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June 3, 2011

Ms. Barbara Jakub
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Sampling and Analysis Plan Submittal- 6th Street & Castro Street, Oakland, CA

Reference: ACEH Fuel Leak Case No. RO250, Facility Global ID # T0600102155

Dear Ms. Jakub:

On behalf of California Department of Transportation (Caltrans), I am pleased to submit the following Soil Gas Sampling and Analysis Plan for the above referenced site. The work plan for soil vapor sampling was prepared by Northgate Environmental Management, Inc.

Certification

I certify under penalty of law that these documents are prepared for Caltrans by the consultants in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing the violations.

If you have any questions, or comments, please contact me at (510) 286-5635.

Sincerely,

CHARLES D. SMITH, P.E.
Senior Transportation Engineer
Office of Environmental Engineering

Soil Gas Sampling and Analysis Plan
6th and Castro Street Caltrans Property
APN 1-221-141
Oakland, California

June 2, 2011

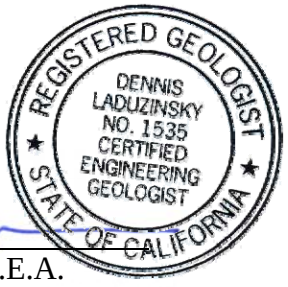
Prepared For:

City of Oakland
250 Frank H. Ogawa Plaza, 4th Floor
Oakland, California 94612

Under EPA Brownfields
Assistance Grant Number 2B-00T18101-0

Prepared By:

Northgate Environmental Management, Inc.
300 Frank H. Ogawa Plaza, Suite 510
Oakland, California 94612



Kim Ries
Associate Hydrologist

Dennis Laduzinsky, C.E.G., R.E.A.
Principal

1204.19

Soil Gas Sampling and Analysis Plan
6th and Castro Street Caltrans Property
APN 1-221-141
Oakland, California

For

City of Oakland
Environmental Services Division
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, California 94612

Approved by:

Name:	**Title:**	**Signature:**	**Date:**

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TABLES

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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
BAG	Brownfield Assessment Grant
Caltrans	California Department of Transportation
City	City of Oakland
COPC	Constituents of Potential Concern
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DTSC	Department of Toxic Substances Control
ESL	Environmental Screening Levels
FID	Flame Ionization Detector
Ft bgs	Feet Below Ground Surface
LNAPL	Light non-aqueous phase liquid
LUST	Leaking Underground Tank Clean-up Site
MTBE	Methyl-tert-buty-ether
PCB	Polychlorinated Biphenyls
PEA	Preliminary Endangerment Assessment
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RPD	Relative Percent Difference
RWQCB	Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
Site	Property at 6th and Castro Street, Assessor Parcel Number 1-221-141, Oakland, California
SOP	Standard Operating Procedure
SVOC	Semi-volatile Organic Compound
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPHmo	Total Petroleum Hydrocarbons as Motor Oil
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) describes soil gas sampling activities to be conducted as part of a Phase II Site Assessment at the 6th and Castro Street Caltrans property (Assessor's Parcel Number (APN) 1-221-141) in Oakland, California (the Site). The work is being performed for the City of Oakland (City) under Brownfield Assessment Grant (BAG) Number 2B-00T18101-0, issued by the U.S. Environmental Protection Agency (EPA) for the West Oakland Development Area. The work will be performed in accordance with this SAP and procedures outlined in the *Quality Assurance Project Plan, West Oakland Development Area, Oakland, California* prepared by Northgate on September 8, 2009 (the QAPP).

The purpose of the soil gas sampling is to:

1. Collect Site data necessary to determine if vapor concentrations of known subsurface fuel contamination could pose risks for future site development by comparing measured concentrations with relevant Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs); and
2. Determine the extent and concentrations of vapor contaminants associated with TPH-G and BTEX in the vadose zone beneath the Site.

1.1 Site Description

The Site is one city block consisting of an approximate 73,500 square foot (350 feet by 210 feet) parcel of vacant land near the split of the elevated 880 and 980 Freeways in Oakland, California (Figure 1). It is bordered by Brush and Castro Streets on the west and east, and 6th and 7th Streets on the south and north (Figure 2). The California Department of Transportation (Caltrans) purchased the property between 1969 and 1971, and in 1973 demolished buildings on the property. Prior to this, the Site was occupied by numerous residential and commercial buildings since at least 1889 (Engeo, 1993). Records indicate three underground storage tanks were removed from the southwestern portion of the site in 1971, where a former gasoline service station occupied the corner of Brush and Castro Streets between 1956 and 1967.

1.2 Responsible Agency

The site is listed on the Bay Area Regional Water Quality Control Board (RWQCB) GeoTracker database as an open case # 01-2345, Leaking Underground Tank Clean-up Site (LUST), with the Alameda County Department of Environmental Health as the Lead oversight agency (local case # RO250). The GeoTracker closure review notes that groundwater has been impacted by fuel hydrocarbons, but the extent of contamination and associated risks have not been fully evaluated.

Groundwater monitoring ceased in 2001 then resumed in the fourth quarter 2008 and continued through second quarter 2009.

1.3 Project Organization

Key project staff and their responsibilities are presented below:

Title/Responsibility	Name	Phone Number
EPA Project Officer	Wallace Woo	(415) 972-3270
EPA Quality Assurance Manager	Eugenia McNaughton, Ph.D.	(415) 972-3411
City of Oakland Project Manager	Gopakumar Nair	(510) 238-6361
County of Alameda Department of Environmental Health Site Manager	Barbara Jakub	(510) 639-1287
Contractor (Northgate Environmental Management)	Dennis Laduzinsky, C.E.G.	(510) 839-0688 x 202

2.0 BACKGROUND

Beginning in 1987, seven site assessments have been conducted to assess the Site environmental conditions: for Greyhound in April 1987, for City of Oakland in January 1993, for Caltrans in October 1995, December 1996, October 1999, and April, 2009, and for the Port of Oakland in November 2001. The Phase I and Phase II site assessments were initiated by parties interested in purchasing the property or by Caltrans in response to requests from Alameda County Department of Environmental Health. This section summarizes information on historical site uses and site characterization and monitoring activities.

2.1 Site Use History

The California Department of Transportation (Caltrans) purchased the property between 1969 and 1971, and in 1973 demolished the buildings on the property. Prior to this, the site was occupied by numerous residential and commercial buildings since at least 1889 (Engeo, 1993). Potentially contaminating site uses included a gasoline station, a dairy creamer, and a commercial warehouse where underground storage tanks were known or reported. Records indicate three underground storage tanks were removed from the southwestern portion of the site in 1971, where a former gasoline service station occupied the corner of Brush and 6th Streets between 1956 and 1967 (Figure 2). The parcel has remained vacant since 1973. Aerial photos indicate the Site has occasionally been used for parking trucks and trailers, and in 1985 during construction of the 980 Freeway, for staging contractor equipment.

2.2 Previous Investigations and Regulatory Involvement

Table 1 chronologically lists investigation reports, workplans, monitoring reports and agency correspondence that were reviewed. Seven investigations and nine monitoring events formed the data set upon which this sampling plan is developed. Sampling data are consolidated in tables presented in Section 3.

The earliest investigations were conducted to assess potential environmental liabilities related to valuation and sale of the property. The investigations identified fuel contaminants in soil and grab groundwater samples and lead in shallow soil samples and in one grab groundwater sample. In 1998 the Site was assigned to Alameda County Environmental Health Services as the local oversight Agency responsible for overseeing investigation and clean-up for a fuel contamination site. Investigations after 1998 focused on determining the extent of contamination, including the installation of three on-Site monitoring wells in 1999 and four on- and off-Site monitoring wells in 2008. Groundwater monitoring occurred on a quarterly basis between fourth quarter 1999 and first quarter 2001, and then again between the fourth quarter 2008 and second quarter 2009. An

investigation of the Site and parcels downgradient to the south-southwest of the Site was conducted in 2001 on behalf of the Port of Oakland. Data from this investigation was transmitted by Caltrans to the Alemada County Environmental Health Services in a letter dated July 18, 2002 however the investigation report and original data were not available for analysis.

2.3 Previous Investigation Findings

Subsurface contamination appears to be gasoline fuel, associated with underground fuel tanks removed in January 1971 from the former gasoline service station located in southwestern portion of the Site. The subsurface of the Site is characterized by 1 to 3 feet of fill overlying 5 to 12 feet of sand with clay or silt, underlain by dense clayey sand to 23 feet below ground surface (ft bgs). Groundwater is encountered at 10 to 17 ft bgs, and between 1999 and 2001, the water table fluctuated about three feet. The highest concentrations of contaminants detected in groundwater between 1999 and 2001 are total petroleum hydrocarbons as gasoline (TPH-G) at 65,000 micrograms per liter (µg/L), benzene at 880 µg/L, toluene at 5,100 µg/L, ethylbenzene at 3,100 µg/L, total xylenes at 18,400 µg/L, total petroleum hydrocarbons as diesel (TPH-D) at 6,500 µg/L, 1,2-dichloroethane at 160 µg/L, and other fuel-related volatile organic compounds (VOCs) up to 2,300 µg/L. These constituents were measured in well MW-2, located onsite about 85 feet east of the corner of Brush and 6th Streets (Figure 2). Four other onsite wells (MW-1, MW-3, MW-4 and MW-5) showed either non-detect to at least three orders of magnitude lower concentrations of these contaminants. Groundwater sample analyses, using EPA Method 8260, did not encounter methyl-tert-butyl ether (MTBE) or other fuel oxygenates. The groundwater gradient appears to be generally to the south, with historical monitoring data also indicating a southwest or southeast direction. Soil sample analyses indicated there may be relatively high lead levels (up to 410 mg/kg) within the top four feet of soil.

3.0 EVALUATION OF EXISTING DATA

This section presents data from previous investigations noted in Section 2.2.

3.1 Sample Locations

Table 2 lists the boring and wells installed during previous site investigations and Figure 2 shows their locations. Soil borings were advanced to depths up to 24 feet below ground surface at a total of 39 locations within the property boundary and off-Site to the southwest. In addition to the soil borings, a total of seven monitoring wells up to 23 feet below ground surface were installed within the property boundary and off-Site to the southwest. Soil samples were collected from depths of 0.083 to 17 feet bgs at 43 locations on-Site and off-Site to the south across 6th Street. Seven monitoring wells from 20 to 24 feet deep were installed on-Site and off-Site, downgradient to the southwest. A total of 27 on- and off-Site locations, grab groundwater samples were collected by installing temporary casings within boreholes advanced beneath the water table.

Data collected from these borings and samples are described in the following sections, including subsurface stratigraphy, groundwater conditions, and analytical results from soil, grab groundwater, and groundwater samples. Analytical data is presented in tables along with the Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs) to identify Site constituents of potential concern (COPCs) by media.

3.2 Subsurface Conditions

Site soil to a depth of 24 feet bgs consists of fine sand with clay to clayey sand. Historically, groundwater has been encountered between 12 and 17 feet below ground surface. Groundwater flow is to the south-southeast and to the south-southwest, and the water table has fluctuated approximately 3 feet between 1999 and 2008. A geophysical survey performed by Norcal in 1995, did not reveal remnant underground storage tanks on the property. Anomalies identified during the geophysical survey and possible remnants of the fuel system used by the former service station were further investigated in 2008 using a backhoe to excavate trenches (Kleinfelder, 2009). Some shallow abandoned pipes were encountered during trenching operations (Kleinfelder, 2009), but all were less than 10 feet deep and above the water table. A preferential pathways analysis concluded that active storm drains (and associated backfill) beneath 6th Street and Castro Street have limited influence on groundwater flow based upon groundwater elevations and hydraulic gradients and the distribution of chemicals of interest in groundwater.

3.3 Soil Sample Results

A total of 183 soil samples were collected at 45 locations as noted in Table 2. Based upon historical Site uses, soil has been characterized for metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and fuel related compounds, using standard EPA analytical methods. Five near surface soil samples were analyzed for pesticides and polychlorinated biphenyls (PCBs) (Kleinfelder, 2009). In addition to samples submitted for laboratory analysis, Figure 2 shows locations where a backhoe was used to excavate trenches (up to 10 feet deep) and potholes (up to 3 feet deep) at locations where subsurface features were suspected based on former underground tank locations and a Site geophysical survey (Kleinfelder, 2009). Soil excavated at these locations was inspected for odors, signs of staining and weathered fuel product, or for presence and orientation of buried features that could act as conduits for the transport of Site contaminants. Petroleum staining was not noted at the four pothole locations or in Trenches T-A, T-B, T-C, and T-D3 (Figure 2 and Table 2). Petroleum staining was observed in eastern end of Trenches T-E1, T-E1-EXT, and T-E-2. Select samples (T-E1 and T-E2) were collected from the trench and submitted for analysis of metals, VOCs, semi-volatile compounds, and fuel compounds. Shallow, buried metal conduit, pipe, and sewer pipe were observed in Trenches T-B, T-C, and T-E2, without permeable backfill that could provide a preferential pathway for contaminants.

Table 3 summarizes the locations, samples, and analytical results that exceed ESLs, and Figure 3 highlights the locations. COPCs in soil include fuel compounds (TPH-G, TPH-D, benzene, ethylbenzene, toluene, xylene, and naphthalene) and metals (lead, vanadium, copper, and arsenic). Fuel COPCs (up to 1,300 mg/kg TPH-G) were detected in soil samples B-11, DP-5, OAK-1 and OAK-2 collected from 10-15 feet below ground surface within the portion of the property formerly occupied by a gasoline service station. Exceptions are two shallow (2.5 to 3 foot) soil samples (OAK-8 and OAK-6C-3) where TPH-D and toluene were detected at concentrations around 50% above the lowest ESL.

Metal COPCs (up to 1,700 mg/kg lead in OAK-3) were detected in soil samples collected from 1-3 feet below ground surface from locations across the site (Figure 3). Of the metals, arsenic (1.7-1.8 mg/kg) and vanadium (18-40 mg/kg) concentrations appear to be within the range of naturally occurring ambient levels as defined by approximately 500 soil samples analyzed from the Oakland/Berkeley Hills by Lawrence Berkeley National Laboratory (LBL, 2009). Data indicate arsenic and vanadium in soil are not affected by site-related activities, and are eliminated as Site COPCs. Lead appears elevated (200-1,700 mg/kg) in shallow soil (less than 3 feet) across the Site,

and copper was elevated in one 2-foot soil sample (240 mg/kg). These metals are retained as Site COPCs in shallow soil less than 3 feet deep.

3.4 Grab Groundwater Sample Results

Grab groundwater samples were collected by installing temporary casings within boreholes advanced beneath the water table at 27 locations on-Site and downgradient off-Site. Table 4 summarizes the locations, samples, and analytical results for groundwater samples that exceeded ESLs, and Figure 4 highlights the boring locations. COPCs in grab groundwater include fuel compounds (TPH-G, TPH-D, benzene, ethylbenzene, toluene, xylene, naphthalene, 1,2-dichloroethane, and 1,2-dichloropropane) and metals (lead, total chromium, and nickel). Fuel COPCs (up to 14,000 µg/L toluene) were detected in grab groundwater samples collected from five on-Site and two off-Site locations (Figure 4), and concentrations were highest in samples collected from B1-11, DP-5, OAK-1, and OAK-2, all located in the area of the former gasoline service station. Grab groundwater from OAK-3, upgradient of the former gasoline station, indicated aromatic hydrocarbons exceed ESLs, but TPH-G and –D were non-detect or just above the reporting limit. Two off-Site grab groundwater samples (DP-1 and OAK-1BA-1) located approximately 60 and 100 feet downgradient of the former gasoline station, had 32-38 ug/L of 1,2-dichloroethane and 5.1 ug/L of 1,2-dichloropropane, exceeding their respective ESLs. Low (<3 ug/L) levels of toluene and xylene and 56 ug/L TPH-G were detected at OAK-1BA-1, but were below ESLs. Fuel compounds were not detected in other off-site grab groundwater samples, except for one location (OAK-1BA-9 where TPG-G was 320 µg/L), farthest from the apparent Site fuel source area. Grab groundwater sample results from sample locations (DP-1 through -4, OAK-1BA-3, OAK-10, and OAK-11) and repeated groundwater sample results from wells (MW-3, -5, -6, and -7) indicate this apparent area of fuel contamination is unrelated to the 6th and Castro Street Site (Figure 4).

Lead measured in grab groundwater samples from seven on- and off-Site locations exceeded an ESL of 2.5 ug/L, established to be protective of aquatic habitat where groundwater discharges to surface water (Table 4). Only one on-Site sample from OAK-6C-1 exhibited lead concentrations (38 ug/L) above the California maximum contaminant limit (MCL) of 15 µg/L for drinking water. As shallow groundwater at is neither used as a drinking water source nor discharges locally to a surface water body, lead is not considered a COPC for shallow groundwater. Chromium exceeds ESLs in three on-Site grab groundwater samples (OAK-6C-1, -2, and -3) in the northern half of the Site near 7th Street. In samples OAK-6C-1 and -3, chromium exceeds the 50ug/L ESL, based upon drinking water toxicity, by only 3 to 4 ug/L. In the sample from OAK-6C-3 chromium was measured at 290 µg/L. Chromium is the primary contaminant of concern at a former metal plating

facility located directly across Brush Street and cross-gradient from the Site. Groundwater concentrations of hexavalent chromium up to 460,000 µg/L were detected in samples collected at the former metal plating facility in April, 2010. Nickel was also detected in the sample from OAK-6C-3 at 330 µg/L, above the California MCL for drinking water of 100 µg/L. Neither, chromium and nickel appear to be Site-related COPCs.

3.5 Groundwater Sample Results

Up to 11 rounds of groundwater samples have been collected from the seven on- and off-Site groundwater monitoring wells. Table 5 summarizes the location and chemicals in groundwater where ESLs were exceeded. If a chemical exceeded an ESL in at least one sample, it was listed for all samples collected at that location. Well MW-2 (Figure 4) is the only monitoring well where groundwater concentrations exceed ESLs or applicable standards for drinking water. COPCs in groundwater samples from MW-2 include fuel compounds (TPH-G, TPH-D, benzene, ethylbenzene, toluene, xylene, naphthalene, 1,2-dichloroethane, and 1,2-dichloropropane). TPH-G is the primary component of the fuel mixture with concentrations measured up to 65,000 µg/L. One sample (9.1 µug/L) out of a total of ten samples slightly exceeded the ESL for trichloroethene (TCE) of 5 µg/L, however based upon the cumulative body of Site data, TCE does not appear to be a Site-related COPC.

Table 6 lists wells and the COPCs (benzene, TPH-G, and TPH-D) that may be of concern for vapor concentrations, should the site be developed for residential use. Groundwater in the vicinity of well MW-2 may present a risk to vapor exposures to indoor air in a future residential development scenario. Previous investigations did not collect soil vapor samples from the Site, and soil vapor analyses are a data gap that will be filled during this sampling event.

3.6 Extent of Site Contamination

Figure 5 indicates the estimated extent of fuel-related contamination based upon available data. It appears that soil contaminated with fuel occurs only within the property boundary of the former gasoline service station. Groundwater contaminated with fuel occurs in a larger area, extending on-Site beyond the boundary of the former gasoline station and extending off-Site southwest beneath 6th Street and possibly the property across 6th Street beneath the 880 Freeway, also owned by Caltrans. Multiple groundwater samples collected from monitoring wells indicate the groundwater plume is stable and limited in lateral extent, and no consistent fuel concentration trends occur over the ten year span between 1999 and 2009. Relatively high fuel concentrations occur in groundwater samples collected from well MW-2 however, light non-aqueous phase liquid (LNAPL) was not previously measured or reported in this well. Concentrations of

benzene (above 540 µg/L) in groundwater samples from MW-2 indicate a potential for vapor concerns should the Site be developed for residential uses. Shallow soil (above 4 feet deep) across the site appears to be contaminated with lead, posing a risk for residential development.

4.0 DATA QUALITY OBJECTIVES AND SOIL GAS SAMPLING DESIGN

As discussed in the QAPP (Northgate, 2009) and EPA Guidance for the Data Quality Objectives Process (EPA, 1994), Data Quality Objectives (DQOs) are qualitative and quantitative statements that clarify the study objective(s), define the most appropriate type of data to collect, determine the most appropriate conditions from which to collect the data, and specify tolerable limits on decision errors which will be used as the basis for establishing the quantity and quality of data needed to support the decision(s). The DQOs are then used to develop a scientific and efficient data collection design.

This section summarizes the DQOs for the soil gas sampling described herein and includes:

- The problem to be studied,
- The questions the study will attempt to resolve and what decisions may result,
- The information that needs to be obtained and the measurements that need to be taken to resolve the decision statement(s),
- The survey boundaries and the depth and locations where samples should be collected, and
- The data quality indicators that establish the data quality criteria.

4.1 Problem Definition

The Site problem to be addressed is: What remedial alternatives are needed to address Site contamination, and what are the preliminary cost estimates for implementing the alternatives? Based upon the available data, the contaminants of concern (COPCs) include:

- petroleum hydrocarbons (TPH-G);
- BETX (benzene, ethylbenzene, toluene, and xylenes);
- fuel-related volatile organic compounds; and
- Lead.

While Site groundwater and soil impacts have been characterized, the concentrations of volatile fuel contaminants within the vadose zone beneath the property have not been measured.

4.2 Data Quality Objectives (DQOs)

Soil gas sampling is designed to address the following data objectives (i.e. questions the sampling will attempt to resolve):

1. Do shallow soil gas concentrations of BETX and TPH-G beneath the Site represent a potential exposure risk via inhalation in areas of the Site where buildings may be constructed in the future?

2. What is the extent of soil gas concentrations of BETX and TPH-G beneath the Site?

4.3 Soil Gas Sampling Locations and Rationale

To address the DQOs, an estimated 12 to 15 soil gas samples will be collected from shallow depths (approximately 5 feet deep) to represent concentrations directly beneath a potential future building foundation. If relatively high soil gas concentrations are detected in a sample at 5 feet, a deeper sample at 10-12 feet may be collected at the location in order to estimate possible attenuation and/or degradation occurring between the two sample depths. Soil gas samples will be collected only within the Site boundary (e.g. fence-line), where future development could occur. Soil gas sampling will begin within the area of the estimated soil and groundwater contamination near MW-2, where the highest groundwater contaminant concentrations have been measured, and where the highest vapor concentrations are expected to occur (Figure 6). Sampling will step out approximately 25-30 feet to the north of MW-2, within the estimated extent of TPH in soil. Based upon concentrations measured in soil gas samples, sampling will proceed to 'step out' from the locations sampled by distances of 30-50 feet and collect measurements in a radial pattern to cover the estimated extent of the groundwater plume. Based upon concentrations measured in soil gas samples within the on-Site estimated groundwater plume, sampling will proceed to step out until vapor measurements of the target compounds are non-detected. To obtain this flexibility, soil gas samples will be collected using active soil vapor sampling equipment with an on-Site mobile laboratory. Proposed sample locations shown in Figure 6 may be adjusted in the field as sampling proceeds.

4.4 Data Quality Indicators

As stated in the QAPP (Northgate, 2009), data quality indicators (DQIs) refer to quality control criteria established for various aspects of data gathering, sampling, or analysis activity. For this project, mobile laboratory data will be reconciled with DQIs based on the following five assessment parameters:

4.4.1 *Accuracy*

To assess the accuracy of the data for this investigation, Northgate will review the mobile laboratory initial daily GC/MS calibration report to confirm that the calibration standard is in compliance with the laboratory's own quality control (QC) limits. Blank samples of ambient air,

run at the start of the day, will be reviewed to measure background vapor concentrations of target chemicals. If very high sample concentrations are measured at a location, a blank sample will be run afterward to assess change in background or potential for carry-over between sample locations.

4.4.2 *Precision*

Precision is demonstrated by the internal consistency of the analytical system detector's response over the course of the day to the list of target compounds. Precision will be measured by analyzing one duplicate soil gas sample (repeating the analysis) at a select location for the compounds detected. The relative percent difference of the duplicate samples should be within 30% to be acceptable.

4.4.3 *Completeness*

Completeness is a measure of the amount of valid sample results obtained during all sampling for the project. The completeness goal is 87 percent meaning 87% (e.g. 13 out of 15) of the measurements will be considered valid measurements based upon the achieving the mobile soil gas lab's quality criteria.

4.4.4 *Representativeness*

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. The design of the sampling program ensures that environmental conditions have been sufficiently represented. Representativeness will be evaluated by the Project Manager based on review of other Site data, duplicate and blank sample results, and the mobile laboratory QC results.

Based on the quantitative and qualitative assessment described above, Northgate will judge whether the data appear to be representative of Site conditions and whether they are acceptable and comparable for the purposes of the project, particularly with respect to the units and detection limits for the target chemicals of concern being compared to environmental screening levels (ESLs). For data that does not meet DQIs, Northgate will flag the data in our summary tables, and include a discussion of the reconciliation in the report.

4.4.5 *Comparability*

The analytical results will be reported in micrograms per liter and converted to parts per billion by volume (e.g. $\mu g/m^3$) to directly compare with the soil gas ESLs. A purge volume test will be

conducted at the first sampling point. The test involves sampling the point three times after sequentially collecting and discarding one, three, and seven dead volume of soil vapor gas to flush the sample tubing and fill it with in-situ soil vapor. The purge volume used prior to the sample yielding the highest analytical value will be then used for all subsequent sampling.

5.0 SOIL GAS SAMPLING PROCEDURES

This section describes the active soil gas sampling procedures that will be used. In general, the soil vapor survey methodology follows DTSC protocols. Specific tasks are described in the following subsections.

5.1 Pre-field Activities

Northgate will prepare for the field work by performing the following activities:

- Contact appropriate parties to arrange Site access for field activities;
- Conduct a field inspection to mark and stake sampling points;
- Schedule the services of the soil gas mobile sampling subcontractor, TEG;
- Contact Underground Service Alert to locate and mark utilities within the public right of way
- Contract a private utility locator to identify, locate, and mark underground utilities and buried structures on the Site.

5.2 Soil Gas Sampling

Active soil gas sampling will be conducted using TEG's Strataprobe© and mobile lab and sampling system. TEG's soil vapor probes are constructed of 1-inch outer diameter chrom-moly steel, equipped with a steel drop off tip. Nominal lengths are four feet and additional lengths are added to achieve the required sampling depth (estimated 5 to 10 feet). An inert 1/8-inch tube runs through the center of the probe and is attached to the sampling port with a stainless steel fitting.

The probe is driven to the desired depth with using direct-push method, and the probe is retracted slightly to open the tip and expose the vapor sampling port. The probe is left in place for 20 minutes before extracting a soil vapor sample, to allow subsurface conditions to equilibrate.

Soil vapor is withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A purge volume test will be run on the first sample location, in order to determine the purge volume used for subsequent sampling. During sampling, a leak check gas is used to confirm that the sample conveyance and probe rod is tight and leak free. Soil vapor samples will be transferred directly to the on-Site mobile laboratory and analyzed immediately. Samples will be analyzed using a GC/MS equipped with capillary columns for analysis of BETX and TPH-G using modified EPA method 8260B. A second column confirmation is expected to be used to confirm the presence of the target compounds, which are complex mixtures of hydrocarbons.

Output signals from the detectors are processed by computer chromatography software and the results are entered into a laboratory computer for on-Site processing.

5.3 Instrument Calibration

Daily continuing calibration is performed at the start of each day by injecting and analyzing a calibration standard appropriate for the target compounds. Depending on the compound, the calibration curve must agree within +/- 15% to 25% of the calibration standard compound.

5.4 Sampling Equipment Decontamination

To minimize the potential for cross-contamination between sample locations, all external probe parts will be cleaned of excess dirt and moisture prior to insertion. The internal inert tubing and sampling syringes are flushed with large volumes of ambient air between samples or discarded and replaced with new tubing if any material or water is observed.

6.0 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

6.1 Target Compounds

Based upon Site COPCs described in Section 3, soil gas samples will be analyzed for the following list of target compounds and detected at the listed mobile laboratory reporting limits.

Compound	Reporting Limit (vapor µg/L)
Benzene	0.10
Toluene	0.20
Ethylbenzene	0.10
m, p-Xylene	0.20
o-Xylene	0.10
TPH-gasoline	10

The compounds will be measured using EPA Method 8260B

6.2 Quality Control Samples

One duplicate sample will be collected and analyzed from a location (and depth) where one or more target compounds have been detected. The primary and duplicate sample will be used to assess precision as noted in Section 4.4.2. One blank sample (ambient air) will be collected and measured at the beginning of the sampling event. The ambient air sample will be collected by filling a decontaminated syringe with air from inside the mobile laboratory room. Data collected at less than two times the blank concentrations will be flagged as non-detected.

6.3 Data Reports and Field Documentation

The soil gas sampling outlined in this SAP will be performed in a period of one ten-hour day. A daily field log will be completed by the Northgate field staff to record the onsite personnel, onsite equipment, QC samples collected, sample IDs, sample depth, equipment decontamination procedures. In addition the field log will include the times of sample collection, time allowed for the inserted probe to equilibrate prior to sample collection, a detailed description of each sample location (with diagram or map), and the logic used to determine the step-out sampling decisions.

As conditions in the field vary, it may be necessary to implement minor modifications to the sampling program presented in this SAP. Where appropriate, the Project Manager will be notified and a verbal approval will be obtained before implementing changes. Modifications to the approved SAP will be documented in the daily field report and in the project letter report.

7.0 FIELD HEALTH AND SAFETY PROCEDURES

Field activities will be conducted in accordance with standard industry practices regarding worker health and safety. In addition, a site-specific health and safety plan will be prepared by Northgate prior to initiating field work. All field team members will read and sign the health and safety plan prior to each day's field work.

8.0 REFERENCES

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PSI, 1999a. *Fourth Quarter 1999 Groundwater Monitoring Report,* prepared for California Department of Transportation, District 4, Professional Services Industries, November 22, 1999.

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PSI, 2000b. *Fourth Quarter 2000, Sixth Quarterly Monitoring Report,* prepared for California Department of Transportation, District 4, Professional Services Industries, December 6, 2000.

PSI, 2001. *First Quarter 2001, Seventh Quarterly Groundwater Monitoring Report, Revised,* prepared for California Department of Transportation, District 4, Professional Services Industries, July 26, 2001

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TABLES

TABLE 1
Chronolgy of Investigations, Monitoring, and Regulatory Involvement; 6th and Castro Street Caltrans Property

Item #	Date	Document Type[1]	Notes
1	4/16/1987	(preliminary) Initial Site Assessment	Prepared by ERM for Greyhound who was considering purchase from Caltrans: 7 borings drilled to 15-17 'bgs; temp PVC casing placed in borings 1, 5, and 6 to collect groundwater; no backfill; gw at 12-15' bgs; one soil sample from each boring at 16--17.5'bgs; low levels ethyl benzene, toluene, xylene detected in samples.
2	1/27/1993	Phase 1 Environmental Site Assessment	Prepared by Engeo for City of Oakland Environmental Affairs Division: Records search; site walk; records review; and aerial photo review
3	7/19/1995	Workplan for Site Investigation	Prepared by Geocon for Caltrans: Workplan to conduct the 10/9/95 Site Investigation Report
not in records	7/21/1995	Geophysical Survey	Norcal conducted for Caltrans? Identified 5 anomalies in middle and sw portion of the site (referenced in Kleinfelder Site Investigation 2009 report).
4	10/9/1995	Phase 2 Site Investigation Report	Prepared by Geocon for Caltrans for potential sale of the land: 7 direct push soil probes to 25'bgs and discrete soil samples collected from 3 to 12'bgs and 2 groundwater grab samples from temp. well casings; lead from 67 - 410 mg/kg and oil & grease up to 8,000 mg/kg were the COCs identified in soil from 1-3' bgs; no petroleum HC or BTEX, but only analyzed in 2 samples at 17'bgs
5	12/4/1996	Site Investigation Report	Prepared by IT Corp. for Caltrans with regard to 'excess land' for sale: soil and gw samples were analyzed for petroleum and VOCs; 11 soil borings 15 to 23'bgs; 4 grab gw samples collected from borings
6	5/11/1998	notice of responsibility	Notice from Alameda Co. Env. Health Services to CalTrans Dist 4 as responsible party owner that the site has been placed in the Local Oversight Program and Caltrans is responsible for investigation and clean-up
7	5/14/1999	Workplan for Site Investigation	Prepared by Professional Service Industries, Inc. (PSI) for Caltrans: to determine concentrations of potentially hazardous commpounds in soil and groundwater and compare results to regulatory criteria
8	5/19/1999	Geotracker entry	Case noted as open in Geotracker; Alameda Co. LOP is Lead Agency; caseworker is Barbara Jakub; RWQCB Caseworker is Cherie McCalou
9	6/14/1999	Misc. correspondence	Transmittal cover sheet with 2 maps of TPH-G and benzene results from soil samples and proposed well locations
10	10/14/1999	Site Investigation Report	Prepared by PSI for Caltrans: installed 3 wells and 10 borings; elevated TPH-G and benzene in soil and groudnwater in the SW part of site (benzene up to 3,700 x higher than MCL of 0.001 mg/L and 1-2, DCA is 32 x higher than MCL of 0.005 mg/L); no MTBE detected in gw; elevated Oil and Grease in soil samples; several soil samples exceed STLC for lead
11	11/22/1999	GW Monitoring Report	PSI 4Q 1999 Groundwater monitoring report: gradient to the south; BTEX and 1,2-DCA exceeded MCLs
12	1/26/2000	Letter	Letter from Caltrans to Alameda Co. Health responding to questions about onsite wells and storm drain (letter has attached pictures of each of the ERM borings)

TABLE 1
Chronolgy of Investigations, Monitoring, and Regulatory Involvement; 6th and Castro Street Caltrans Property

Item #	Date	Document Type[1]	Notes
13	3/9/2000	GW Monitoring Report	PSI 1Q 2000 Groundwater monitoring report: gradient to the south; TPH-G, BTEX, 1,2-DCA, and fuel VOCs were detected in MW-2
14	8/18/2000	GW Monitoring Report	PSI 2Q 2000 Groundwater monitoring report: gradient to the south; TPH-G, BTEX, 1,2-DCA, and fuel VOCs were detected in MW-2; TCE was detected in MW-1 and MW-2 for the first time; soluble lead detected in MW-3
15	9/5/2000	GW Monitoring Report	PSI 3Q 2000 Groundwater monitoring report: gradient to the south; TPH-G, BTEX, 1,2-DCA, and fuel VOCs were detected in MW-2
16	12/15/2000	GW Monitoring Report	PSI 4Q 2000 Groundwater monitoring report: gradient to the south; TPH-G, BTEX, 1,2-DCA, and fuel VOCs were detected in MW-2
17	5/8/2001	Letter	Letter from Alameda Co. Health to Caltrans requesting that they: 1) continue monitor groundwater and 2) conduct an investigation to determine extent of groundwater plume to the south
18	8/7/2001	GW Monitoring Report	PSI 1Q 2001 Groundwater monitoring report: gradient to the south; TPH-G, BTEX, 1,2-DCA, and fuel VOCs were detected in MW-2
19	8/6/2001	Workplan for Site Investigation	Prepared by ERM for Caltrans at the request of Alameda Co. Health Svcs. to conduct an offsite investigation to determine extent of contaminants in groundwater
20	12/5/2001	Letter request for analytes	Alameda Co. Health Svcs. sent Caltrans a letter with comments on the 1Q 2001 Groundwater Monitoring report and the 8/6/01 PSI Site Investigation workplan requesting that they include groundwater analyses for BTEX and Oil and Grease
21	7/18/2002	Letter w/attachements	Letter from Caltrans to Alameda Co. Health Svcs. noting that a Port of Oakland investigation occurred on and near the same parcel (data tables included) and requested a determination on further site requirements since results showed natural attenuation reduced downgradient groundwater concentrations. Caltrans asked if groundwater monitoring was still needed, and if so, then different standards than drinking water should be used to compare groundwater results
22	4/1/2003	Letter	Letter from Caltrans to Alameda Co. Health noting the July 18, 2002 letter on the offsite investigation results and the request for a determination for futher site requirements. Caltrans wanted to determine the value of the property and needed to know what additional site requirements and/or needs for remedial action.
23	4/29/2003	correspondence	Letter from Alameda Co. Health to Caltrans stating: 1) Port of Oakland report submitted was not complete and the goals were different than the ERM proposed work; 2) didn't agree that natural attenuation was occuring because fuel concentrations in MW-2 were increasing; 3) Block A samples were not appropriately downgradient; 4) additional samples are needed to verify the extent of contamination; 5) an additional well is needed to confirm gradient; and 6) continued groundwater monitoring is needed to demonstrate plume stability

TABLE 1
Chronolgy of Investigations, Monitoring, and Regulatory Involvement; 6th and Castro Street Caltrans Property

Item #	Date	Document Type[1]	Notes
24	6/10/2003	Letter	Letter from Caltrans to Alameda Co. Health responding to 4/29 letter: reiterates that Caltrans needs the County Env Health requirements for study and clean up criteria; notes that groundwater monitoring will continue when Caltrans budget is restored.
25	12/14/2006	Letter+ technical comments	Letter from Alameda Co. Health to Caltrans stating that they reviewed site records and find that: 1) additional offsite investigation to define extent of groundwater contamination is still needed and 2) groundwater monitoring discontinued in 2001 needs to be restarted. The technical comments are the last list of requested characterization elements
26	5/30/2008	Site Investigation Work Plan	Prepared by Klenifelder for Caltrans: Purpose of workplan is to fill data gaps to conduct a feasibility study/corrective action plan for site contamination
27	7/3/2008	Letter	Letter from Alameda Co. Env. Health to Caltrans regarding a review of Geotracker Case file status for the UST case: The site has not been claimed in the database nor has it uploaded well/sample coordinates and analytical data
28	4/24/2009	Final Report-Preliminary Site Investigation	Report prepared by Kleinfelder for Caltrans: Drilled 5 soil borings and installed 4 monitoring wells; 6 trenches and 4 potholes, geophysical survey, collected soil samples and gw samples from wells. Concluded that the impact to soil was limited to the area of the former gas station and no USTs were found; groundwater impacts were limted to area under the former service station and a portion of 6th St.
29	5/13/2009	GW Monitoring Report	4Q 2008 GW monitoring report. Groundwater flow is to the southwest; fuel contaminants were limited to well MW-2
30	6/8/2009	GW Monitoring Report	1Q 2009 GW monitoring report. Groundwater flow is to the southwest; fuel contaminants were limtied to well MW-2
31	6/26/2009	GW Monitoring Report	2Q 2009 GW monitoring report. Fuel related contaminants were limited to well MW-2
32	7/24/2009	Letter	Letter from Alameda Co. Env. Health to Caltrans notifying them of changes to monitoring reuqirements for fuel leak cases in CA. Monitoring is to be done on semiannual or less frequent basis.

Notes:

1. Complete References for documents with Site data are included in Section 8.

Indicates a Site Investigation (item 21 is not a complete investigaiton report)

Indicates a Monitoring Event

TABLE 2
6th and Castro Street Sample Locations

Well/ Boring ID	ground elev. (ft MSL)	Depth boring (ft bgs)	Sampling Methods	TOC elev. (ft MSL)	Well/ Boring Date	Well Depth (ft bTOC)	Depth to top screen(ft bgs)	Depth to bottom screen(ft bgs)	Screen Length(ft)	Well di-ameter(in)	Lith-ology log?	Sampled Media
Geocon: 1995 Phase 2 Investigation												
OAK1		21	envirocore direct push		7/25/1995						YES	soil
OAK2		25	envirocore direct push, bail gw		7/25/1995						YES	soil, grab gw
OAK3		3	envirocore direct push		7/25/1995						YES	soil
OAK4		19	envirocore direct push		7/25/1995						YES	soil
OAK5		1	envirocore direct push		7/25/1995						YES	soil
OAK6		25	envirocore direct push, bail gw		7/25/1995						YES	soil, grab gw
OAK7		15	envirocore direct push		7/25/1995						YES	soil
IT Corporation: 1996 Site Investigation												
B1-1		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-2		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-3		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-4		23	2" California modified spoon sampler		10/16/1996						YES	soil, grab gw
B1-5		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-6		23	2" California modified spoon sampler		10/16/1996						YES	soil, grab gw
B1-7		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-8		20	2" California modified spoon sampler		10/16/1996						YES	soil, grab gw
B1-9		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-10		15	2" California modified spoon sampler		10/16/1996						YES	soil
B1-11		23	2" California modified spoon sampler		10/16/1996						YES	soil, grab gw
PSI: 1999 Site Investigation												
OAK-1		19.5	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-2		20	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-3		20	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-4		20	geoprobe direct push		5/19/1999						YES	soil
OAK-5		22.5	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-6		22.5	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-7		20	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-8		20	geoprobe direct push		5/19/1999						YES	soil, grab gw
OAK-9		20	geoprobe direct push		5/20/1999						YES	soil, grab gw
OAK-10		19	geoprobe direct push		5/20/1999						YES	soil, grab gw
OAK-11		20	geoprobe direct push		5/20/1999						YES	soil, grab gw
MW-1	26.30	20	monitoring well	30.12	6/17/1999	20	5	20	15	2	YES	groundwater
MW-2	21.43	21.5	monitoring well	24.27	6/17/1999	20	5	20	15	2	YES	groundwater
MW-3	22.36	21	monitoring well	24.76	6/17/1999	20	5	20	15	2	YES	groundwater

TABLE 2
6th and Castro Street Sample Locations

Well/ Boring ID	ground elev. (ft MSL)	Depth boring (ft bgs)	Sampling Methods	TOC elev. (ft MSL)	Well/ Boring Date	Well Depth (ft bTOC)	Depth to top screen(ft bgs)	Depth to bottom screen(ft bgs)	Screen Length(ft)	Well di-ameter(in)	Lith-ology log?	Sampled Media
IRIS: Nov. 2001 Investigation												
OAK-6C-1		10.5			11/1/2001						NO	soil, grab gw
OAK-6C-2		10.5			11/1/2001						NO	soil, grab gw
OAK-6C-3		10.5			11/1/2001						NO	soil, grab gw
OAK-6C-4		10.5			11/1/2001						NO	soil, grab gw
OAK-6C-5		10.5			11/1/2001						NO	soil, grab gw
Kleinfelder: 2009 Site Investigation												
MW-4	23.07	24	direct push drill rig, continuous core; well	26.30	9/3/2008	23	13	23	10	2	YES	soil, groundwater
MW-5	22.25	24	direct push drill rig, continuous core; well	24.71	9/3/2008	23	13	23	10	2	YES	soil, groundwater
MW-6	21.01	24	direct push drill rig, continuous core; well	24.26	9/3/2008	23	13	23	10	2	YES	soil, groundwater
MW-7	21.11	24	direct push drill rig, continuous core; well	24.91	9/3/2008	23	13	23	10	2	YES	soil, groundwater
DP-1	21.16	22	direct push drill rig, continuous core; bail gw		9/2/2008						YES	soil, grab gw
DP-2	21.31	22	direct push drill rig, continuous core; bail gw		9/2/2008						YES	soil, grab gw
DP-3	21.34	22	direct push drill rig, continuous core; bail gw		9/2/2008						YES	soil, grab gw
DP-4	21.52	20	direct push drill rig, continuous core; bail gw		9/2/2008						YES	soil, grab gw
DP-5	21.48	24	direct push drill rig, continuous core; bail gw		9/3/2008						YES	soil, grab gw
T-E2		10	trench composite from backhoe bucket		9/22/2008						YES	soil
T-E1		8	trench composite from backhoe bucket		9/23/2008						YES	soil

TABLE 3
6th and Castro Street Soil Samples Exceeding ESLs

Company	Well/Boring ID	Report	Depth boring (ft bgs)	Type of Sample	Well/Boring Date	Sample ID	Sample Depth (ft bgs)	Sample Date	Analytical Method	Chemical Name	Result[1]	Units[2]	Reporting Limit[3]	RWQCB ESL S, DW, RES[4]	RWQCB ESL S, DW, CI[5]	RWQCB ESL D, DW, RES[6]	RWQCB ESL D, DW, CI[7]	RWQCB ESL G: Soil Leach[8]	RWQCB ESL K-3Trench Direct[9]
On-Site Soil Samples																			
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-126	10.5	10/16/1996	EPA 8015 Mod	TPH-G	1100	mg/kg	-	83	83	83	83	83	4200
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-126	10.5	10/16/1996	EPA 8020	Xylenes	140	mg/kg	-	2.3	2.3	2.3	2.3	2.3	4200
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-126	10.5	10/16/1996	EPA 8020	Toluene	34	mg/kg	-	2.9	16	29	29	2.9	
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-126	10.5	10/16/1996	EPA 8020	Ethylbenzene	25	mg/kg	-	2.3	3.3	3.3	3.3	3.3	210
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-126	10.5	10/16/1996	EPA 8020	Benzene	2.6	mg/kg	-	0.044	0.044	0.044	0.044	0.044	12
IT Corp	B1-11	96 Site Investigation	23	2" California modified spoon sampler	10/16/1996	B1-11-174	14.5	10/16/1996	EPA 8020	Benzene	0.2	mg/kg	-	0.044	0.044	0.044	0.044	0.044	12
Kleinfelder	DP-5	2009 Site Investigation	24	direct push 4'core	9/3/2008	DP-5-12	12	9/3/2008	EPA 8015C	TPH-G	1300	mg/kg	-	83	83	83	83	83	4200
Kleinfelder	DP-5	2009 Site Investigation	24	direct push 4'core	9/3/2008	DP-5-12	12	9/3/2008	EPA 8015C	TPH-D	588	mg/kg	-	83	83	83	83	83	4230
Kleinfelder	DP-5	2009 Site Investigation	24	direct push 4'core	9/3/2008	DP-5-12	12	9/3/2008	EPA 8260B	Xylenes	500	mg/kg	-	2.3	2.3	2.3	2.3	2.3	4200
Kleinfelder	DP-5	2009 Site Investigation	24	direct push 4'core	9/3/2008	DP-5-12	12	9/3/2008	EPA 8260B	Naphthalene	140	mg/kg	-	1.3	2.8	3.4	3.4	1190	130
Kleinfelder	DP-5	2009 Site Investigation	24	direct push 4'core	9/3/2008	DP-5-12	12	9/3/2008	EPA 8260B	Ethylbenzene	97	mg/kg	-	2.3	3.3	3.3	3.3	3.3	210
PSI	OAK-1	99 Site Investigation	19.5	geoprobe direct push	5/19/1999	OAK-1-4.5	14.8	5/19/1999	EPA 8015 Mod	TPH-G	600	mg/kg	-	83	83	83	83	83	4200
PSI	OAK-1	99 Site Investigation	19.5	geoprobe direct push	5/19/1999	OAK-1-4.5	14.8	5/19/1999	EPA 8260	Xylenes	67	mg/kg	-	2.3	2.3	2.3	2.3	2.3	4200
PSI	OAK-1	99 Site Investigation	19.5	geoprobe direct push	5/19/1999	OAK-1-4.5	14.8	5/19/1999	EPA 8015 Mod	TPH-D	120	mg/kg	-	83	83	83	83	83	4230
PSI	OAK-1	99 Site Investigation	19.5	geoprobe direct push	5/19/1999	OAK-1-4.5	14.8	5/19/1999	EPA 8260	Ethylbenzene	17	mg/kg	-	2.3	3.3	3.3	3.3	3.3	210
PSI	OAK-1	99 Site Investigation	19.5	geoprobe direct push	5/19/1999	OAK-1-4.5	14.8	5/19/1999	EPA 8260	Toluene	3.7	mg/kg	-	2.9	16	29	29	2.9	
PSI	OAK-11	99 Site Investigation	20	geoprobe direct push	5/20/1999	OAK-11-0.15	0.5	5/19/1999	EPA 6010	Lead	240	mg/kg	-	200	750	750	750	-	750
Geocon	OAK2	95 Phase 2	25	envirocore	7/25/1995	OAK2-3	3	7/25/1995	EPA 6010	Lead	410	mg/kg	1	200	750	750	750	-	750
PSI	OAK-2	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-2-4.5	14.8	5/19/1999	EPA 8260	Xylenes	29	mg/kg	-	2.3	2.3	2.3	2.3	2.3	4200
PSI	OAK-2	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-2-4.5	14.8	5/19/1999	EPA 8015 Mod	TPH-G	99	mg/kg	-	83	83	83	83	83	4200
PSI	OAK-2	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-2-4.5	14.8	5/19/1999	EPA 8260	Ethylbenzene	8.2	mg/kg	-	2.3	3.3	3.3	3.3	3.3	210
PSI	OAK-2	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-2-4.5	14.8	5/19/1999	EPA 8260	Toluene	4.8	mg/kg	-	2.9	16	29	29	2.9	
PSI	OAK-2	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-2-4.5	14.8	5/19/1999	EPA 8260	Benzene	0.21	mg/kg	-	0.044	0.044	0.044	0.044	0.044	12
Geocon	OAK3	95 Phase 2	3	envirocore	7/25/1995	OAK3-2	2	7/25/1995	EPA 6010	Lead	340	mg/kg	1	200	750	750	750	-	750
PSI	OAK-3	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-3-0.3	1	5/19/1999	EPA 6010	Lead	1700	mg/kg	-	200	750	750	750	-	750
Geocon	OAK4	95 Phase 2	19	envirocore	7/25/1995	OAK4-2	2	7/25/1995	EPA 6010/7000 modified	Lead	230	mg/kg	1	200	750	750	750	-	750
Geocon	OAK4	95 Phase 2	19	envirocore	7/25/1995	OAK4-2	2	7/25/1995	EPA 6010/7000 modified	Vanadium	29	mg/kg	5	16	200	770	770	-	770
Geocon	OAK4	95 Phase 2	19	envirocore	7/25/1995	OAK4-1	1	7/25/1995	EPA 6010/7000 modified	Vanadium	23	mg/kg	5	16	200	770	770	-	770
Geocon	OAK4	95 Phase 2	19	envirocore	7/25/1995	OAK4-3	3	7/25/1995	EPA 6010/7000 modified	Vanadium	18	mg/kg	5	16	200	770	770	-	770
PSI	OAK-5	99 Site Investigation	22.5	geoprobe direct push	5/19/1999	OAK-5-0.3	1	5/19/1999	EPA 6010	Lead	200	mg/kg	-	200	750	750	750	-	750
Geocon	OAK6	95 Phase 2	25	envirocore	7/25/1995	OAK6-1	1	7/25/1995	EPA 6010/7000 modified	Vanadium	40	mg/kg	5	16	200	770	770	-	770
Geocon	OAK6	95 Phase 2	25	envirocore	7/25/1995	OAK6-3	3	7/25/1995	EPA 6010/7000 modified	Vanadium	33	mg/kg	5	16	200	770	770	-	770
Geocon	OAK6	95 Phase 2	25	envirocore	7/25/1995	OAK6-2	2	7/25/1995	EPA 6010/7000 modified	Vanadium	31	mg/kg	5	16	200	770	770	-	770
IRIS	OAK-6C-3	2001 Site Investigation	10.5	not available	11/1/2001	OAK-6C-3-2.5	2-2.5		EPA 8260	Toluene	6.6	mg/kg	-	2.9	16	29	29	2.9	
Geocon	OAK7	95 Phase 2	15	envirocore	7/25/1995	OAK7-2	2	7/25/1995	EPA 6010/7000 modified	Copper	240	mg/kg	2.5	230					
Geocon	OAK7	95 Phase 2	15	envirocore	7/25/1995	OAK7-3	3	7/25/1995	EPA 6010/7000 modified	Vanadium	23	mg/kg	5	16	200	770	770	-	770
Geocon	OAK7	95 Phase 2	15	envirocore	7/25/1995	OAK7-1	1	7/25/1995	EPA 6010/7000 modified	Vanadium	21	mg/kg	5	16	200	770	770	-	770
Geocon	OAK7	95 Phase 2	15	envirocore	7/25/1995	OAK7-2	2	7/25/1995	EPA 6010/7000 modified	Vanadium	20	mg/kg	5	16	200	770	770	-	770
PSI	OAK-8	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-8-0.9	3	5/19/1999	EPA 6010	Lead	300	mg/kg	-	200	750	750	750	-	750
PSI	OAK-8	99 Site Investigation	20	geoprobe direct push	5/19/1999	OAK-8-0.9	3	5/19/1999	EPA 8015 Mod	TPH-D	120	mg/kg	10	83	83	83	83	83	4230
Kleinfelder	T-E1	2001 Site Investigation	8	backhoe	9/23/2008	T-E1-3-8	8	9/23/2008	EPA 6010	Arsenic	1.8	mg/kg	-	0.39	1.6	15	15	-	15
Kleinfelder	T-E1	2001 Site Investigation	8	backhoe	9/23/2008	T-E1-2-8	8	9/23/2008	EPA 6010	Arsenic	1.7	mg/kg	-	0.39	1.6	15	15	-	15

Notes:

		Indicates values exceeds one or more environmental screening levels (ESLs)
1	ND	non-detected at the laboratory reporting limit
2		mg/kg is milligrams per kilogram (ppm); mg/L is milligrams per liter (ppm); SU is standard units
3	--	Indicates that reporting limits were not available in data tables, and in the case of the data collected by IRIS, laboratory reports were not available for review
4	ESL	shallow soil where groundwater is a potential drinking water source and land use is residential
5	ESL	shallow soil where groundwater is a potential drinking water source and land use is commercial or industrial
6	ESL	deep soil where groundwater is a potenital drinking water source and land use is residential
7	ESL	deep soil where groundwater is a potenital drinking water source and land use is commercial or industrial
8	ESL	soil where there is leaching concern for groundwater
9	ESL	direct exposure to soil by construction/trench worker

TABLE 4
6th and Castro Street and Downgradient Off-Site Grab Groundwater Samples Exceeding ESLs

Site	Company	Well/Boring ID	Report	Depth boring (ft bgs)	Well/Boring Date	Sample ID	Sample Date	Analytical Method	Chemical Name	Result[1]	Units[2]	Report-ing Limit[3]	RWQCB ESL F-1A DW[4]	RWQCB ESL F-1B NDW[5]	RWQCB ESL F-3 DW- MCL[6]
On-Site Grab Groundwater Samples															
6th & Castro	IT Corp	B1-11	1996 Site Investigation	23	10/16/1996	B1-11-GW	10/16/1996	EPA 8020	Benzene	51	ug/L	-	1	46	1
6th & Castro	IT Corp	B1-11	1996 Site Investigation	23	10/16/1996	B1-11-GW	10/16/1996	EPA 8020	Ethylbenzene	59	ug/L	-	30	43	300
6th & Castro	IT Corp	B1-11	1996 Site Investigation	23	10/16/1996	B1-11-GW	10/16/1996	EPA 8020	Toluene	200	ug/L	-	40	130	150
6th & Castro	IT Corp	B1-11	1996 Site Investigation	23	10/16/1996	B1-11-GW	10/16/1996	EPA 8020/8015 m	TPH-G	1700	ug/L	-	100	210	210
6th & Castro	IT Corp	B1-11	1996 Site Investigation	23	10/16/1996	B1-11-GW	10/16/1996	EPA 8020	Xylenes	290	ug/L		20	100	1,800
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8260B	Benzene	69.8	µg/L	-	1	46	1
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8260B	Ethylbenzene	615	µg/L	-	30	43	300
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8260B	Naphthalene	235	µg/L	-	17	24	17
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8260B	Toluene	263	µg/L	-	40	130	150
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8015B	TPH Diesel	2410	µg/L	-	100	210	210
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8015B	TPH Gasoline	11900	µg/L	-	100	210	210
6th & Castro	Kleinfelder	DP-5	2009 Site Investigation	24	9/3/2008	DP-5	9/3/2008	EPA 8260B	Xylenes	3080	µg/L	-	20	100	1,800
6th & Castro	PSI	OAK-1	99 Site Investigation	19.5	5/19/1999	WOAK-1	5/19/1999	EPA 8260	Benzene	3700	ug/L	50	1	46	1
6th & Castro	PSI	OAK-1	99 Site Investigation	19.5	5/19/1999	WOAK-1	5/19/1999	EPA 8260	Ethylbenzene	3200	ug/L	-	30	43	300
6th & Castro	PSI	OAK-1	99 Site Investigation	19.5	5/19/1999	WOAK-1	5/19/1999	EPA 8260	Napthalene	920	ug/L	50	17	24	17
6th & Castro	PSI	OAK-1	99 Site Investigation	19.5	5/19/1999	WOAK-1	5/19/1999	EPA 8260	Toluene	1100	ug/L	50	40	130	150
6th & Castro	PSI	OAK-1	99 Site Investigation	19.5	5/19/1999	WOAK-1	5/19/1999	EPA 8260	Xylenes	5100	ug/L	150	20	100	1,800
6th & Castro	PSI	OAK-2	99 Site Investigation	20	5/19/1999	WOAK-2	5/19/1999	EPA 8260	Benzene	3900	ug/L	50	1	46	1
6th & Castro	PSI	OAK-2	99 Site Investigation	20	5/19/1999	WOAK-2	5/19/1999	EPA 8260	Ethylbenzene	3700	ug/L	50	30	43	300
6th & Castro	PSI	OAK-2	99 Site Investigation	20	5/19/1999	WOAK-2	5/19/1999	EPA 8260	Napthalene	950	ug/L	50	17	24	17
6th & Castro	PSI	OAK-2	99 Site Investigation	20	5/19/1999	WOAK-2	5/19/1999	EPA 8260	Toluene	14000	ug/L	50	40	130	150
6th & Castro	PSI	OAK-2	99 Site Investigation	20	5/19/1999	WOAK-2	5/19/1999	EPA 8260	Xylenes	12000	ug/L	150	20	100	1,800
6th & Castro	PSI	OAK-3	99 Site Investigation	20	5/19/1999	WOAK-3	5/20/1999	EPA 8260	Benzene	2.5	ug/L	0.5	1	46	1
6th & Castro	PSI	OAK-3	99 Site Investigation	20	5/19/1999	WOAK-3	5/20/1999	EPA 8260	Ethylbenzene	40	ug/L	0.5	30	43	300
6th & Castro	PSI	OAK-3	99 Site Investigation	20	5/19/1999	WOAK-3	5/20/1999	EPA 8260	Napthalene	35	ug/L	0.5	17	24	17
6th & Castro	PSI	OAK-3	99 Site Investigation	20	5/19/1999	WOAK-3	5/20/1999	EPA 8260	Xylenes	100	ug/L	1.5	20	100	1,800
6th & Castro	IRIS	OAK-6C-1	2001 Site Investigation	10.5	11/1/2001	OAK-6C-1	-	EPA 6010	Chromium	54	ug/L	-	50	180	50
6th & Castro	IRIS	OAK-6C-1	2001 Site Investigation	10.5	11/1/2001	OAK-6C-1	-	EPA 6011	Lead	9	ug/L	-	2.5	2.5	15
6th & Castro	IRIS	OAK-6C-2	2001 Site Investigation	10.5	11/1/2001	OAK-6C-2	-	EPA 6010	Chromium	290	ug/L	-	50	180	50
6th & Castro	IRIS	OAK-6C-2	2001 Site Investigation	10.5	11/1/2001	OAK-6C-2	-	EPA 6010	Lead	38	ug/L	-	2.5	2.5	15
6th & Castro	IRIS	OAK-6C-2	2001 Site Investigation	10.5	11/1/2001	OAK-6C-2	-	EPA 6010	Nickel	330	ug/L	-	820	820	100
6th & Castro	IRIS	OAK-6C-3	2001 Site Investigation	10.5	11/1/2001	OAK-6C-3	-	EPA 6010	Chromium	53	ug/L	-	50	180	50
6th & Castro	IRIS	OAK-6C-3	2001 Site Investigation	10.5	11/1/2001	OAK-6C-3	-	EPA 6011	Lead	4.5	ug/L	-	2.5	2.5	15
6th & Castro	IRIS	OAK-6C-5	2001 Site Investigation	10.5	11/1/2001	OAK-6C-5	-	EPA 6011	Lead	3.9	ug/L	-	2.5	2.5	15
Off-Site Grab Groundwater Samples															
Interstate block A	IRIS	OAK-1BA-1	2001 Site Investigation	-	11/1/2001	OAK-1BA-1	-	EPA 8260	1,2-Dichloroethane	38	ug/L	-	0.5	200	0.5
Interstate block A	IRIS	OAK-1BA-1	2001 Site Investigation	-	11/1/2001	OAK-1BA-1	-	EPA 8260	1,2-Dichloropropane	5.1	ug/L	-	5	100	5
Interstate block A	IRIS	OAK-1BA-2	2001 Site Investigation	-	11/1/2001	OAK-1BA-2	-	EPA 6011	Lead	6.4	ug/L	-	2.5	2.5	15
Interstate block A	IRIS	OAK-1BA-7	2001 Site Investigation	-	11/1/2001	OAK-1BA-7	-	EPA 6011	Lead	9.6	ug/L	-	2.5	2.5	15
Interstate block A	IRIS	OAK-1BA-9	2001 Site Investigation	-	11/1/2001	OAK-1BA-9	-	EPA 6011	Lead	11	ug/L	-	2.5	2.5	15
Interstate block A	IRIS	OAK-1BA-9	2001 Site Investigation	-	11/1/2001	OAK-1BA-9	-	EPA 8015 mod	TPH Gasoline	320	ug/L	-	100	210	210
Interstate block A	Kleinfelder	DP-1	2009 Site Investigation	22	9/2/2008	DP-1	9/2/2008	EPA 8260B	1,2-Dichloroethane	31.7	µg/L	-	0.5	200	0.5

Notes:

Indicates result exceeds one or more environmental screening level (ESL)

Indicates result exceeds California Maximum Contaminant Level (MCL) for drinking water

1 ND non-detected at the laboratory reporting limit

2 ug/L is micrograms per liter (parts per billion)

3 -- Indicates that reporting limits were not available in data tables, and in the case of the data collected by IRIS, laboratory reports were not available for review

4 ESL Table F-1A where groundwater is a potential drinking water source

5 ESL Table F-1B where groundwater is not a potential drinking water source

6 ESL Table F-3 are from compiled water criteria, including CA Primary MCLs

- Indicates data is not available

TABLE 5
6th and Castro Street Groundwater Samples Exceeding ESLs

Well ID	Company	Report	Sample ID	Sample Date	Analytical Method	Chemical Name	Result [1]	Units [2]	Report-ing Limit [3]	RWQCB ESL E-1 gw-IA/res [4]	RWQCB ESL E-1 gw-IA/com [5]	RWQCB ESL F-1A DW [6]	RWQCB ESL F-1B NDW [7]
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	1,2-Dichloroethane	160	ug/L	25	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	1,2-Dichloroethane	160	ug/L	25	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	1,2-Dichloroethane	110	ug/L	25	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	1,2-Dichloroethane	79	ug/L	5	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	1,2-Dichloroethane	78	ug/L	0.5	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	1,2-Dichloroethane	69	ug/L	-	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	1,2-Dichloroethane	91	ug/L	-	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	1,2-Dichloroethane	ND	ug/L	13	200	690	0.5	200
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	1,2-Dichloroethane	41.4	µg/L	-	200	690	0.5	200
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	1,2-Dichloroethane	31.7	µg/L	22	200	690	0.5	200
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	1,2-Dichloroethane	ND	µg/L	22	200	690	0.5	200
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	1,2-Dichloroethane	120	µg/L	22	200	690	0.5	200
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	1,2-Dichloropropane	15	ug/L	0.5	280	930	5	100
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	1,2-Dichloropropane	ND	µg/L	44	280	930	5	100
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	1,2-Dichloropropane	ND	µg/L	44	280	930	5	100
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	1,2-Dichloropropane	ND	µg/L	44	280	930	5	100
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Benzene	780	ug/L	25	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Benzene	880	ug/L	25	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Benzene	670	ug/L	5	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Benzene	740	ug/L	500	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Benzene	700	ug/L	-	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Benzene	550	ug/L	500	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Benzene	730	ug/L	500	540	1800	1	46
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Benzene	496	µg/L	-	540	1800	1	46
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Benzene	437	µg/L	22	540	1800	1	46
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Benzene	418	µg/L	22	540	1800	1	46
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Benzene	520	µg/L	22	540	1800	1	46
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Ethylbenzene	1300	ug/L	25	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Ethylbenzene	1800	ug/L	25	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Ethylbenzene	1500	ug/L	5	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Ethylbenzene	2500	ug/L	500	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Ethylbenzene	2400	ug/L	-	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Ethylbenzene	1500	ug/L	500	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Ethylbenzene	3100	ug/L	500	170,000	170,000	30	43
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Ethylbenzene	1530	µg/L	-	170,000	170,000	30	43
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Ethylbenzene	1360	µg/L	22	170,000	170,000	30	43
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Ethylbenzene	2930	µg/L	22	170,000	170,000	30	43
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Ethylbenzene	1900	µg/L	22	170,000	170,000	30	43
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Naphthalene	590	ug/L	25	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Naphthalene	600	ug/L	25	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Naphthalene	620	ug/L	5	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Naphthalene	1100	ug/L	500	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Naphthalene	860	ug/L	-	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Naphthalene	460	ug/L	-	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Naphthalene	1200	ug/L	-	3,200	11,000	17	24
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Naphthalene	1050	µg/L	-	3,200	11,000	17	24

TABLE 5
6th and Castro Street Groundwater Samples Exceeding ESLs

Well ID	Company	Report	Sample ID	Sample Date	Analytical Method	Chemical Name	Result [1]	Units [2]	Report-ing Limit [3]	RWQCB ESL E-1 gw-IA/res [4]	RWQCB ESL E-1 gw-IA/com [5]	RWQCB ESL F-1A DW [6]	RWQCB ESL F-1B NDW [7]
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Naphthalene	89.3	µg/L	44	3,200	11,000	17	24
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Naphthalene	998	µg/L	44	3,200	11,000	17	24
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Naphthalene	510	µg/L	44	3,200	11,000	17	24
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Toluene	4200	ug/L	25	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Toluene	4300	ug/L	25	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Toluene	4800	ug/L	5	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Toluene	5200	ug/L	1	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Toluene	4300	ug/L	-	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Toluene	2900	ug/L	500	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Toluene	4100	ug/L	500	380,000	530,000	40	130
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Toluene	1710	µg/L	-	380,000	530,000	40	130
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Toluene	1200	µg/L	22	380,000	530,000	40	130
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Toluene	1690	µg/L	22	380,000	530,000	40	130
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Toluene	1200	µg/L	22	380,000	530,000	40	130
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8015 mod	TPH-Diesel	ND	µg/L	4000	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8015 mod	TPH-Diesel	6500	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	EPA 8015B	TPH-Diesel	2800	µg/L	-	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8015B	TPH-Diesel	1510	µg/L	10	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8015B	TPH-Diesel	3630	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8015B	TPH-Diesel	2030	µg/L	400	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8015 mod	TPH-Gasoline	26000	µg/L	-	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8015 mod	TPH-Gasoline	33000	µg/L	-	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8015 mod	TPH-Gasoline	29000	µg/L	500	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8015 mod	TPH-Gasoline	56000	µg/L	5000	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8015 mod	TPH-Gasoline	37000	µg/L	-	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8015 mod	TPH-Gasoline	25000	µg/L	-	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8015 mod	TPH-Gasoline	65000	µg/L	500	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	EPA 8015B	TPH-Gasoline	47000	µg/L	10000	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B(TPH)	TPH-Gasoline	33000	µg/L	2200	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B(TPH)	TPH-Gasoline	48000	µg/L	2200	(Use soil gas)	(Use soil gas)	100	210
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B(TPH)	TPH-Gasoline	40000	µg/L	2200	(Use soil gas)	(Use soil gas)	100	210
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Trichloroethene	ND	ug/L	25	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Trichloroethene	ND	ug/L	25	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Trichloroethene	ND	ug/L	5	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Trichloroethene	9.1	ug/L	0.5	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Trichloroethene	ND	ug/L	25	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Trichloroethene	ND	ug/L	25	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Trichloroethene	ND	ug/L	13	530	1800	5	360
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Trichloroethene	ND	µg/L	22	530	1800	5	360
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Trichloroethene	ND	µg/L	22	530	1800	5	360
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Trichloroethene	ND	µg/L	22	530	1800	5	360

TABLE 5
6th and Castro Street Groundwater Samples Exceeding ESLs

Well ID	Company	Report	Sample ID	Sample Date	Analytical Method	Chemical Name	Result [1]	Units [2]	Report-ing Limit [3]	RWQCB ESL E-1 gw-IA/res [4]	RWQCB ESL E-1 gw-IA/com [5]	RWQCB ESL F-1A DW [6]	RWQCB ESL F-1B NDW [7]
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Trichloroethene	ND	µg/L	22	530	1800	5	360
MW-2	PSI	99 Site Investigation	MW-2	7/2/1999	EPA 8260	Xylenes	5000	ug/L	75	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	10/25/1999	EPA 8260	Xylenes	4800	ug/L	25	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	2/7/2000	EPA 8260	Xylenes	8700	ug/L	15	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	4/27/2000	EPA 8260	Xylenes	11000	ug/L	1500	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	8/8/2000	EPA 8260	Xylenes	11000	ug/L	-	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	11/16/2000	EPA 8260	Xylenes	7100	ug/L	1500	160,000	160,000	20	100
MW-2	PSI	99 Site Investigation	MW-2	3/5/2001	EPA 8260	Xylenes	18400	ug/L	1500	160,000	160,000	20	100
MW-2	Kleinfelder	2009 Site Investigation	MW-2	9/16/2008	SW8260B	Xylenes	8040	µg/L	-	160,000	160,000	20	100
MW-2	Kleinfelder	4th Q 2008 Groundwater Monitoring Report	MW-2	12/22/2008	SW8260B	Xylenes	8870	µg/L	66	160,000	160,000	20	100
MW-2	Kleinfelder	1st Q 2009 Groundwater Monitoring Report	MW-2	3/19/2009	SW8260B	Xylenes	15400	µg/L	66	160,000	160,000	20	100
MW-2	Kleinfelder	2nd Q 2009 Groundwater Monitoring Report	MW-2	6/15/2009	SW8260B	Xylenes	8500	µg/L	66	160,000	160,000	20	100

Notes:

Indicates result exceeds one or more envioronmental screening level (ESL)
Indicates result exceeds groundwater ESL for evaluation of potential vapor concerns

1 ND non-detected at the laboratory reporting limit; concentrations for diesel noted in red were qualified because the chromatogram did not resemble a typical diesel pattern
2 ug/L is migrograms per liter (parts per billion)
3 -- Indicates that reporting limits were not available in data tables
4 ESL Table E-1 where groundwater levels may be a potential vapor concern for residential indooor air; where 'Use soil gas' is indicated, soil vapor concentrations are a better measure of risk
5 ESL Table E-1 where groundwater levels may be a potential vapor concern for commercial indooor air; where 'Use soil gas' is indicated, soil vapor concentrations are a better measure of risk
6 ESL Table F-1A where groundwater is a potential drinking water source
7 ESL Table F-1B where groundwater is not a potential drinking water source

TABLE 6
6th and Castro Street Groundwater Chemicals that Exceed ESLs for Evauating Potential Vapor Instrusion Concerns

Company	Well/ Boring ID	Report	Sample ID	Sample Date	Sample Matrix	Analytical Method	Chemical Name	Result[1]	Units[2]	Reporting Limit[3]	RWQCB ESL E-1 gw-IA/res[4]	RWQCB ESL E-1 gw-IA/com[5]
PSI	MW-1	99 Site Investigation	MW-1	7/2/1999	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	99 Site Investigation	MW-1	10/25/1999	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	1Q 2000 Monitoring Report	MW-1	2/7/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	2Q 2000 Monitoring Report	MW-1	4/27/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	3Q 2000 Monitoring Report	MW-1	8/8/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	4Q 2000 Monitoring Report	MW-1	11/16/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-1	1Q 2001 Monitoring Report	MW-1	3/5/2001	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
Kleinfelder	MW-1	2009 Site Investigation	MW-1	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-1	4th Q 2008 Monitoring Report	MW-1	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-1	1st Q 2009 Monitoring Report	MW-1	3/20/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-1	2nd Q 2009 Monitoring Report	MW-1	6/17/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
PSI	MW-1	99 Site Investigation	MW-1	7/2/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	99 Site Investigation	MW-1	10/25/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	1Q 2000 Monitoring Report	MW-1	2/7/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	2Q 2000 Monitoring Report	MW-1	4/27/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	3Q 2000 Monitoring Report	MW-1	8/8/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	4Q 2000 Monitoring Report	MW-1	11/16/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-1	1Q 2001 Monitoring Report	MW-1	3/5/2001	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	2009 Site Investigation	MW-1	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	125	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	4th Q 2008 Monitoring Report	MW-1	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	1st Q 2009 Monitoring Report	MW-1	3/20/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	2nd Q 2009 Monitoring Report	MW-1	6/17/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
PSI	MW-1	99 Site Investigation	MW-1	7/2/1999	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	4Q 1999 Monitoring Report	MW-1	10/25/1999	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	1Q 2000 Monitoring Report	MW-1	2/7/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	2Q 2000 Monitoring Report	MW-1	4/27/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	3Q 2000 Monitoring Report	MW-1	8/8/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	4Q 2000 Monitoring Report	MW-1	11/16/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-1	1Q 2001 Monitoring Report	MW-1	3/5/2001	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	2009 Site Investigation	MW-1	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	4th Q 2008 Monitoring Report	MW-1	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	1st Q 2009 Monitoring Report	MW-1	3/20/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-1	2nd Q 2009 Monitoring Report	MW-1	6/17/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
PSI	MW-2	99 Site Investigation	MW-2	7/2/1999	groundwater	EPA 8260	Benzene	780	ug/L	25	540	1800
PSI	MW-2	4Q 1999 Monitoring Report	MW-2	10/25/1999	groundwater	EPA 8260	Benzene	880	ug/L	25	540	1800
PSI	MW-2	1Q 2000 Monitoring Report	MW-2	2/7/2000	groundwater	EPA 8260	Benzene	670	ug/L	5	540	1800
PSI	MW-2	2Q 2000 Monitoring Report	MW-2	4/27/2000	groundwater	EPA 8260	Benzene	740	ug/L	0.5	540	1800
PSI	MW-2	3Q 2000 Monitoring Report	MW-2	8/8/2000	groundwater	EPA 8260	Benzene	700	ug/L	-	540	1800
PSI	MW-2	4Q 2000 Monitoring Report	MW-2	11/16/2000	groundwater	EPA 8260	Benzene	550	ug/L	0.5	540	1800
PSI	MW-2	1Q 2001 Monitoring Report	MW-2	3/5/2001	groundwater	EPA 8260	Benzene	730	ug/L	13	540	1800
Kleinfelder	MW-2	2009 Site Investigation	MW-2	9/16/2008	Groundwater	SW8260B	Benzene	496	µg/L	-	540	1800
Kleinfelder	MW-2	4th Q 2008 Monitoring Report	MW-2	12/22/2008	Groundwater	SW8260B	Benzene	437	µg/L	22	540	1800
Kleinfelder	MW-2	1st Q 2009 Monitoring Report	MW-2	3/19/2009	Groundwater	SW8260B	Benzene	418	µg/L	22	540	1800
Kleinfelder	MW-2	2nd Q 2009 Monitoring Report	MW-2	6/15/2009	Groundwater	SW8260B	Benzene	520	µg/L	22	540	1800

TABLE 6
6th and Castro Street Groundwater Chemicals that Exceed ESLs for Evauating Potential Vapor Instrusion Concerns

Company	Well/ Boring ID	Report	Sample ID	Sample Date	Sample Matrix	Analytical Method	Chemical Name	Result[1]	Units[2]	Reporting Limit[3]	RWQCB ESL E-1 gw-IA/res[4]	RWQCB ESL E-1 gw-IA/com[5]
PSI	MW-2	99 Site Investigation	MW-2	7/2/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	4000	(Use soil gas)	(Use soil gas)
PSI	MW-2	4Q 1999 Monitoring Report	MW-2	10/25/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	1Q 2000 Monitoring Report	MW-2	2/7/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	2Q 2000 Monitoring Report	MW-2	4/27/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	3Q 2000 Monitoring Report	MW-2	8/8/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	4Q 2000 Monitoring Report	MW-2	11/16/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	1Q 2001 Monitoring Report	MW-2	3/5/2001	groundwater	EPA 8015 mod	TPH-Diesel	6,500	µg/L	400	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	2009 Site Investigation	MW-2	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	2,800	µg/L	---	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	4th Q 2008 Monitoring Report	MW-2	12/22/2008	Groundwater	SW8015B	TPH-Diesel	1,510	µg/L	---	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	1st Q 2009 Monitoring Report	MW-2	3/19/2009	Groundwater	SW8015B	TPH-Diesel	3,630	µg/L	400	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	2nd Q 2009 Monitoring Report	MW-2	6/15/2009	Groundwater	SW8015B	TPH-Diesel	2,030	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-2	99 Site Investigation	MW-2	7/2/1999	groundwater	EPA 8015 mod	TPH-Gasoline	26,000	µg/L	---	(Use soil gas)	(Use soil gas)
PSI	MW-2	4Q 1999 Monitoring Report	MW-2	10/25/1999	groundwater	EPA 8015 mod	TPH-Gasoline	33,000	µg/L	---	(Use soil gas)	(Use soil gas)
PSI	MW-2	1Q 2000 Monitoring Report	MW-2	2/7/2000	groundwater	EPA 8015 mod	TPH-Gasoline	29,000	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-2	2Q 2000 Monitoring Report	MW-2	4/27/2000	groundwater	EPA 8015 mod	TPH-Gasoline	56,000	µg/L	5000	(Use soil gas)	(Use soil gas)
PSI	MW-2	3Q 2000 Monitoring Report	MW-2	8/8/2000	groundwater	EPA 8015 mod	TPH-Gasoline	37,000	µg/L	---	(Use soil gas)	(Use soil gas)
PSI	MW-2	4Q 2000 Monitoring Report	MW-2	11/16/2000	groundwater	EPA 8015 mod	TPH-Gasoline	25,000	µg/L	---	(Use soil gas)	(Use soil gas)
PSI	MW-2	1Q 2001 Monitoring Report	MW-2	3/5/2001	groundwater	EPA 8015 mod	TPH-Gasoline	65,000	µg/L	500	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	2009 Site Investigation	MW-2	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	47,000	µg/L	10000	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	4th Q 2008 Monitoring Report	MW-2	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	33,000	µg/L	2200	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	1st Q 2009 Monitoring Report	MW-2	3/19/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	48,000	µg/L	2200	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-2	2nd Q 2009 Monitoring Report	MW-2	6/15/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	40,000	µg/L	2200	(Use soil gas)	(Use soil gas)
PSI	MW-3	99 Site Investigation	MW-3	7/2/1999	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	4Q 1999 Monitoring Report	MW-3	10/25/1999	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	1Q 2000 Monitoring Report	MW-3	2/7/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	2Q 2000 Monitoring Report	MW-3	4/27/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	3Q 2000 Monitoring Report	MW-3	8/8/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	4Q 2000 Monitoring Report	MW-3	11/16/2000	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
PSI	MW-3	1Q 2001 Monitoring Report	MW-3	3/5/2001	groundwater	EPA 8260	Benzene	ND	ug/L	0.5	540	1800
Kleinfelder	MW-3	2009 Site Investigation	MW-3	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-3	4th Q 2008 Monitoring Report	MW-3	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-3	1st Q 2009 Monitoring Report	MW-3	3/19/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-3	2nd Q 2009 Monitoring Report	MW-3	6/17/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
PSI	MW-3	99 Site Investigation	MW-3	7/2/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	4Q 1999 Monitoring Report	MW-3	10/25/1999	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	1Q 2000 Monitoring Report	MW-3	2/7/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	2Q 2000 Monitoring Report	MW-3	4/27/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	3Q 2000 Monitoring Report	MW-3	8/8/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	4Q 2000 Monitoring Report	MW-3	11/16/2000	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
PSI	MW-3	1Q 2001 Monitoring Report	MW-3	3/5/2001	groundwater	EPA 8015 mod	TPH-Diesel	ND	µg/L	400	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	2009 Site Investigation	MW-3	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	125	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	4th Q 2008 Monitoring Report	MW-3	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	120	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	1st Q 2009 Monitoring Report	MW-3	3/19/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	2nd Q 2009 Monitoring Report	MW-3	6/17/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)

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6th and Castro Street Groundwater Chemicals that Exceed ESLs for Evauating Potential Vapor Instrusion Concerns

Company	Well/ Boring ID	Report	Sample ID	Sample Date	Sample Matrix	Analytical Method	Chemical Name	Result[1]	Units[2]	Reporting Limit[3]	RWQCB ESL E-1 gw-IA/res[4]	RWQCB ESL E-1 gw-IA/com[5]
PSI	MW-3	99 Site Investigation	MW-3	7/2/1999	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	4Q 1999 Monitoring Report	MW-3	10/25/1999	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	1Q 2000 Monitoring Report	MW-3	2/7/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	2Q 2000 Monitoring Report	MW-3	4/27/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	3Q 2000 Monitoring Report	MW-3	8/8/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	4Q 2000 Monitoring Report	MW-3	11/16/2000	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
PSI	MW-3	1Q 2001 Monitoring Report	MW-3	3/5/2001	groundwater	EPA 8015 mod	TPH-Gasoline	ND	µg/L	500	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	2009 Site Investigation	MW-3	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	4th Q 2008 Monitoring Report	MW-3	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	1st Q 2009 Monitoring Report	MW-3	3/19/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-3	2nd Q 2009 Monitoring Report	MW-3	6/17/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	2009 Site Investigation	MW-4	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-4	4th Q 2008 Monitoring Report	MW-4	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-4	1st Q 2009 Monitoring Report	MW-4	3/19/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-4	2nd Q 2009 Monitoring Report	MW-4	6/15/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-4	2009 Site Investigation	MW-4	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	4th Q 2008 Monitoring Report	MW-4	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	1st Q 2009 Monitoring Report	MW-4	3/19/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	2nd Q 2009 Monitoring Report	MW-4	6/15/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	2009 Site Investigation	MW-4	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	4th Q 2008 Monitoring Report	MW-4	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	1st Q 2009 Monitoring Report	MW-4	3/19/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-4	2nd Q 2009 Monitoring Report	MW-4	6/15/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	2009 Site Investigation	MW-5	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.6	540	1800
Kleinfelder	MW-5	4th Q 2008 Monitoring Report	MW-5	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-5	1st Q 2009 Monitoring Report	MW-5	3/19/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-5	2nd Q 2009 Monitoring Report	MW-5	6/17/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-5	2009 Site Investigation	MW-5	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	4th Q 2008 Monitoring Report	MW-5	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	1st Q 2009 Monitoring Report	MW-5	3/19/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	2nd Q 2009 Monitoring Report	MW-5	6/17/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	2009 Site Investigation	MW-5	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	4th Q 2008 Monitoring Report	MW-5	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	1st Q 2009 Monitoring Report	MW-5	3/19/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	1st Q 2009 Monitoring Report	MW-5	3/19/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-5	2nd Q 2009 Monitoring Report	MW-5	6/17/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	2009 Site Investigation	MW-6	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-6	4th Q 2008 Monitoring Report	MW-6	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-6	1st Q 2009 Monitoring Report	MW-6	3/20/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-6	2nd Q 2009 Monitoring Report	MW-6	6/15/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-6	2009 Site Investigation	MW-6	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	122	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	4th Q 2008 Monitoring Report	MW-6	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	1st Q 2009 Monitoring Report	MW-6	3/20/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	2nd Q 2009 Monitoring Report	MW-6	6/15/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	2009 Site Investigation	MW-6	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	4th Q 2008 Monitoring Report	MW-6	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	1st Q 2009 Monitoring Report	MW-6	3/20/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-6	2nd Q 2009 Monitoring Report	MW-6	6/15/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)

TABLE 6
6th and Castro Street Groundwater Chemicals that Exceed ESLs for Evauating Potential Vapor Instrusion Concerns

Company	Well/ Boring ID	Report	Sample ID	Sample Date	Sample Matrix	Analytical Method	Chemical Name	Result[1]	Units[2]	Reporting Limit[3]	RWQCB ESL E-1 gw-IA/res[4]	RWQCB ESL E-1 gw-IA/com[5]
Kleinfelder	MW-7	2009 Site Investigation	MW-7	9/16/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-7	4th Q 2008 Monitoring Report	MW-7	12/22/2008	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-7	1st Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-7	2nd Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8260B	Benzene	ND	µg/L	0.5	540	1800
Kleinfelder	MW-7	2009 Site Investigation	MW-7	9/16/2008	Groundwater	EPA 8015B	TPH-Diesel	ND	µg/L	125	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	4th Q 2008 Monitoring Report	MW-7	12/22/2008	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	1st Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	2nd Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8015B	TPH-Diesel	ND	µg/L	100	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	2009 Site Investigation	MW-7	9/16/2008	Groundwater	EPA 8015B	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	4th Q 2008 Monitoring Report	MW-7	12/22/2008	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	1st Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)
Kleinfelder	MW-7	2nd Q 2009 Monitoring Report	MW-7	3/20/2009	Groundwater	SW8260B(TPH)	TPH-Gasoline	ND	µg/L	50	(Use soil gas)	(Use soil gas)

Notes:

		Indicates result exceeds RWQCB Groundwater Screening Level in Table E-1 for Evaluation of Potential Vapor Intrusion Concerns (RWQCB, May 2008)
1	ND	non-detected at the laboratory reporting limit; concentrations for diesel noted in red were qualified because the chromatogram did not resemble a typical diesel pattern
2		ug/L is migrograms per liter (parts per billion)
3	--	Indicates that reporting limits were not available in data tables
4	ESL	Table E-1 where groundwater levels may be a potential vapor concern for residential indooor air; where 'Use soil gas' is indicated, soil vapor concentrations are a better measure of risk
5	ESL	Table E-1 where groundwater levels may be a potential vapor concern for commercial indooor air; where 'Use soil gas' is indicated, soil vapor concentrations are a better measure of risk

FIGURES

LEGEND:

Property boundary

Fill mounds

N

0 60 120

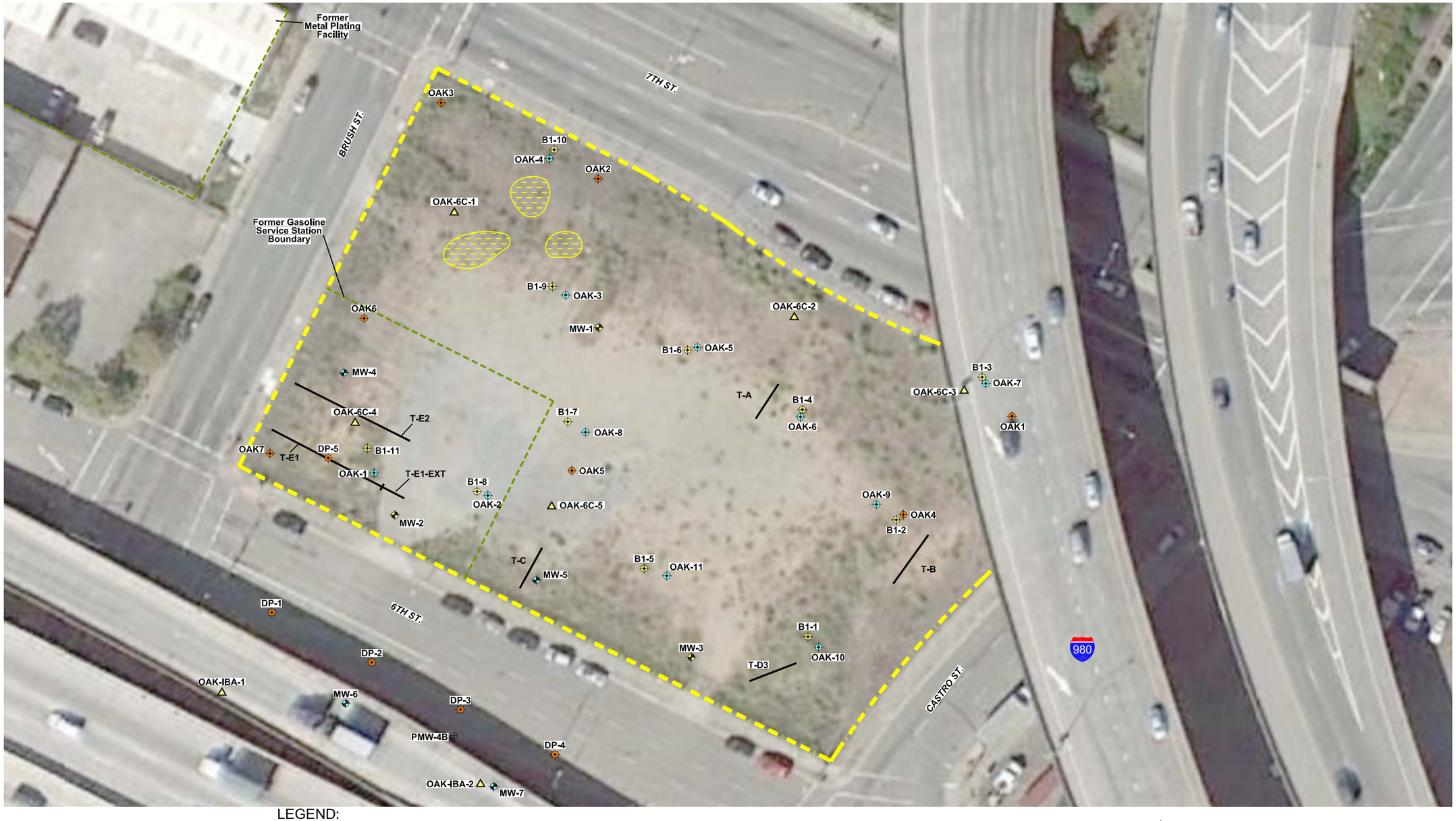
Scale (Feet)

FIGURE 1
Site Plan

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

Project No. 1204.19



LEGEND:

- Property boundary
- PMW-4A — Monitoring well location
- OAK3 — Approximate boring location; Geocon, 1995
- B1-10 — Approximate boring location; IT Corporation, 1996
- OAK-1 — Approximate boring location; PSI, 1999
- MW-3 — Approximate ground water monitoring well location; PSI, 1999
- OAK-IBB-3 — Soil boring and grab groundwater location; IRIS Environmental
- OAK-6C-1 — Soil boring location; IRIS Environmental
- MW-4 — Approximate groundwater monitoring well location; Kleinfelder, 2009
- DP-5 — Approximate boring location; Kleinfelder, 2009
- PH-1 — Pothole excavated with backhoe; Kleinfelder, 2009
- T-E1 — Approximate trench location; Kleinfelder, 2009
- Fill mounds

N

0 25 50

Scale (Feet)

FIGURE 2
Site Plan

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

Project No. 1204.19

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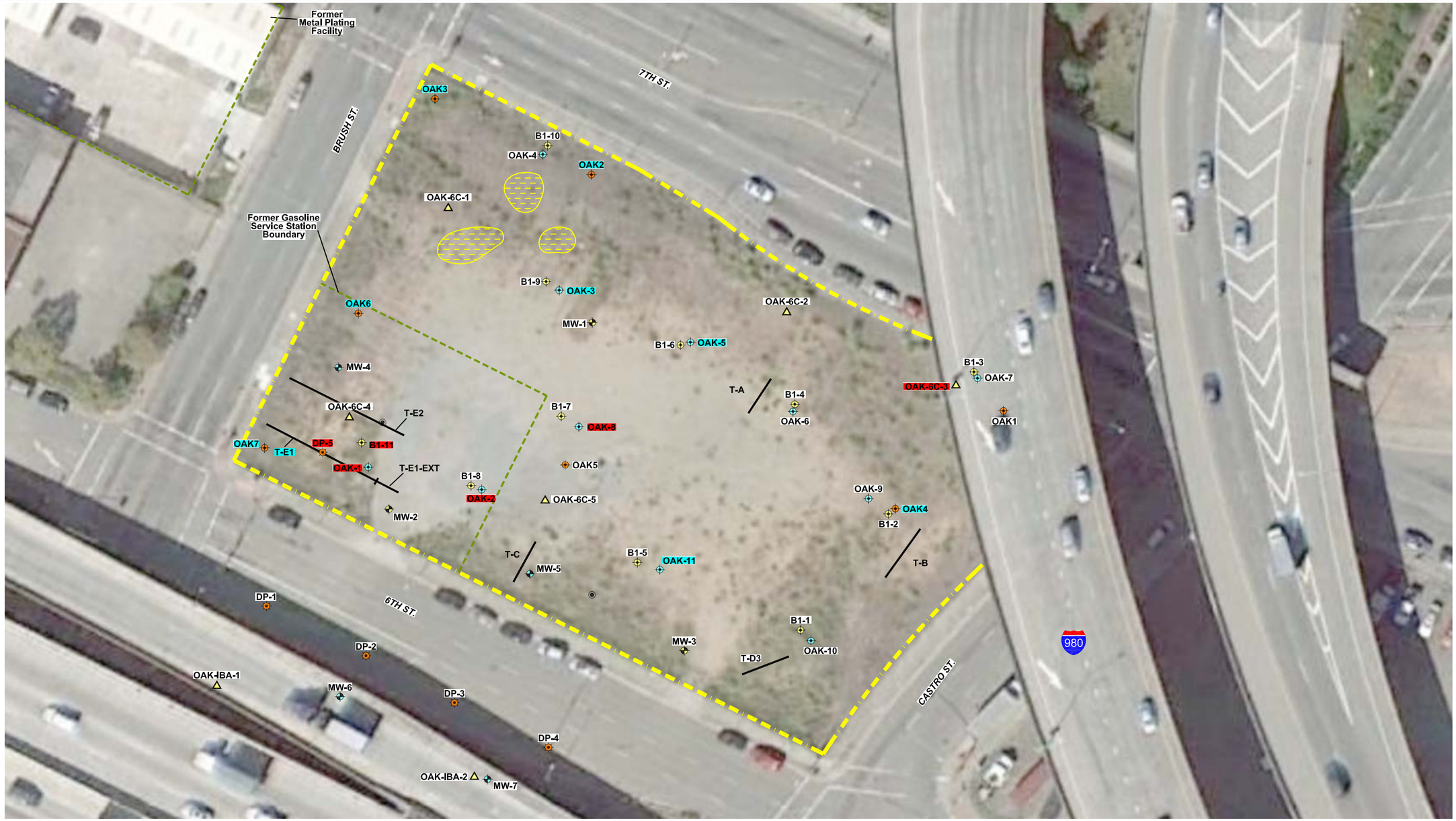

LEGEND:

- Property boundary
- OAK3 — Approximate boring location; Geocon, 1995
- B1-10 — Approximate boring location; IT Corporation, 1996
- OAK-1 — Approximate boring location; PSI, 1999
- MW-3 — Approximate ground water monitoring well location; PSI, 1999
- OAK-IBA-1 — Soil boring and grab groundwater location; IRIS Environmental
- MW-4 — Approximate groundwater monitoring well location; Kleinfelder, 2009
- DP-5 — Approximate boring location; Kleinfelder, 2009
- PH-1 — Pothole excavated with backhoe; Kleinfelder, 2009
- T-E1 — Approximate trench location; Kleinfelder, 2009
- Fill mounds
- Fuel compound(s) exceed soil ESLs
- Metal(s) exceed soil ESLs

N

0 25 50

Scale (Feet)

FIGURE 3
Locations of On-Site Soil Samples Exceeding ESLs

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

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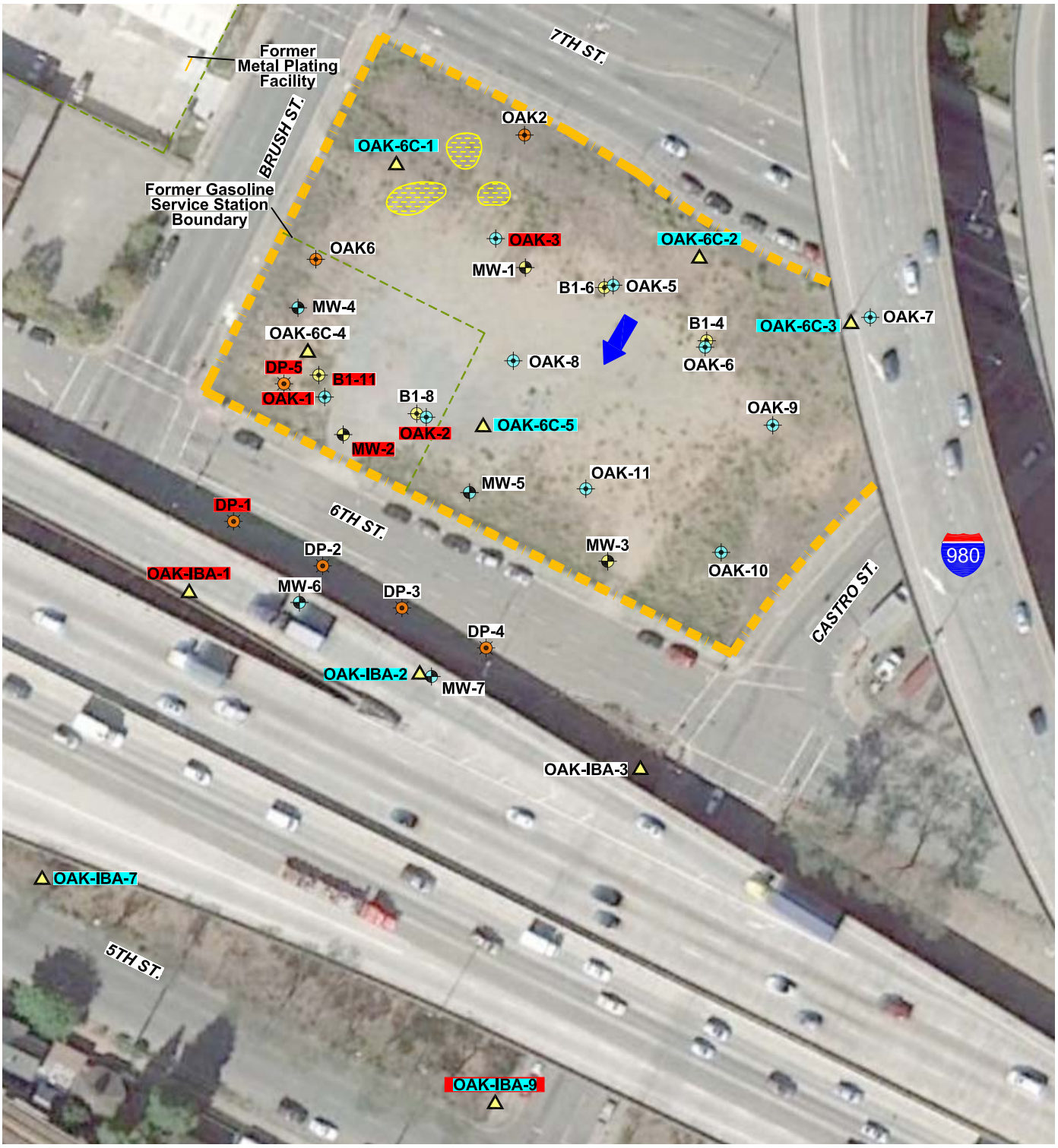

LEGEND:

- Property boundary
- OAK3 — Approximate boring location; Geocon, 1995
- B1-10 — Approximate boring location; IT Corporation, 1996
- OAK-1 — Approximate boring location; PSI, 1999
- MW-3 — Approximate ground water monitoring well location; PSI, 1999
- OAK-1BA-1 — Soil boring and grab groundwater location; IRIS Environmental
- MW-4 — Approximate groundwater monitoring well location; Kleinfelder, 2009
- DP-5 — Approximate boring location; Kleinfelder, 2009
- Fill mounds
- Fuel compound(s) exceed groundwater ESLs
- Metal(s) exceed groundwater ESLs
- Groundwater flow direction

N

0 40 80

Scale (Feet)

FIGURE 4
Grab Groundwater Sample and Monitoring Well Locations

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

Project No. 1204.19

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LEGEND:

- Property boundary
- OAK3 — Approximate boring location; Geocon, 1995
- B1-10 — Approximate boring location; IT Corporation, 1996
- OAK-1 — Approximate boring location; PSI, 1999
- MW-3 — Approximate ground water monitoring well location; PSI, 1999
- OAK-IBB-3 — Soil boring and grab groundwater location; IRIS Environmental
- OAK-6C-1 — Soil boring location; IRIS Environmental
- MW-4 — Approximate groundwater monitoring well location; Kleinfelder, 2009
- DP-5 — Approximate boring location; Kleinfelder, 2009
- PH-1 — Pothole excavated with backhoe; Kleinfelder, 2009
- T-E1 — Approximate trench location; Kleinfelder, 2009
- Fill mounds
- Estimated extent of soil contamination
- Estimated extent of groundwater contamination

N

0 25 50

Scale (Feet)

FIGURE 5
Estimated Extent of Site Contamination

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

Project No. 1204.19

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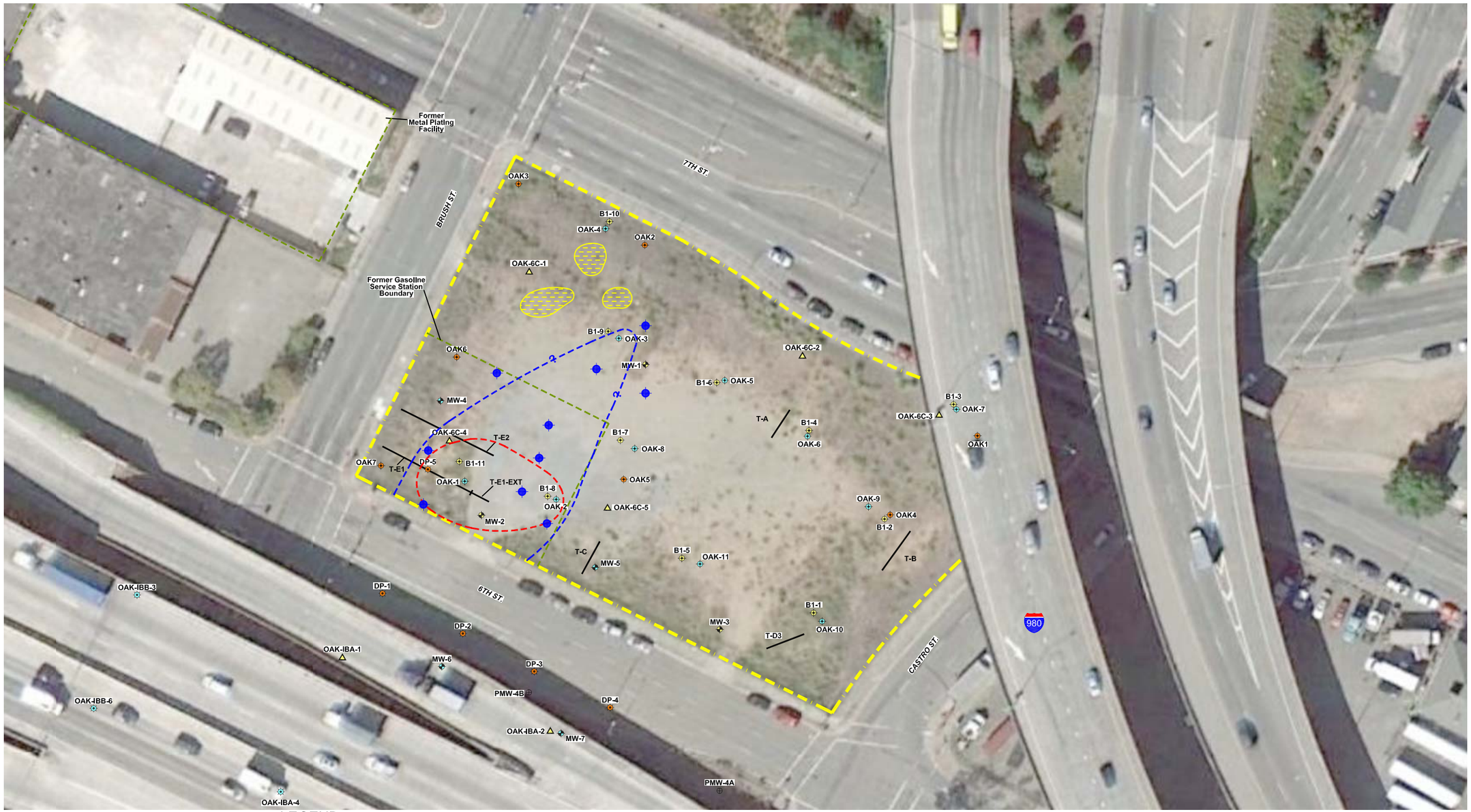

LEGEND:

- Property boundary
- OAK3 — Approximate boring location; Geocon, 1995
- B1-10 — Approximate boring location; IT Corporation, 1996
- OAK-1 — Approximate boring location; PSI, 1999
- MW-3 — Approximate ground water monitoring well location; PSI, 1999
- OAK-IBB-3 — Soil boring and grab groundwater location; IRIS Environmental
- OAK-6C-1 — Soil boring location; IRIS Environmental
- MW-4 — Approximate groundwater monitoring well location; Kleinfelder, 2009
- DP-5 — Approximate boring location; Kleinfelder, 2009
- PH-1 — Pothole excavated with backhoe; Kleinfelder, 2009
- T-E1 — Approximate trench location; Kleinfelder, 2009
- Fill mounds
- Estimated extent of soil contamination on-site
- Estimated extent of groundwater contamination on-site
- Proposed soil gas sampling location

N

0 25 50

Scale (Feet)

FIGURE 6
Proposed Soil Gas Sample Locations

6th and Castro Street
Oakland, California

northgate
environmental management, inc.

Project No. 1204.19

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