- Sample location

ANALYSIS

- Diesel
- Gasoline
- Motor oil
- Mineral spirits
- Paint thinner
- Stoddard solvent

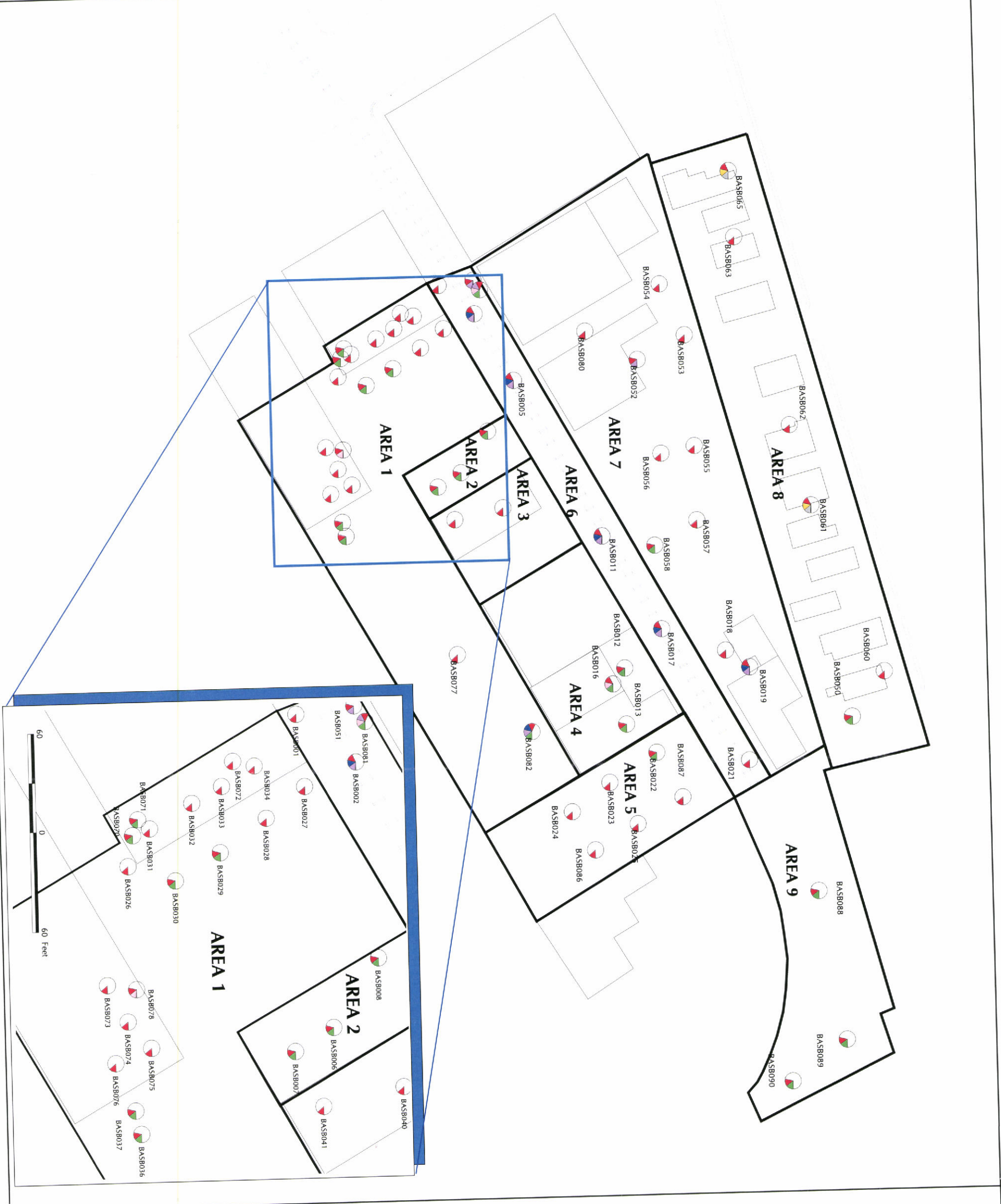


**Soil Sample Analyses
Total Petroleum Hydrocarbons**

Batarse Site, Oakland, California



Figure 5a

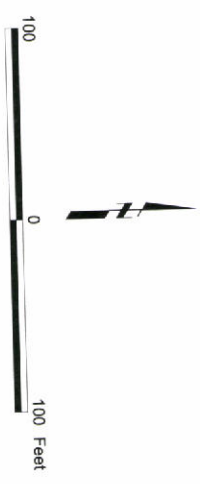


LEGEND

- Building
- Railroad tracks
- Area of investigation
- Sample location

ANALYSIS

- Metals
- Organochlorine pesticides
- Polynuclear aromatic hydrocarbons
- Polychlorinated biphenyl
- Semi-volatile organic compound
- Total organic compound
- Volatile organic compound

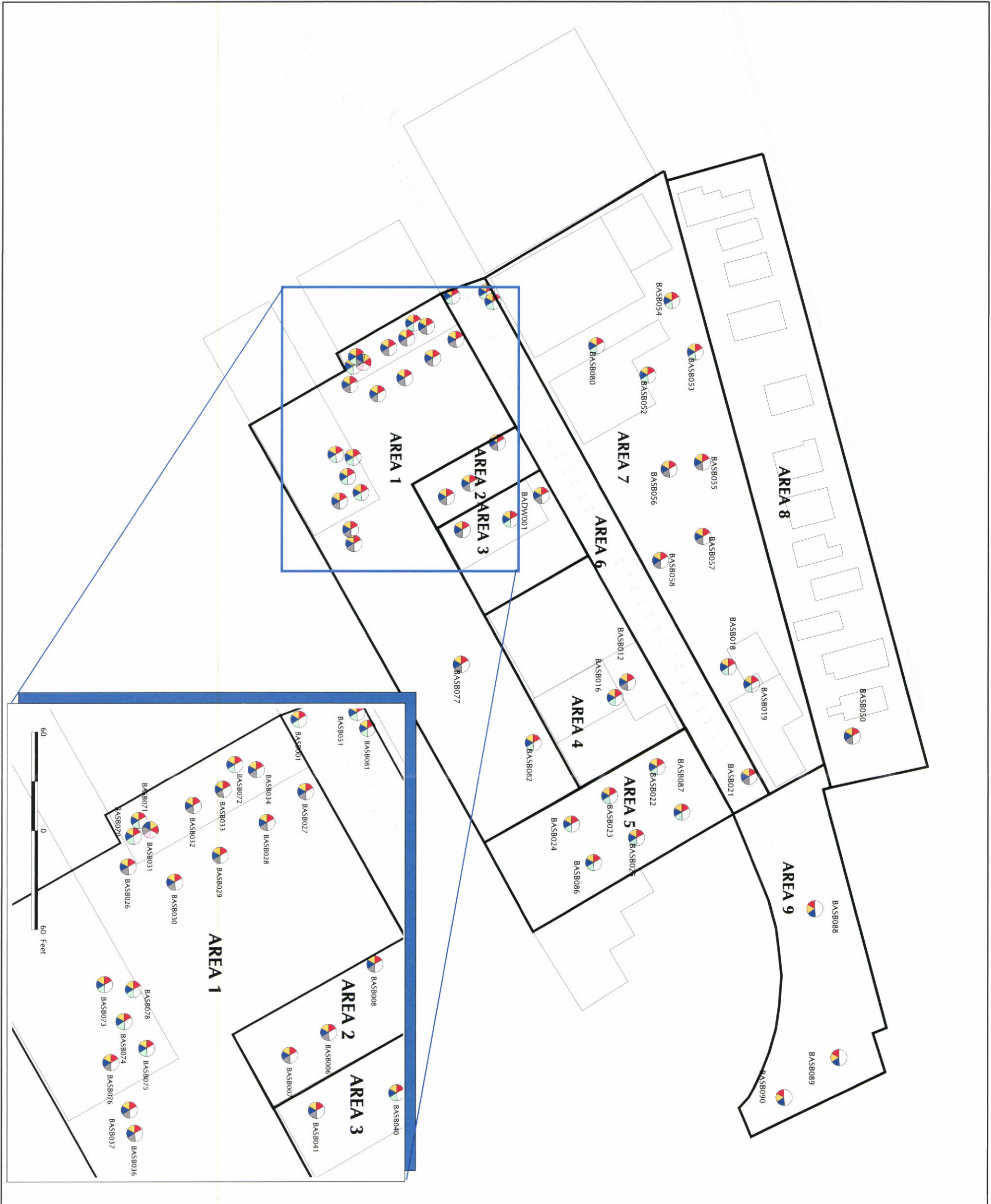


**Soil Sample Analyses
Other Analytes**

Batarse Site, Oakland, California



Figure 5b

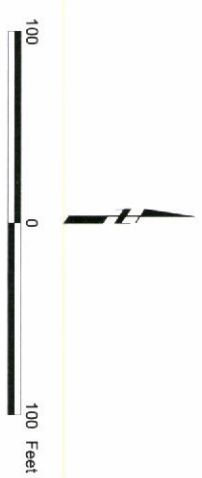


LEGEND

- Building
- Railroad tracks
- Area of investigation
- Sample location

ANALYSIS

- Diesel
- Gasoline
- Motor oil
- Mineral spirits
- Paint thinner
- Stoddard solvent

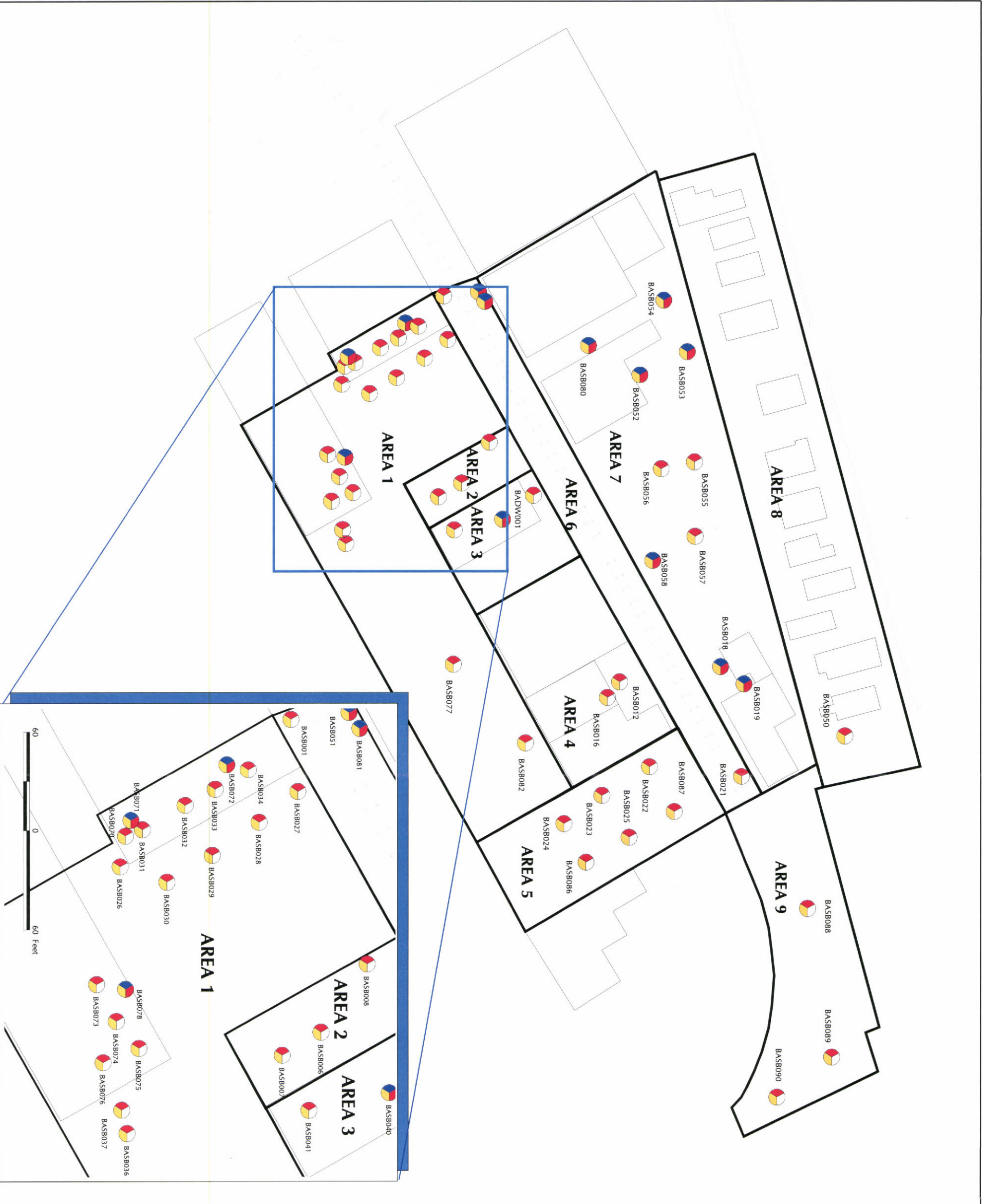


**Groundwater Sample Analyses
Total Petroleum Hydrocarbons**





Batarse Site, Oakland, California






Figure 6a

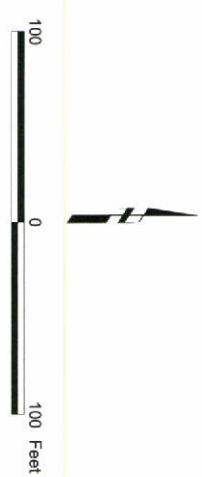


LEGEND

-  Building
-  Railroad tracks
-  Area of investigation
-  Sample location

ANALYSIS

-  Metals
-  Semivolatile organic compound
-  Volatile organic compound

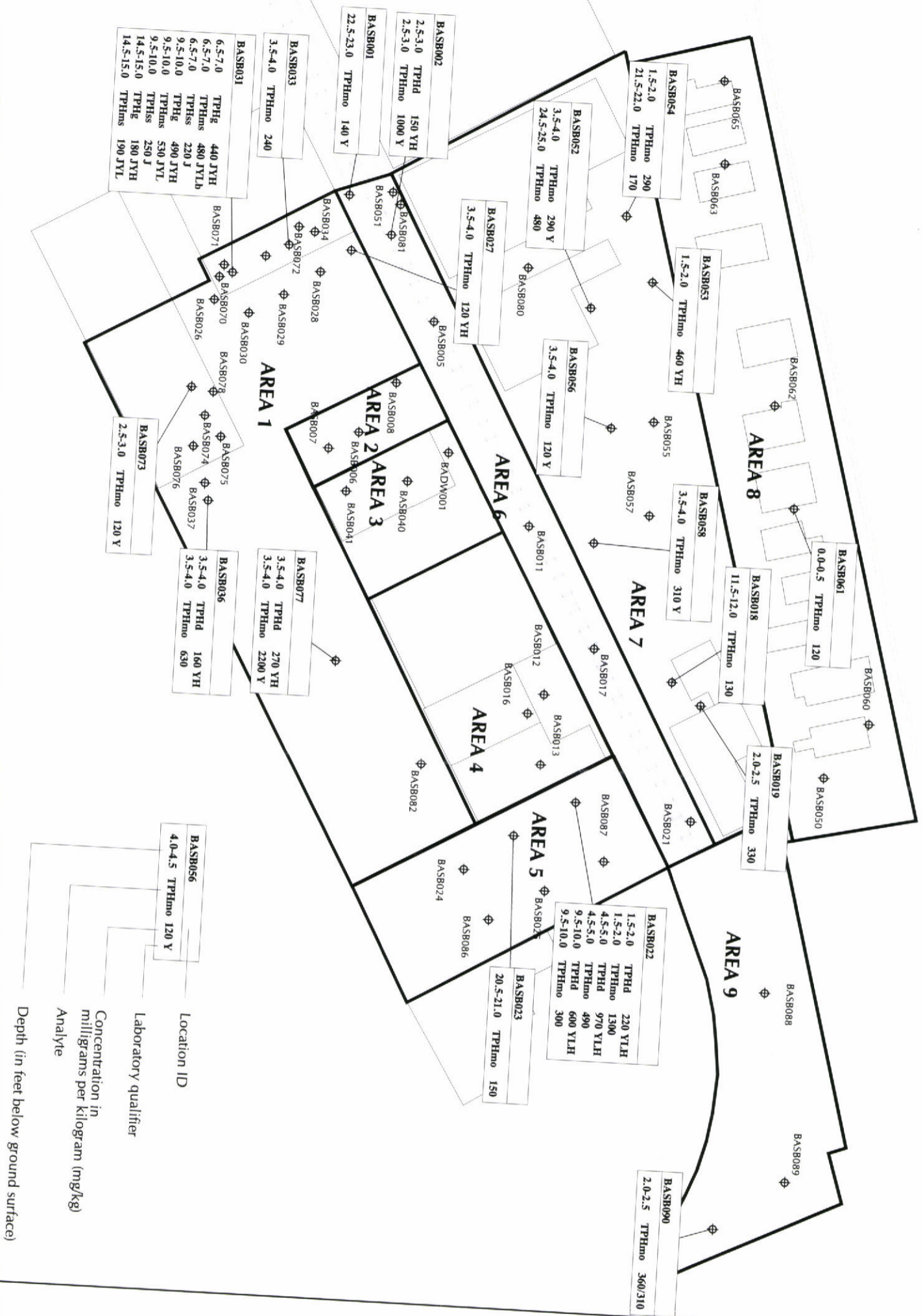


**Groundwater Sample Analyses
Metals, Semivolatile Organic Compounds,
and Volatile Organic Compounds**

Batarse Site, Oakland, California



Figure 6b



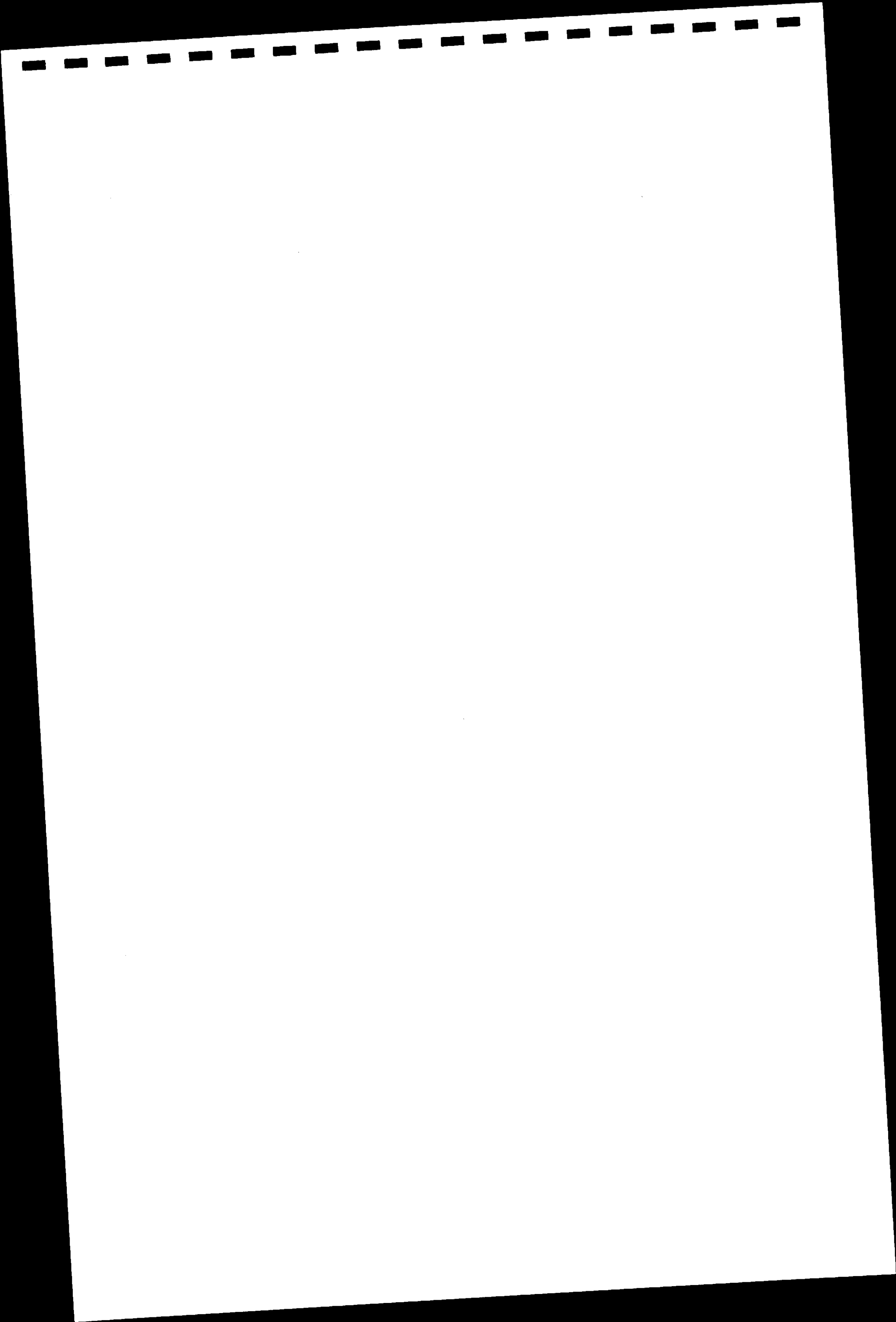
**Areas of Concern
Concentrations of Total Petroleum
Hydrocarbons in Soil**

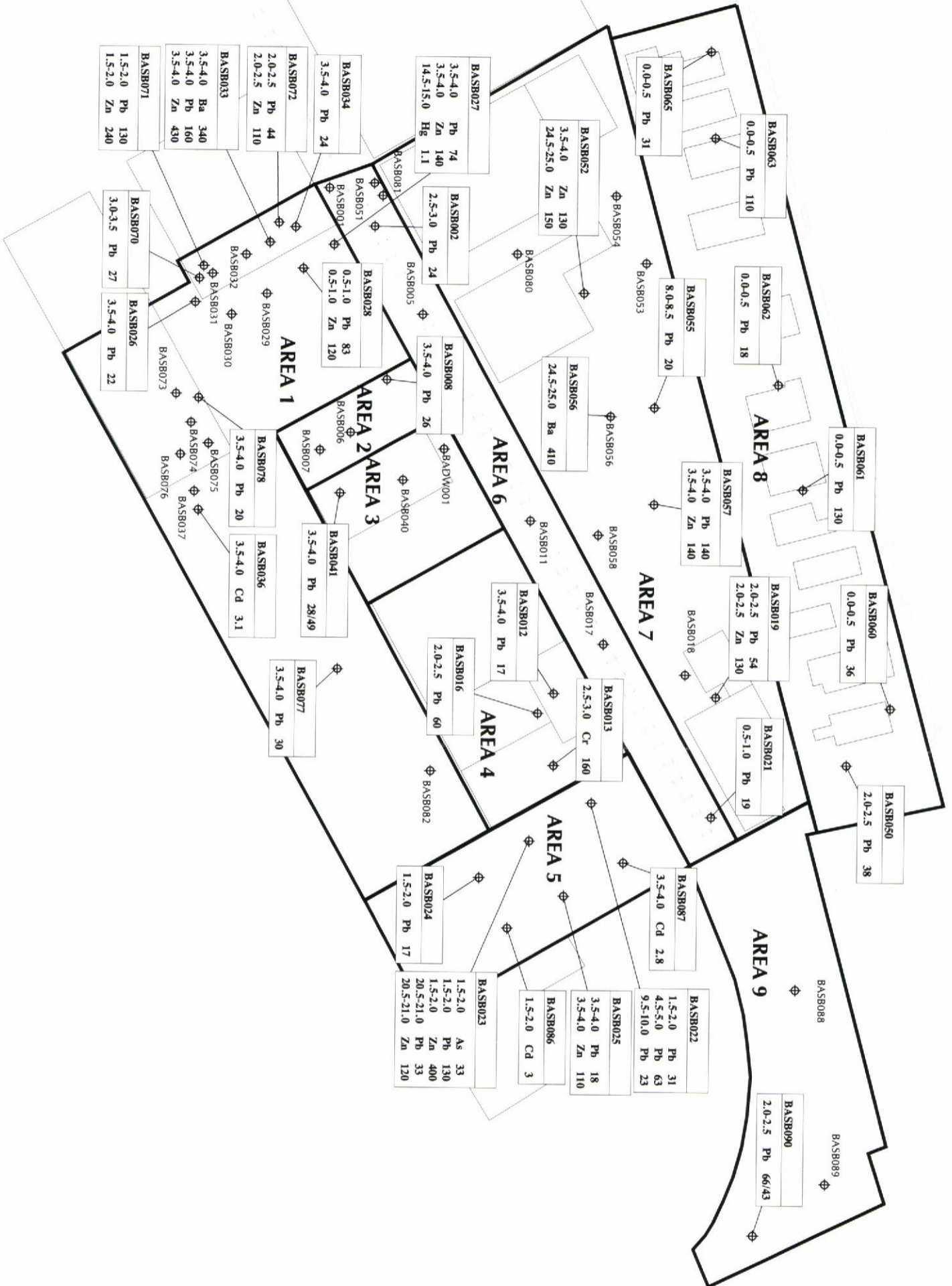
Batarese Site, Oakland, California



Figure 7







- LEGEND**
- BASB001 ⊕ Sample location
 - Building
 - ▤ Railroad tracks
 - ▭ Area of investigation

- ABBREVIATIONS**
- As Arsenic
 - Cd Cadmium
 - Hg Lead
 - Pb Mercury
 - Zn Zinc



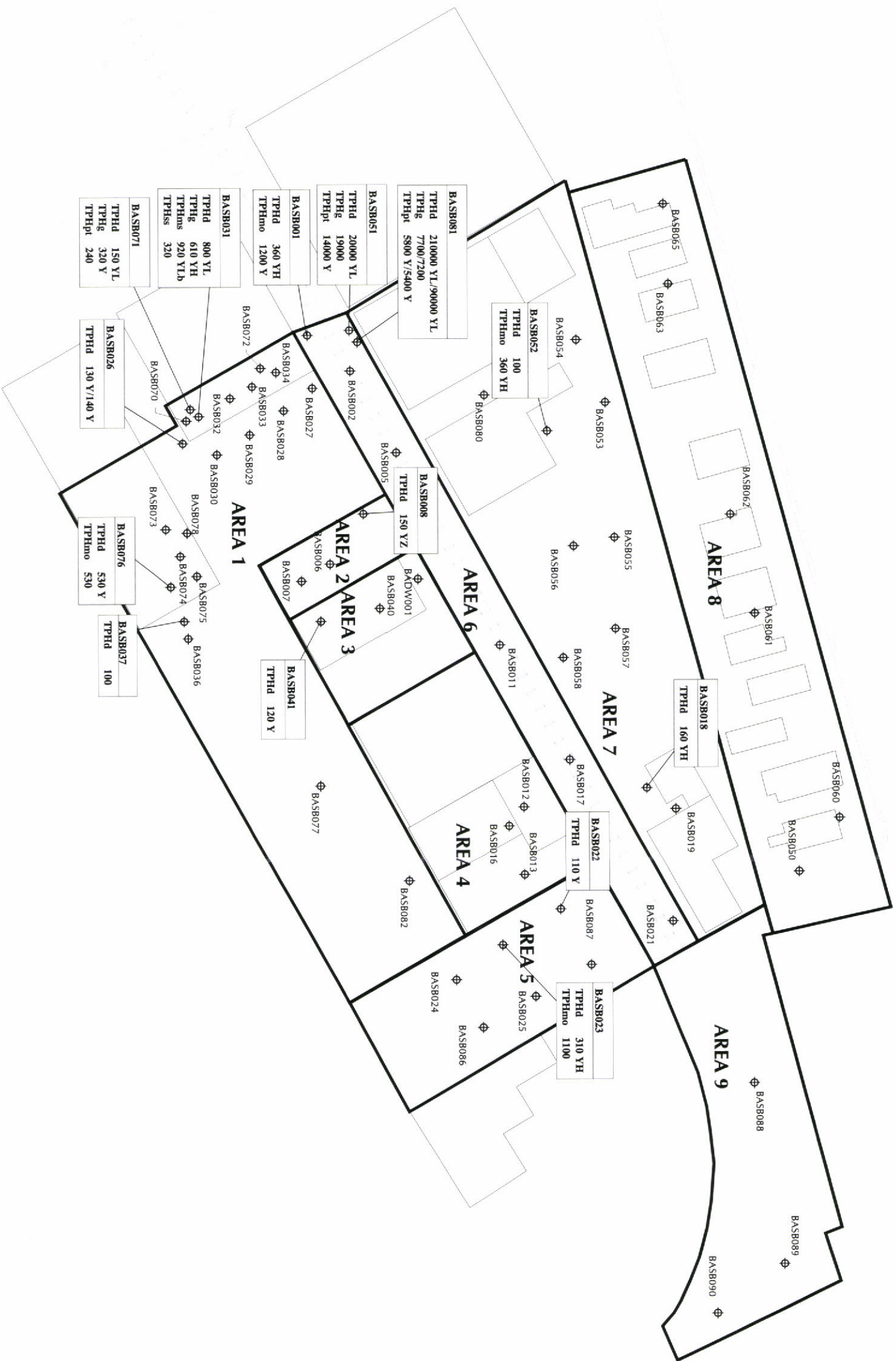
**Areas of Concern
Concentrations of Metals in Soil**

Batarse Site, Oakland, California



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Figure 8

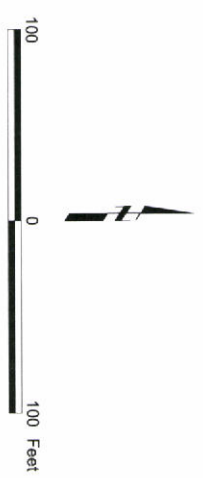
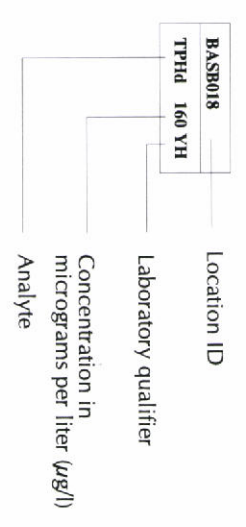


LEGEND
 BASB001 ◊ Sample location
 □ Building
 □ Tank
 ≡≡≡ Railroad tracks
 □ Area of investigation

ABBREVIATIONS
 TPH Total Petroleum Hydrocarbons
 TPHd TPH as diesel
 TPHg TPH as gasoline
 TPHms TPH as mineral spirits
 TPHpt TPH as paint thinner
 TPHss TPH as stoddard solvents

LABORATORY QUALIFIERS

- b Continuing calibration verification percent difference was slightly above acceptance limits in batch.
- H Heavier hydrocarbons contributed to the quantitation.
- L Lighter hydrocarbons contributed to the quantitation.
- Y Sample exhibits fuel pattern which does not resemble standard.
- Z Sample exhibits unknown single peak or peaks.

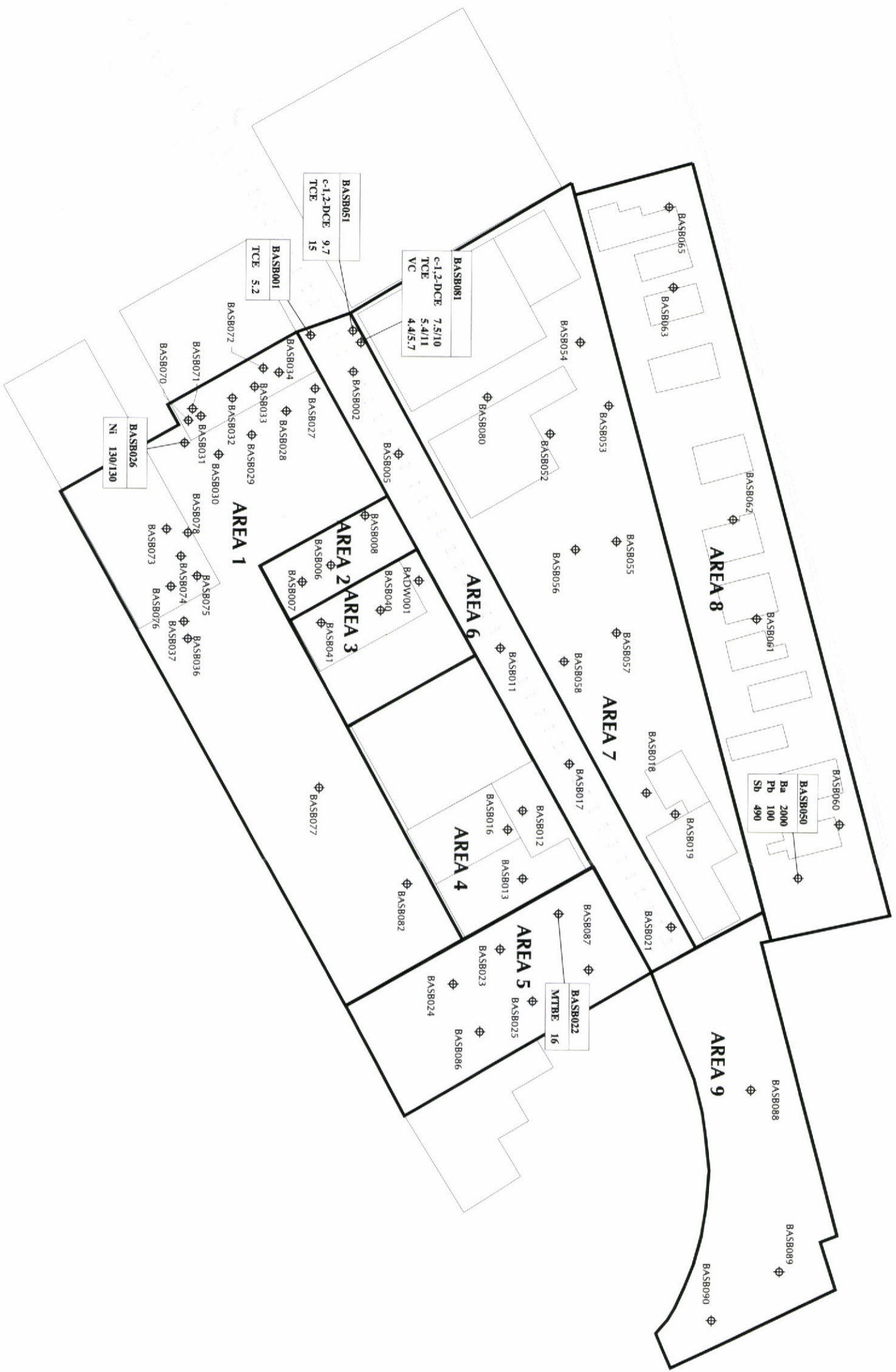


Areas of Concern
Concentrations of Total Petroleum Hydrocarbons in Groundwater

Batarse Site, Oakland, California



Figure 9

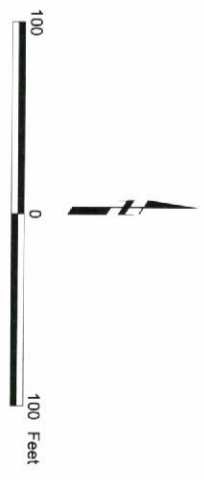
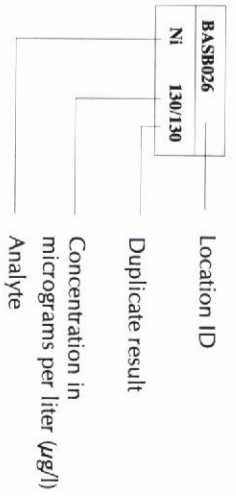


LEGEND

- BASB001 ⊕ Sample location
- ▭ Building
- ▭ Tank
- ▭ Railroad tracks
- ▭ Area of investigation

ABBREVIATIONS

- c-1,2-DCE cis-1,2-Dichloroethene
- MTBE Methyl tertiary-butyl ether
- TCE Trichlorethene
- VC Vinyl chloride
- Ba Barium
- Ni Nickel
- Pb Lead
- Sb Antimony

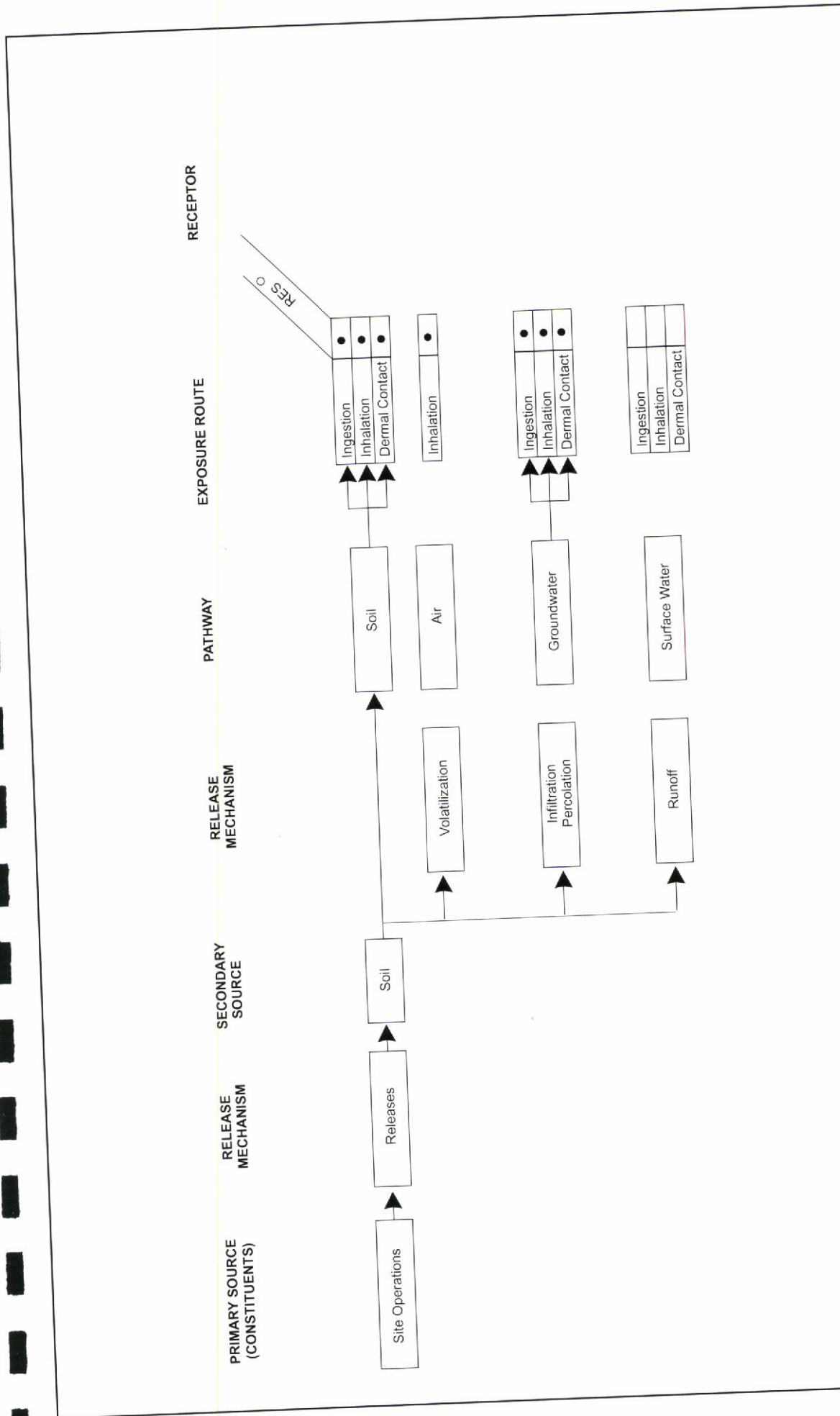


Areas of Concern
Concentrations of Volatile Organic
Compounds and Metals in Groundwater

Batarese Site, Oakland, California



Figure 10



LEGEND

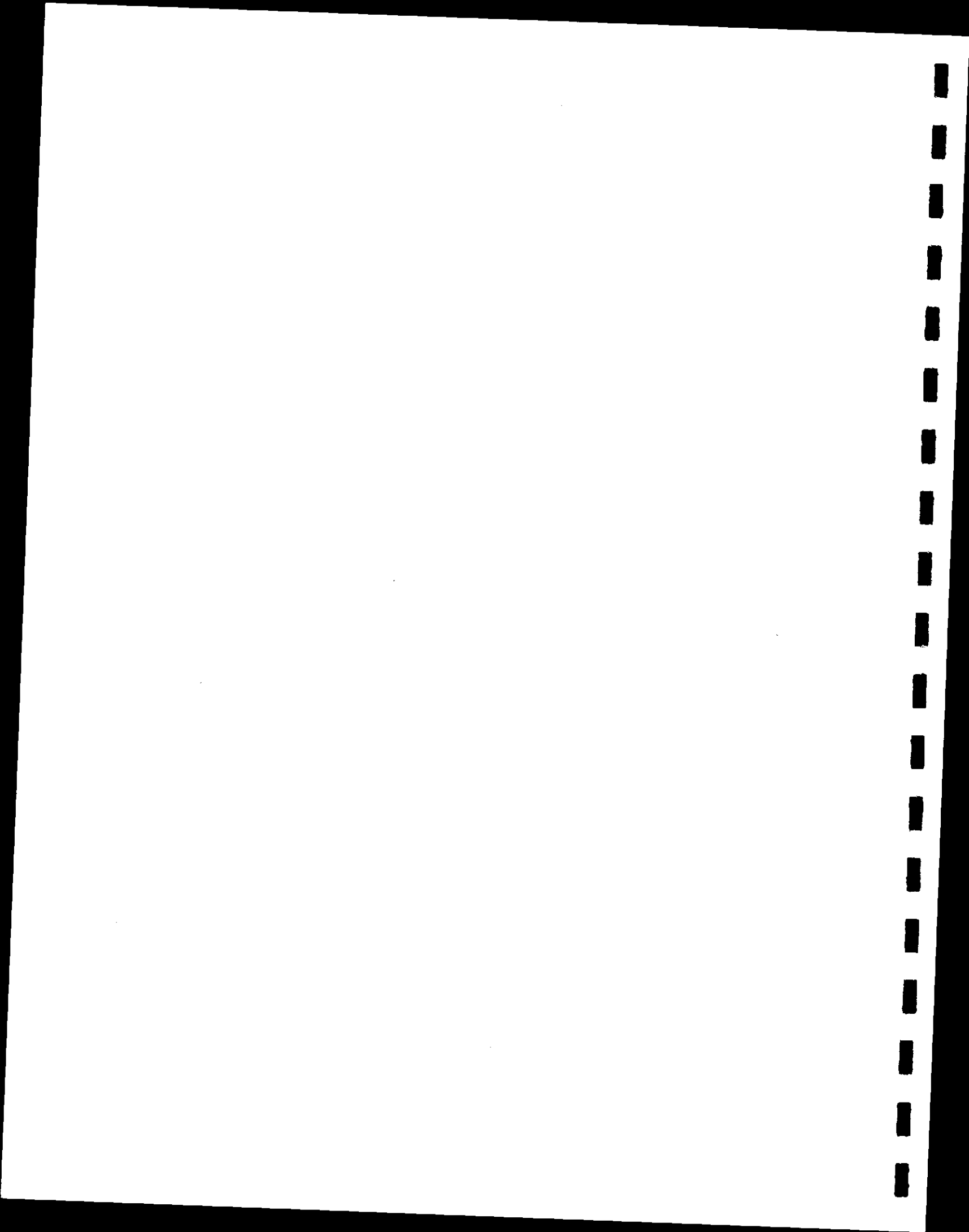
- Includes development as a school
- Completes exposure pathway, quantitatively evaluated
- - - RES - Residential

Conceptual Site Model

Batarse Site, Oakland, California



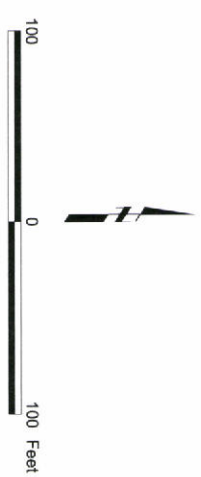
Figure 11





LEGEND

- ⊕ BASB001 Sample location
- Building
- ▭ Tank
- ▬▬▬ Railroad tracks
- ▭ Area of investigation
- ▨ Area of proposed removal action



Approximate Extent of Proposed Removal Action

Batarse Site, Oakland, California



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Figure 12