CLEARWATER
GROUP
Environmental Services

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SOIL AND GROUNDWATER INVESTIGATION WORKPLAN

Lucasey Manufacturing Corporation
2744 East 11th Street
Oakland, California

Prepared by:

CLEARWATER GROUP

April 25, 2006

229 Tewksbury Avenue ◆ Point Richmond, California 94801 ◆ Telephone: 510-307-9943 ◆ Fax: 510-232-2823

TABLE OF CONTENTS

PAGE

1. INTRODUCTION

The Clearwater Group (Clearwater) has prepared this Soil and Groundwater Investigation Workplan for the Lucasey Manufacturing Corporation facility at 2744 East 11th Street, Oakland, California. The work proposed is one part of Clearwater's response to a February 23, 2006, Alameda County Environmental Health Services (ACEH) letter (see Appendix A) requesting a soil and groundwater investigation to define the horizontal and vertical extent of soil and groundwater contamination at this site. Other actions requested in the February 23, 2006 ACEH letter are being addressed by Clearwater separately from this workplan.

All site investigation work will be performed according to State Water Resources Control Board (SWRCB) Resolution No. 68-16 and the Tri-Regional Guidelines set forth by the Regional Water Quality Control Board (RWQCB), April 2004.

2. SITE DESCRIPTION AND HISTORY

The site is located in a mixed light industrial, regional transportation corridor (rail and highway) and residential area of Oakland (Figure 1). The subject property occupies about 2.32 acres and is improved with one building of approximately 100,000 square feet. The building is owned and occupied by the Lucasey Manufacturing Corporation, a sheet metal fabricator of television mounting systems.

The 1903 Sanborn Fire Insurance (Sanborn) map of the subject property shows it to be improved with multiple residences and associated buildings. According to an AEI report (referenced on the next page), the 1911 Sanborn map shows that the site was developed with residences as well as a portion of the current building and other buildings associated with the Cole-Portwood Canning Company. With the change in use from residential to industrial came a restructuring of the parcel map as well. The property was developed with other portions of the current building in the 1910's and 1920's. During one period the property and buildings were used by the California Packing Corporation for its canning

factory as well as its canned goods warehouse (per the 1950 Sanborn map). See Figures 2 and 3 for the 1903 and 1950 Sanborn maps, respectively.

3. PREVIOUS ENVIRONMENTAL INVESTIGATIONS

An environmental report of May 30, 1995 was prepared by Moju Environmental Technologies, 315 Washington St., Oakland, for the subject property. This investigation report has not been acquired.

Phase I Environmental Site Assessment

The results of an initial site environmental investigation of the subject property were reported in the AEI Consultants (Walnut Creek, California), August 24, 2004, *Phase I, Environmental Site Assessment, 2744 East 11th Street, Oakland, California.* This site assessment revealed two related property improvements designated as "oil house" and "oil tank in ground". These improvements were noted southwest of the subject property building, and within the "L" of the building footprint in the current loading dock area, on the 1911 and 1950 Sanborn maps (viewed but not printed by AEI, and, attached as Figure 2, respectively). Machine shop areas were also noted in the vicinity of the "oil house" and "oil tank in ground". No other onsite historical conditions of recognized environmental significance were identified in the AEI Phase I investigation.

AEI recommended a subsurface investigation to determine if the historic documented underground storage tank (UST) and the nearby shop areas had impacted the subsurface of the subject property.

Phase II Environmental Site Assessment

An initial Phase II subsurface investigation was performed by AEI on August 31, 2004. The results of this subsurface site investigation were reported in AEI's, September 14, 2004, *Phase II Subsurface Investigation Report, 2744 East 11th Street, Oakland, California.* Five soil borings were drilled onsite (SB-1 through SB-4 and SB-6, see Figure 4). Boring

SB-5 was an abandoned attempt, due to drill refusal. Boring logs from this event are attached in Appendix C. The locations of the borings were chosen to identify a release, if any, from the area identified on the Sanborn maps (target area). The borings were advanced to 16 feet below ground surface (bgs) and soil samples were collected at 4-foot intervals. Significant staining and hydrocarbon odor were observed during the drilling of borings SB-1, SB-2, SB-4 and SB-6. The soil staining was described as black sludge dispersed throughout the clays, beginning at approximately 12 feet bgs and extending to the bottom of the boring at 16 feet bgs.

Groundwater was encountered at approximately 13 feet bgs in the soil borings and grab groundwater samples were collected from the five borings. AEI noted that free product was observed in borings SB-1, SB-2, SB-4 and SB-6. The groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, diesel and motor oil by EPA Method 8015 and for volatile organic compounds by EPA Method 8260.

The results of the groundwater sample analyses indicated that the site groundwater is impacted by petroleum hydrocarbons. Total petroleum hydrocarbons (TPH) as gasoline in water concentrations ranged from 130 micrograms per liter (µg/L) in the sample from boring SB-6 to 3,800 µg/L (boring SB-2), while the sample from boring SB-3 was non-detect for TPH compounds. The grab ground water samples contained very low detections of volatile organic compounds. The soil samples were placed on hold and, due to results indicating the significant groundwater contamination, not analyzed.

Addendum Subsurface Investigation Report

A second subsurface investigation was performed by Terra Firma, of Mill Valley, California on July 9, 2005. The results of this investigation were reported by Clearwater and are presented in Attachment A. Six soil borings (BH-1 through BH-6; Figure 4) were driven in the area of the highest presence of petroleum hydrocarbons in groundwater established by the first Phase II investigation (target area).

The boring logs (attached in Addendum Report, Appendix B) indicated that the soil underlying the site is predominantly silty clay to clay with layers of fine sand and gravel. Groundwater was encountered at approximately 12 feet bgs in boring BH-2 and 11 feet bgs in boring BH-4. The soil sample results indicate that high concentrations of petroleum hydrocarbons occur in the site soil (8,900 mg/kg of TPH-d and 7,500 mg/kg of TPH-mo in sample 50603-2-12).

A grab groundwater sample was collected from 3 of the 6 soil bore holes prior to grouting the boreholes. All of the grab groundwater samples contained petroleum hydrocarbons. TPH-d concentrations ranged from 670 µg/L (boring BH-5) to 580,000 µg/L (boring BH-2). TPH-motor oil concentrations were comparable, ranging from 2,800 µg/L (BH-5) to 510,000 µg/L (BH-2). MTBE and BTEX concentrations were below the laboratory reporting limits.

Figure 4 was developed from the July 9, 2005 event data. It shows an estimated free-phase hydrocarbon plume map, denoting where free (floating) product potentially occurs.

Ground Penetrating Radar Search

Clearwater contracted Norcal Geophysical of Cotati, California to perform a ground penetrating radar search of the target area (59' x 27') for possible USTs on November 15, 2005. No metal objects (e.g., USTs) were detected during the radar search (see Figure 7).

Sensitive Receptor Survey

The February 23, 2006, ACEH letter requesting a soil and groundwater investigation also requested that a Sensitive Receptor Survey be included with this workplan. The results of the Sensitive Receptor Survey are presented in Attachment B. A site map with the utilities identified during a field survey is presented as Figure 5.

4. SCOPE OF WORK

In their letter of February 23, 2006, ACEH requested further definition of the horizontal and vertical extent of the soil and groundwater contamination at the subject property. This data will be used to design and locate future groundwater monitoring wells, should they be required. The scope of work for this project includes the following tasks:

- Investigation planning and permitting
- Utility locating and clearance
- Drive 9 soil borings
- Soil and grab groundwater sample acquisition
- Analyze the soil and groundwater samples onsite using a mobile laboratory
- Disposal of investigation derived waste
- Investigation report preparation

These tasks are described in the following sections.

4.1 Planning

Available data will be used to identify data gaps and assemble a map to show proposed locations where more data is needed.

4.2 Permitting

Permits for the soil borings will be obtained from the ACEH before the field activities begin. Encroachment and excavation permits to drill soil borings in East 11th Street and Lisbon Avenue (or the sidewalk thereof) will be obtained from the City of Oakland, Public Works Department. A traffic control plan will be submitted to the City of Oakland, Public Works Department.

4.2 Utility Locating

The perimeter of the site investigation area was marked with white paint and Underground Service Alert (USA) was notified to have those utility companies with underground utilities in the area mark their utilities and clear the proposed boring locations. After the utility companies marked the site, or faxed a notice of no known utilities to Clearwater, a map was drawn of the currently known subsurface utilities (Figure 5). Prior to driving any soil borings a private utility locator service will be engaged to pre-screen each proposed boring location and confirm the utility locations and also search for unmarked buried utilities. The locator service will use utility locating instruments, such as pipe and cable locators and metal detectors. Persons familiar with the site will also be asked about their knowledge of the site's underground utilities.

4.3 Health and Safety Plan

A site-specific Health and Safety Plan (HSP) will be prepared. The HSP will focus on the soil drilling and soil sampling safety procedures, health impacts of suspected site contaminants, access information and directions to the local hospital, or clinic, and phone numbers for required contacts. Traffic control will also be discussed in the HSP. The HSP will be signed by the Clearwater project manager and H&S officer before it is released to the field staff. All field staff and subcontractor staff will review and sign the HSP before the field activities begin.

4.4 Soil Boring and Sampling

Clearwater proposes to drive 9 soil borings, collect soil and grab groundwater samples from the borings and analyze the samples onsite using a mobile laboratory. The proposed boring locations are shown on Figure 6. Note that additional boring locations are also on Figure 6; these are step-out borings. These additional boring locations will be used if warranted by onsite laboratory results to delineate the extent of the plume.

To reduce the amount of soil cuttings, small diameter boreholes will be drilled using a Geoprobe® 5400 direct push technology sampling rig. Continuous soil sampling will be performed by pushing a 2-inch diameter by four-foot long soil sampling tube into the subsurface to obtain the soil samples.

The borings will be driven to a depth of approximately 24 feet bgs, unless the analytical results indicate that the contamination extends deeper than this depth. In that case some of the borings will be extended to determine the vertical extent of the contamination.

Soil samples retrieved from the borings will be screened with a photo ionization detector (PID). The soil samples will be described by a field geologist working under the direction of a California Professional Geologist. Soil samples from selected intervals will be collected according to EPA Method 5035. Two or more soil samples will be analyzed from each borehole.

Grab water samples will be collected from the shallow soil borings with disposable bailers if groundwater is encountered during drilling and soil sampling. Non-disposable sampling equipment will be decontaminated on site using Clearwater's standard procedure (see Appendix B).

The mobile laboratory will analyze the samples as the subsurface investigation progresses. A Clearwater geologist will plot the sample results as they become available and modify the placement of the soil borings in order to best define the groundwater contamination plume. The initial boring locations will be chosen around the presumed upgradient and side edges of the plume, to confirm the extent of the plume in these directions. Borings will also be driven in the presumed downgradient direction (to the southwest) to determine the horizontal extent of the plume.

At select borings a second nearby boring will be driven to produce a continuous electrical conductivity log of the boring lithology. The conductivity log will be used to accurately locate coarse grained layers (permeable zones) and contacts between differing lithologic layers.

All of the borings will be grouted to the ground surface with neat cement. As part of the permit process, the ACEH requires an ACEH inspector be contacted before grouting the borings so that they may observe the soil boring grouting procedures.

5. SOIL AND GRAB GROUNDWATER SAMPLE ANALYSES

The samples will be transported under Chain-of-Custody documentation to an onsite, mobile, State of California-certified analytical laboratory. The samples will be handled and transported according to Clearwater's standard sampling procedures (see Appendix B).

The soil and grab groundwater samples will be analyzed for TPH-gasoline and TPH-diesel and motor oil by EPA Method 8015M.

Non-critical samples may be analyzed after the conclusion of field activities at a conventional (fixed-location), State of California-certified analytical laboratory. Groundwater samples observed by Clearwater's field geologist to contain floating, or free product, will not be analyzed by the mobile laboratory. These samples will be analyzed later by a fixed-location laboratory.

6. DISPOSAL OF INVESTIGATION-DERIVED WASTE

Efforts will be made to minimize the quantity of soil cuttings that are generated during soil drilling and sampling. The soil cuttings and discarded soil samples will be stored in labeled 55-gallon steel drums and temporarily stored onsite, pending receipt of the soil disposal characterization sample results. The drummed soil will be disposed of at a permitted landfill, pending receipt of the sample results.

Water from equipment decontamination will be transported to the Clearwater yard in a tank within the sampling van. The water will then be transferred into and stored in labeled 55-gallon drums, pending receipt of the analytical results. The drummed water will disposed of at Instrat Inc., of Rio Vista, California.

7. REPORT PREPARATION

Soil boring information will be reviewed and processed using RockWare's LogPlot software to create the boring logs. The boring and conductivity logs will be used to create subsurface cross-sections to delineate the subsurface lithology and assist in the evaluation of the thickness and continuity of sedimentary layers, water bearing zone(s), and contaminant zones.

The soil and groundwater sample analytical results will be evaluated to determine the extent of the source area and the degree of soil and groundwater impact. Data from the previous investigations, such as boring logs and soil and groundwater sample analytical results will be combined with the data generated during this investigation. The Soil and Groundwater Investigation Report will include boring logs, conductivity logs, a map view of the plume extent and subsurface cross-sections.

Based on the results of site investigations to date, Clearwater presumes that ACEH will require the installation of groundwater monitoring wells. The results of this investigation will be used as a planning tool for selecting future groundwater monitoring well locations and for planning future soil and groundwater remediation.

8. SCHEDULE

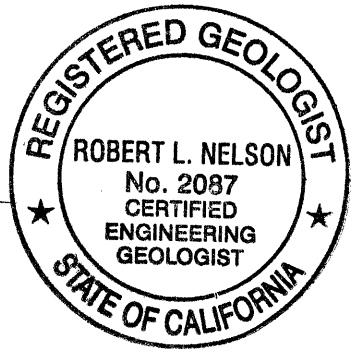
Task	Description	Start Date	End Date	Duration
1	Draft Workplan approval by client	4/25/2006	4/28/2006	3
2	Workplan approval by Local Oversight Agency	5/1/2006	7/5/2006	60
3	Use comments to amend proposed work	7/6/2006	7/20/06	14
4	Budget preparation and client approval	7/20/2006	8/7/2006	14
5	Permit application, submittal and approval (engage driller, USA notification, etc)	8/72006	9/7/2006	28
6	Soil Boring/Field Work with mobile lab	9/7/2006	9/11/2006	4
7	Additional Soil and groundwater laboratory analysis completed on visually contaminated sites	9/11/2006	9/28/2006	14
8	Report Preparation	9/28/2006	10/20/2006	22

CERTIFICATION

This report was prepared by and under the supervision of a State of California Professional Geologist at the Clearwater Group. All statements, conclusions and recommendations are based solely upon field observations by Clearwater Group, documents by Terra Firma Consultants and laboratory analysis performed by a California DHS-certified laboratory related to the work performed by Clearwater Group.

Information and interpretation presented herein are for the sole use of the client and regulatory agency. A third party should not rely upon the information and interpretation contained in this document. The service performed by the Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Sincerely,
Clearwater Group,



Matthew Ryder-Smith
Project Manager

Robert L. Nelson
P. G. #6270, C. E. G. #2087
Senior Geologist

FIGURES

APPENDICES

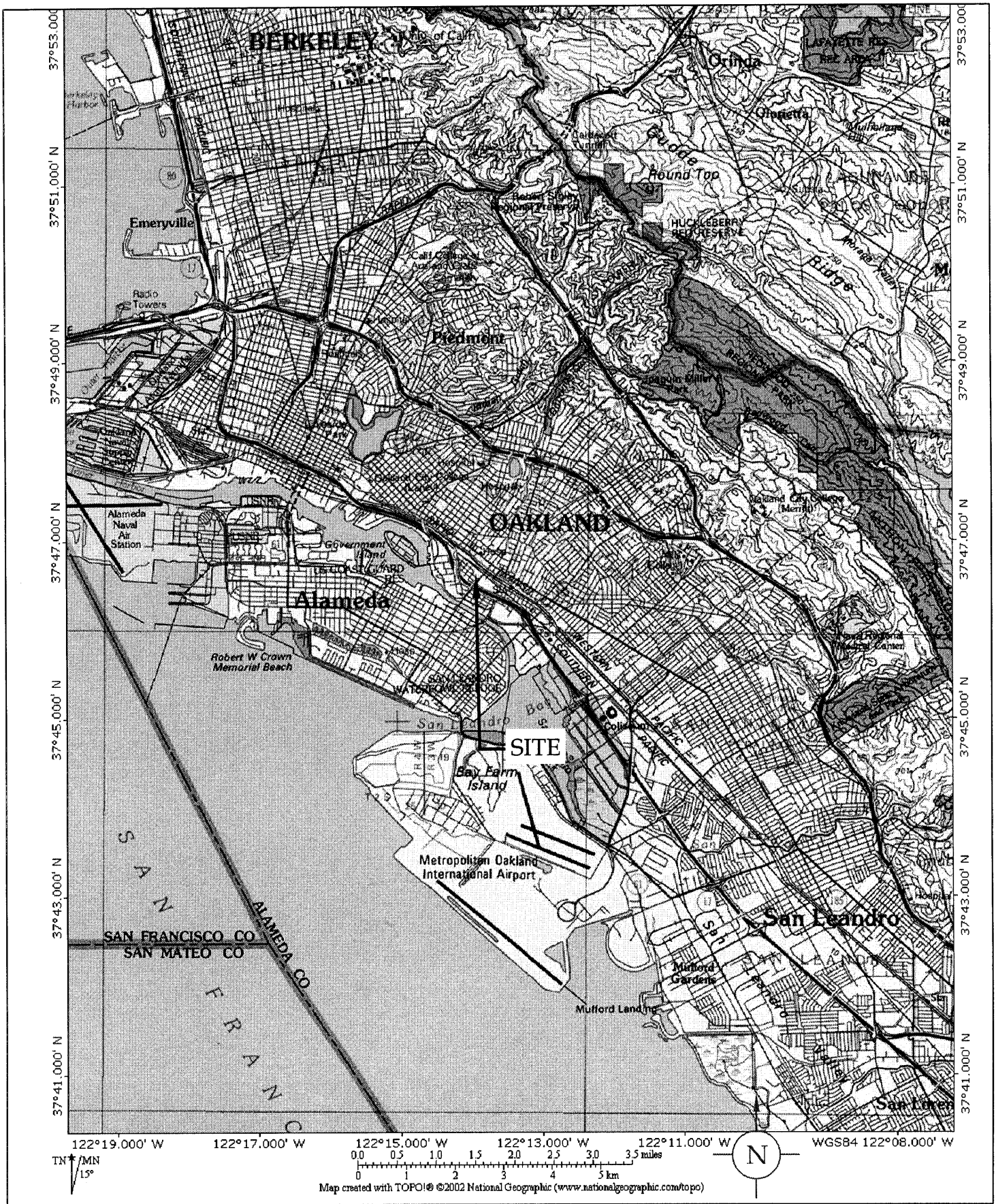
ATTACHMENTS:

DISTRIBUTION:

Mr. Christopher Lucasey
Lucasey Manufacturing Corporation
2744 East 11th Street
Oakland, California 94601

Mr. Parwez Faizi
Lucasey Manufacturing Corporation
2744 East 11th Street
Oakland, California 94601

FIGURES



SITE VICINITY MAP

Lucasey Manufacturing
2744 E 11th Street
Oakland, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
FB022E	**4/06**	**1**

Figure 2 – 1903 Sanborn Map

1903 Sanborn Map

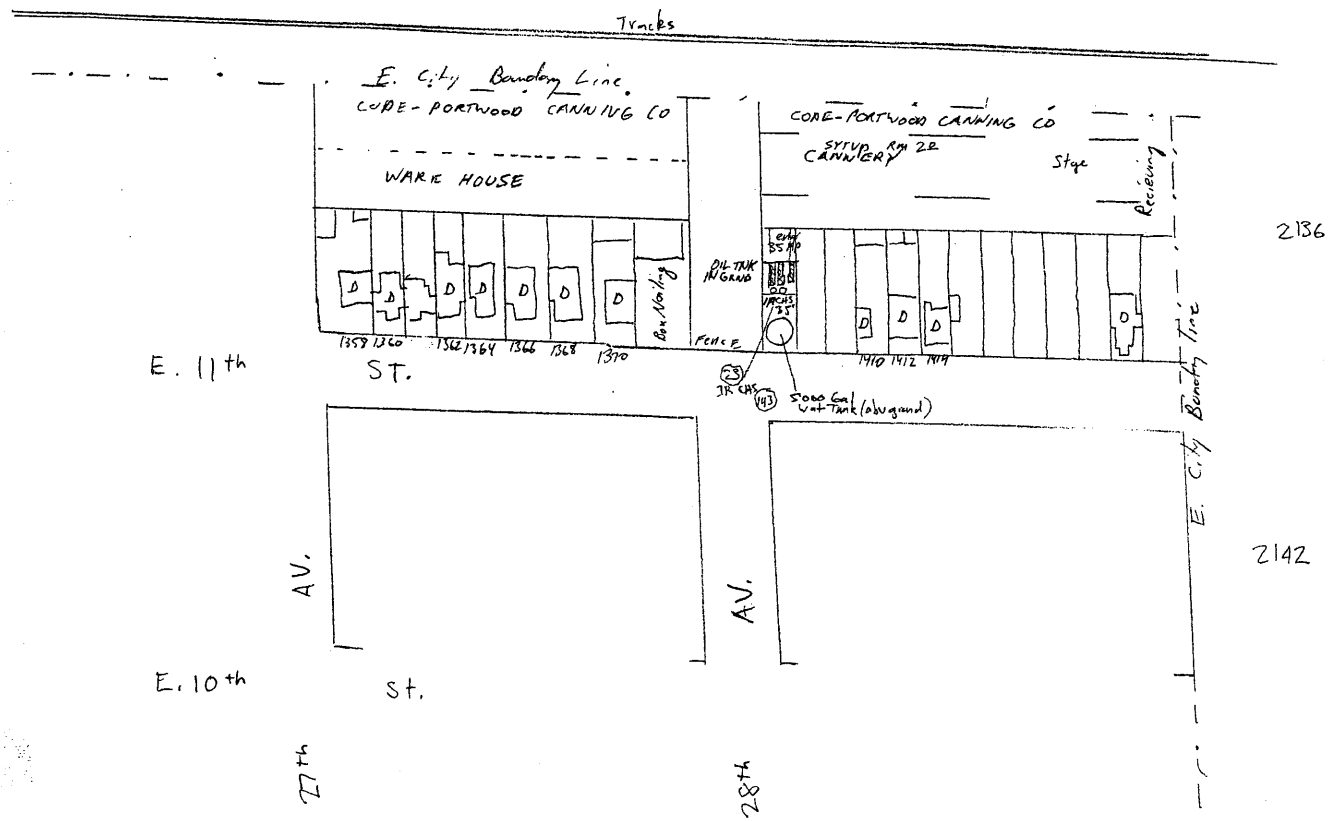
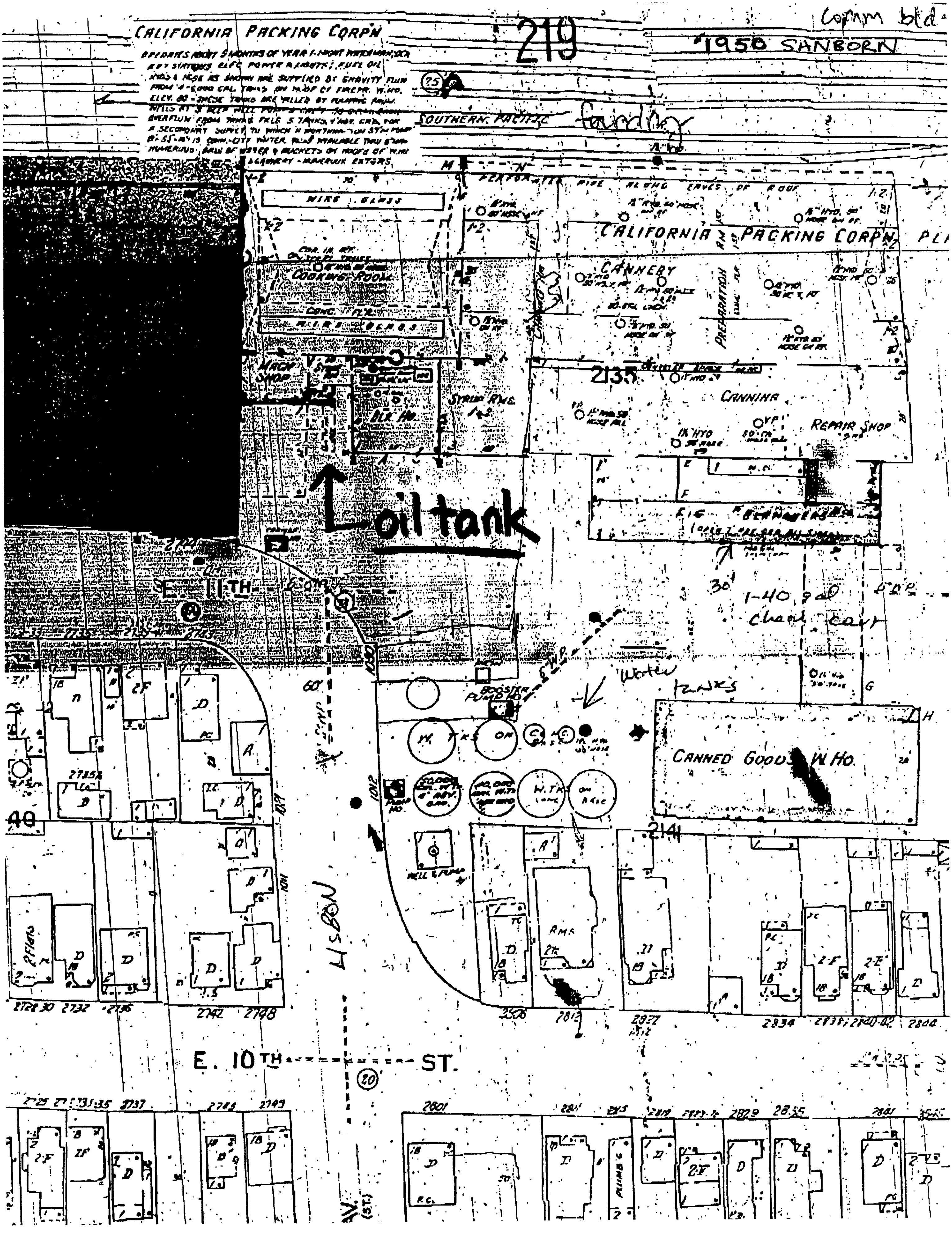
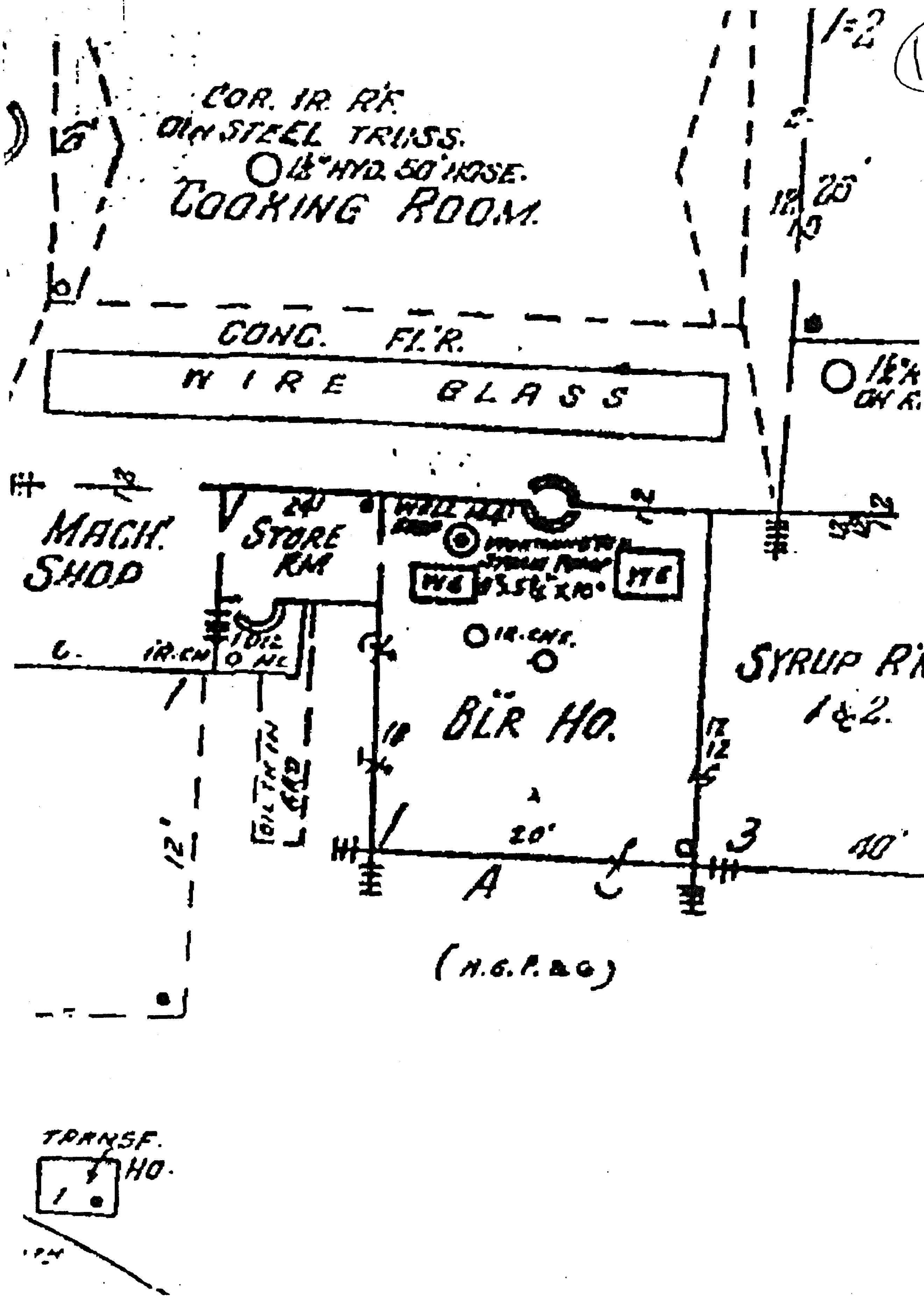
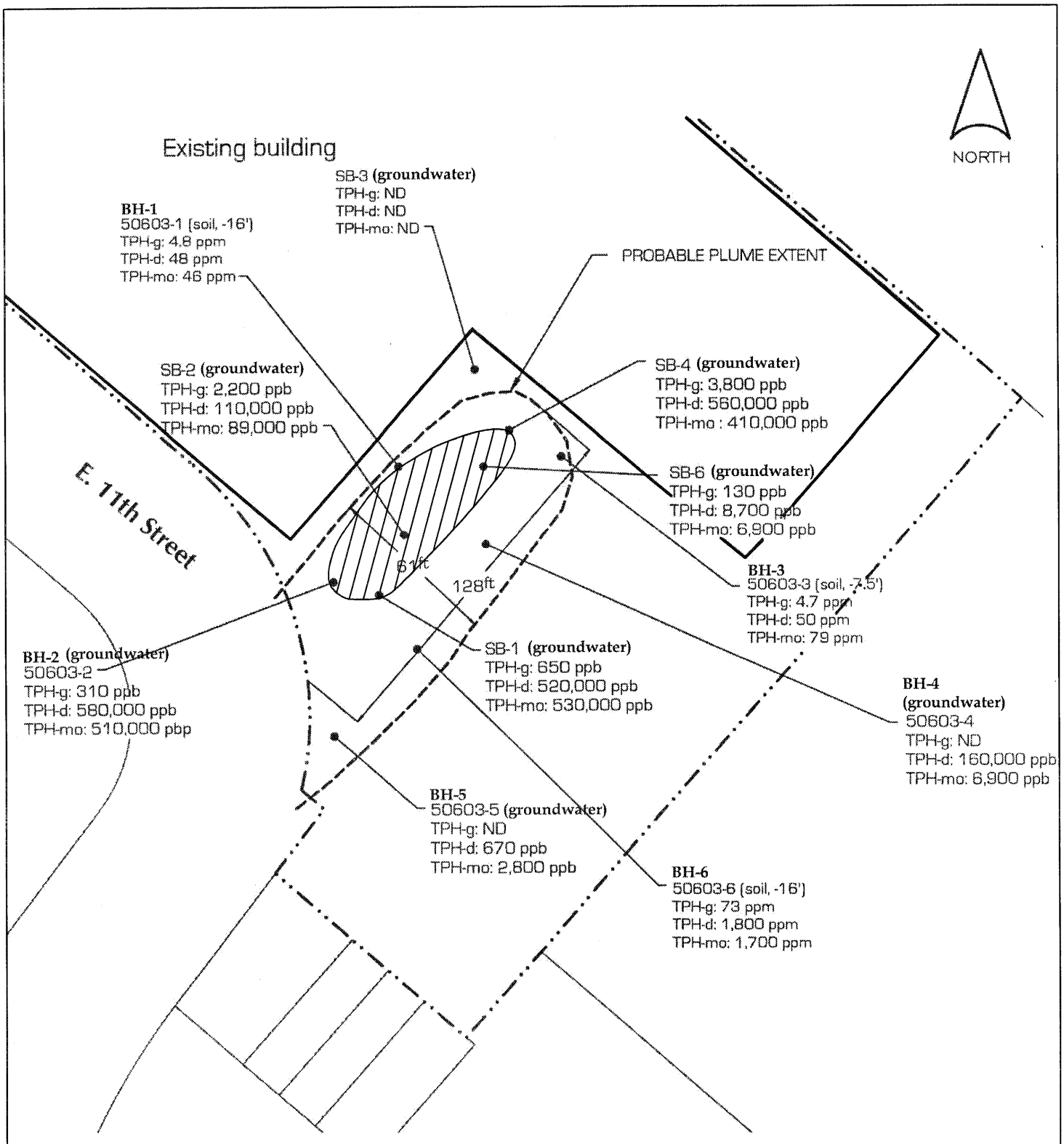


Figure 3 – 1950 Sanborn Map


Comm bld
219
1950 SANBORN
CALIFORNIA PACKING CORP'N
SOUTHERN PACIFIC
CALIFORNIA PACKING CORP'N
CANNERY
PREPARATION
COOKING ROOM
MACH. SHOP
BLR. HO.
STOR. RMS.
CANNING
REPAIR SHOP
2135
oil tank
S.E. 11TH
30'
1-40 gal
Chem cart
60'
BOOSTER PUMP HO.
water tanks
W. TKS
CANNED GOODS W. HO.
2141
LISBON
WELL & PUMP
E. 10TH ST.
2 FLATS
RMS.

1950


COR. IR. RF.
ON STEEL TRUSS.
1½" HYD. 50' HOSE.
COOKING ROOM.
CONC. FL'R.
WIRE GLASS
MACH. SHOP
STORE RM.
BLR HO.
SYRUP R
1&2.
20'
40'
12'
A
3
(N.G.P.&G)
TRANSF. HO.



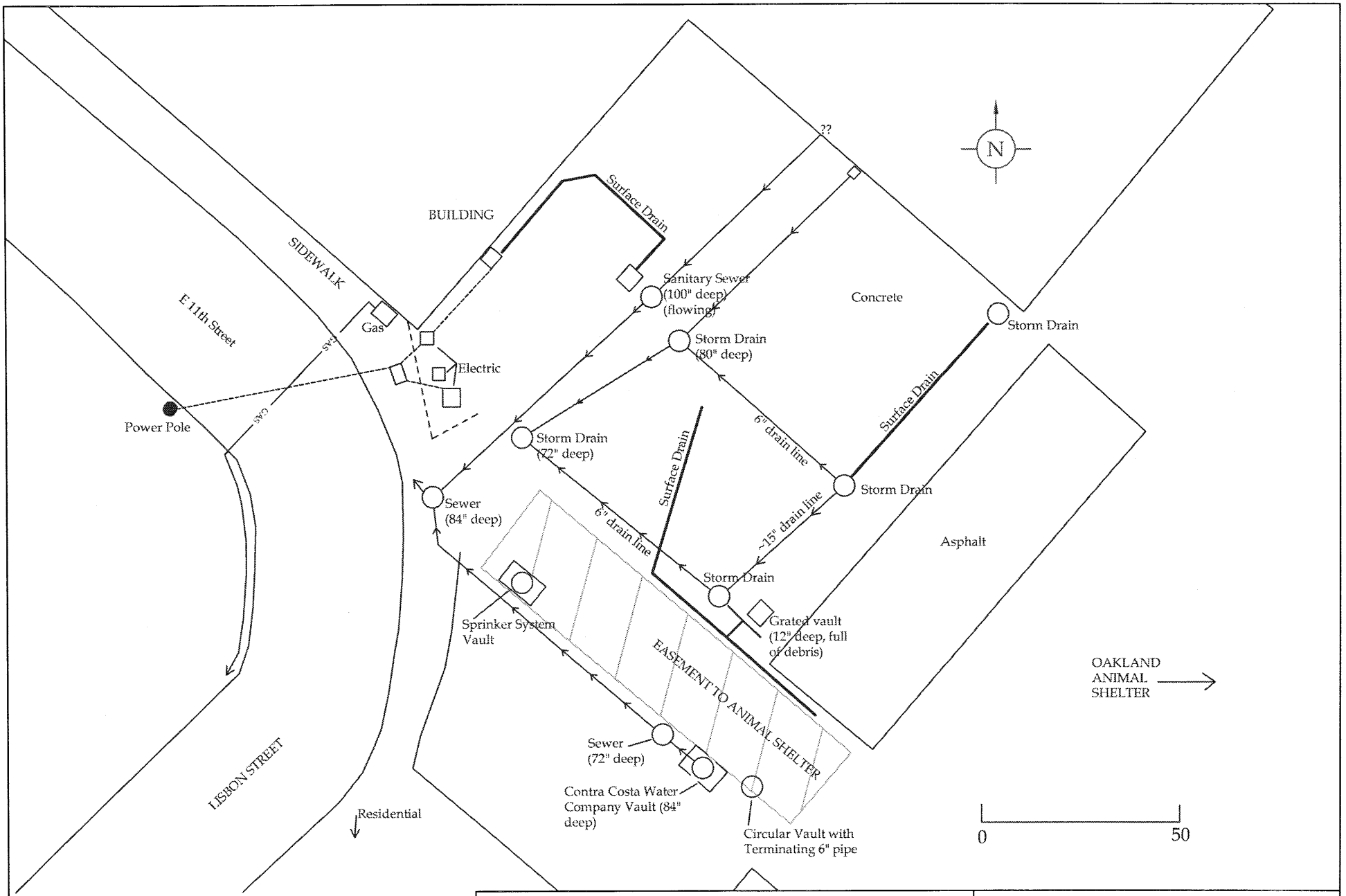
SITE PLAN - PREVIOUS INVESTIGATION RESULTS

Lucasey Manufacturing
2744 East 11th St
Oakland, CA

NOT TO SCALE

CLEARWATER GROUP

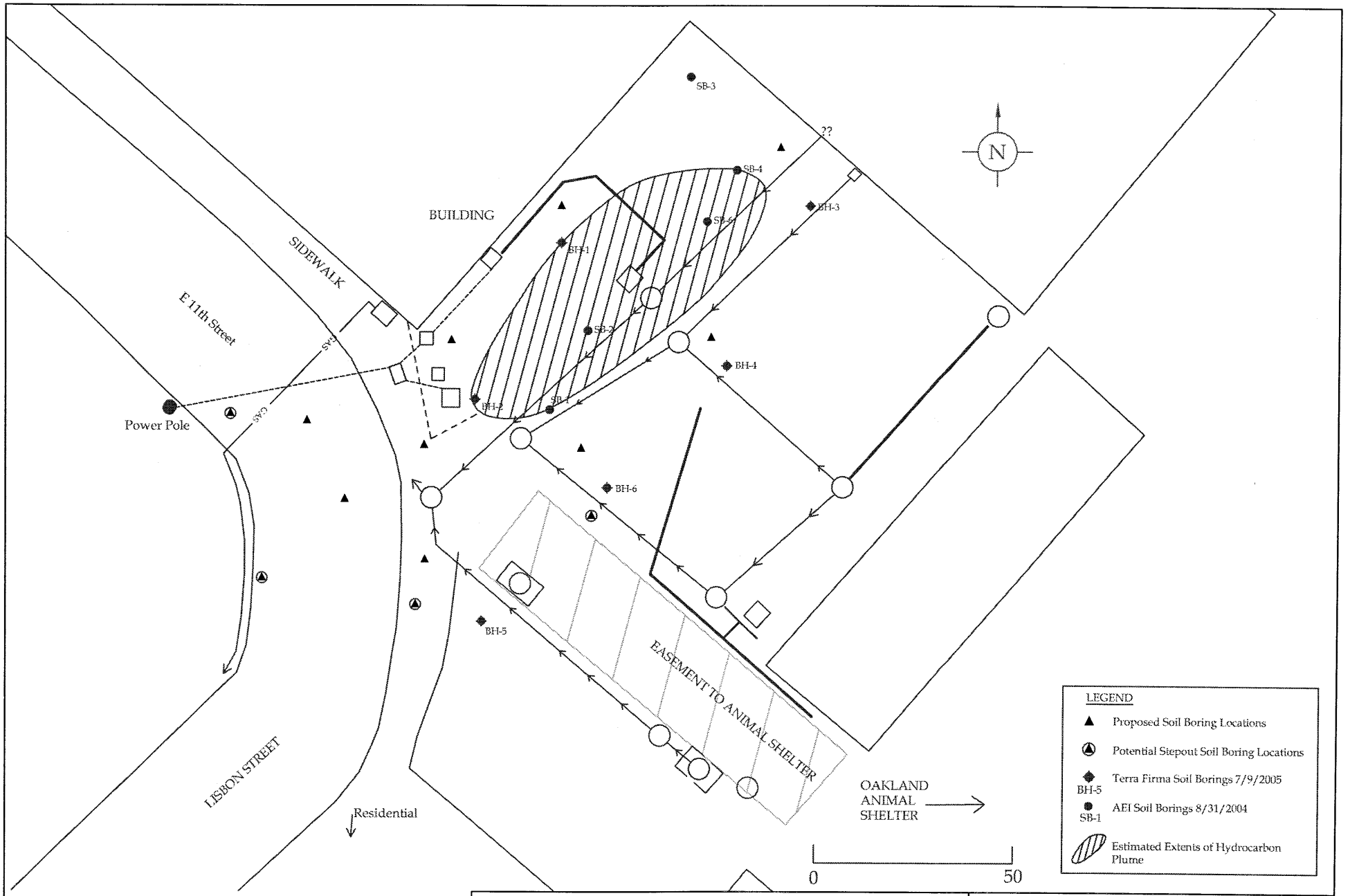
Project No.	Figure Date	Figure
FB022E	**4/06**	**4**



UTILITY SURVEY MAP
Lucasey Manufacturing
2744 East 11th Street
Oakland, California

CLEARWATER GROUP

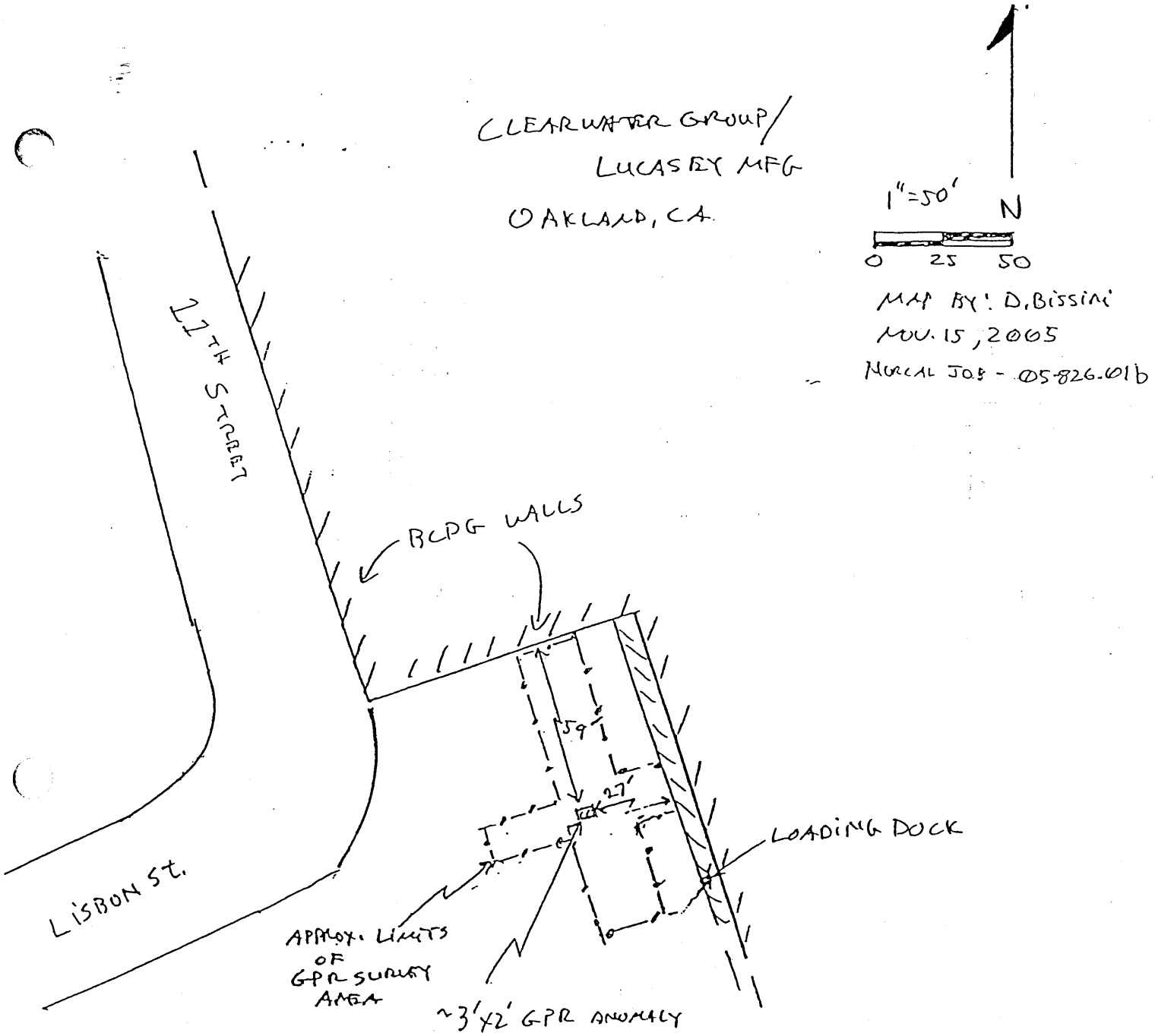
Project No.	Figure Date	Figure
FB022E	**04/06**	5



PROPOSED SOIL BORING LOCATIONS
Lucasey Manufacturing
2744 East 11th Street
Oakland, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
FB022E	**04/06**	6



GEOPHYSICAL SCREENING MAP Lucasey Manufacturing 2744 E 11th Street Oakland, California	CLEARWATER GROUP		
	Project No. **FB022E**	Figure Date **4/06**	Figure **7**

APPENDIX A

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

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

February 23, 2006

Mr. Peter Faizi
Lucasey Manufacturing
2744 East 11th Street
Oakland, CA 94601

Subject: SLIC Case RO0002902, Lucasey Manufacturing, 2744 East 11th Street, Oakland, CA 94601

Dear Mr. Faizi:

Alameda County Environmental Health (ACEH) staff has reviewed the Spills, Leaks, Investigations, and Cleanups (SLIC) case file for the above-referenced site, including the reports entitled, "Phase I Environmental Site Assessment," dated August 24, 2004, and "Phase II Subsurface Investigation Report," dated September 14, 2004. Both reports were prepared on your behalf by AEI Consultants, Inc. Please see technical comment 1 below regarding some miscellaneous sampling data that is also included in the case files.

Elevated concentrations of petroleum hydrocarbons have been detected in soil and groundwater in the area of a former oil storage house and underground storage tanks (USTs). Based on the highly elevated concentrations detected in groundwater samples, separate phase hydrocarbons (SPH) are likely to exist on top of the water table. The extent of soil and groundwater contamination has not been defined. Further investigation and cleanup of this site will be required in order to proceed toward case closure.

We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

TECHNICAL COMMENTS

1. **Miscellaneous Sampling Data.** The case file includes a chain of custody form completed by Terra Firma Consulting LLC, laboratory analytical reports from McCampbell Analytical, Inc., and a one page "Site Plan," for soil and groundwater samples collected on July 9, 2005. No other supporting information such as documentation of the field activity, description of sampling protocol, soil boring logs, or survey data is included for these soil and groundwater samples collected on July 9, 2005. The limited information currently available in the files for these soil and groundwater samples is insufficient for these data to be evaluated. Please submit any reports or supporting information for these samples and laboratory analyses with the Work Plan requested below.

2. **Site History and Sources of Contamination.** Elevated concentrations of petroleum hydrocarbons have been detected in soil and groundwater samples collected in the area of a former oil storage house and USTs. Since no documentation is available to confirm that

the USTs were removed, further investigation is required to confirm that the USTs were removed. In addition, further investigation is necessary to evaluate whether other sources of contamination may exist at the site. Please present plans to investigate the source(s) of soil and groundwater contamination at the site in the Work Plan requested below.

3. **Defining the Horizontal and Vertical Extent of Contamination.** The horizontal and vertical extent of soil and groundwater contamination has not been defined for the site. Please present plans in the Work Plan requested below to conduct a soil and groundwater investigation to define the horizontal and vertical extent of soil and groundwater contamination.

4. **Detailed Well Survey.** We request that you locate all wells (monitoring and production wells: active, inactive, standby, decommissioned, abandoned and dewatering, drainage and cathodic protection wells) within ½ mile of the subject site. We recommend that you obtain well information from both Alameda County Public Works Agency and the State of California Department of Water Resources, at a minimum. Submittal of maps showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Please present your results in the Work Plan requested below.

5. **Utility Survey.** An evaluation of the potential for utility lines and trenches (including sewers, storm drains, pipelines, and trench backfill) to act as preferential pathways for contaminant migration is required. Please present a map in the Work Plan requested below showing the locations of utility lines and trenches within and near the site.

6. **Sensitive Receptors.** Please identify any sensitive receptors such as schools, day care centers, or medical care facilities within 200 feet of the site. Please include this information in the Work Plan requested below.

7. **Corrective Action Plan.** The purpose of the CAP is to use the information obtained during site investigation activities to propose cost-effective final cleanup objectives for the entire contaminant plume and remedial alternatives for soil and groundwater that will adequately protect human health and the environment, eliminate nuisance conditions, and protect water resources. A CAP for the cleanup of contamination in soil and groundwater will be required upon completion of the Soil and Groundwater Investigation in accordance with the schedule specified below. The CAP shall address at least two technically and economically feasible methods to meet the cleanup objectives for each contaminant established in the CAP. The CAP must propose verification monitoring to confirm completion of corrective actions and evaluate CAP implementation effectiveness.

8. **Geotracker EDF Submittals.** Pursuant to CCR Sections 2729 and 2729.1, beginning July 1, 2005 for SLIC cases, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the LUFT program, must be transmitted electronically to the SWRCB Geotracker website via the internet. Additionally, all permanent monitoring points utilized to collect groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude accurate to within 1-meter accuracy, using NAD 83, and transmitted electronically to the SWRCB Geotracker website. Beginning July 1, 2005, electronic submittal of a complete copy of all reports (LUFT or SLIC) is required in

Geotracker (in PDF format). Please upload all SLIC analytical data collected after July 1, 2005 to the SWRCB's Geotracker database website in accordance with the above-cited regulation.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **April 24, 2006** – Work Plan
- **120 days after ACEH Approval of Work Plan** – Soil and Groundwater Investigation Report
- **60 days after ACEH Comments on Soil and Groundwater Investigation Report** – Corrective Action Plan

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

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

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

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at jerry.wickham@acgov.org.

PERJURY STATEMENT

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

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

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

AGENCY OVERSIGHT

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

If you have any questions, please call me at (510) 567-6791.

Sincerely,

Jerry Wickham
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Matthew Ryder-Smith, Clearwater Group, 229 Tewksbury Avenue, Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

APPENDIX B

CLEARWATER GROUP

Direct-Push Drilling Investigation Procedures

The direct push method of soil boring has several advantages over hollow-stem auger drill rigs. The direct push method produces no drill cuttings and is capable of 150 to 200 feet of boring or well installation per work day. Direct push can be used for soil gas surveys, soil sampling, groundwater sampling, installation of small-diameter monitoring wells, and components of remediation systems such as air sparge points. The equipment required to perform direct push work is varied ranging from a roto-hammer and operator to a pickup truck-mounted rig capable of substantial static downward force combined with percussive force. This method allows subsurface investigation work to be performed in areas inaccessible to conventional drill rigs such as in basements, beneath canopies, or below power lines. Direct push equipment is ideal at sites with unconsolidated soil or overburden, and for sampling depths of less than 30 feet. This method is not appropriate for boring through bedrock or gravelly soils.

Permitting and Site Preparation

Prior to direct push boring work, Clearwater Group will obtain all necessary permits and locate all underground and above ground utilities through Underground Service Alert (USA) and a thorough site inspection. All drilling equipment will be inspected daily and will be maintained in safe operating condition. All down-hole drilling equipment will be cleaned prior to arriving on-site. Working components of the rig near the borehole, as well as driven casing and sampling equipment will be thoroughly decontaminated between each boring location by either steam cleaning or washing with an Alconox® solution. All drilling and sampling methods will be consistent with ASTM Method D-1452-80 and county, state and federal regulations.

Boring Installation and Soil Sampling

Direct push uses a 1.5-inch outer barrel with an inner rod held in place during pushing. Soil samples are collected by penetrating to the desired depth, retracting the inner rod and attaching a spoon sampler. The sampler is then thrust beyond the outer barrel into native soil. Soil samples are recovered in brass or stainless containers lining the spoon.

Soil removed from the upper tube section is used for lithologic descriptions (according to the unified soil classification system) and for organic vapor field analysis. If organic vapors will be analyzed in the field, a portion of each soil sample will be placed in a plastic zip-lock bag. The bag will be sealed and warmed for approximately 10 minutes to allow vapors to be released from the soil sample and diffuse into the head space of the bag. The bag is then pierced with the probe of a calibrated organic vapor detector. The results of the field testing will be noted with the lithologic descriptions on the field exploratory soil boring log. Soil samples selected for laboratory analysis will be covered on both ends with Teflon™ tape and plastic end caps. The samples will then be labeled, documented on a chain-of-custody form and placed in a cooler for transport to a state certified analytical laboratory.

Temporary Well Installation and Groundwater Sampling

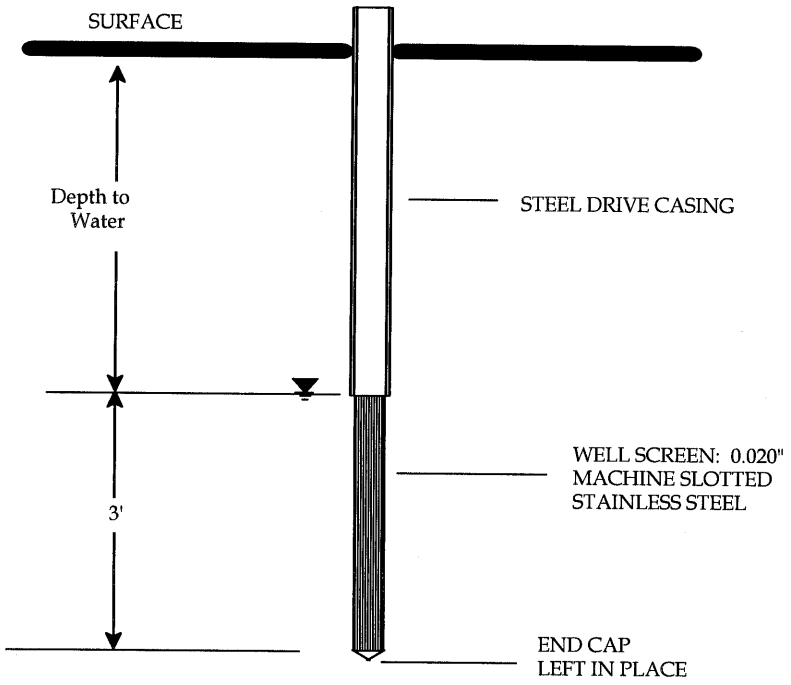


Figure 1

Groundwater samples are collected by removing the inner rod and attaching a 4-foot stainless steel screen with a drive point at the end (Figure 1). The screen and rod are then inserted in the outer barrel and driven to the desired depth where the outer rod is retracted to expose the screen. If enough water for sampling is not produced through the stainless well screen, a 1-inch PVC screen can be installed in the boring and the outer rod retracted to leave a temporary well point for collecting groundwater samples or water levels.

Monitoring Well Installation and Development

Permanent small-diameter monitoring wells are installed by driving the outer barrel and inner rod as described above. Upon reaching the desired depth the system is removed and 2-inch OD (1/2-inch ID) pre-packed PVC piping is installed. The well plug is created using granular bentonite. The well seal is constructed of cement and sealed at the surface with a conventional "Christy® Box" or similar vault. Monitoring wells are developed by surging the well with a small diameter bailer and removing 3 to 5 casing volumes of water until the produced water is clear.

Groundwater Sample Collection and Water Level Measurement

Prior to collecting groundwater from the wells the water levels are measured in all wells using an electronic water level gauge. Monitoring wells are prepared for sampling by purging three well bore volumes of water. Water is removed using small diameter bailers, a peristaltic pump, or manually using tubing with a check valve at the bottom. During removal of each volume, the temperature, pH and conductivity are measured and recorded on the field sampling form. Successive well volumes are removed until the parameters have stabilized or the well has gone dry. Prior to sampling, the well is allowed to recover to within 90% of the stabilized water levels.

Groundwater samples[1] are collected using small diameter bailers. The samples are decanted into laboratory supplied containers, labeled, recorded on a chain-of-custody form and placed on ice for transport to a certified laboratory.

[1] Small diameter wells often produce small sample quantities and are appropriate for analysis of volatile and aromatic compounds and dissolved metals analysis using VOA vials. Obtaining liter-size samples can be difficult and time consuming. Monitoring wells installed by the direct push method are most effective at sites where the subsurface soils are more coarse than silt, gasoline components are the key contaminants of concern, and water levels are not more than 25 feet below ground surface.

APPENDIX C

Project:	Log of Boring SB-1
Project Location: 2744 East 11th Street	Sheet 1 of 1
Project Number: 9440	

Date(s) Drilled: August 31, 2004	Logged By: LH	Checked By: PM
Drilling Method: Direct Push	Drill Bit Size/Type: 2 1/4 inch	Total Depth of Borehole: 16 feet bgs
Drill Rig Type: GeoProbe 5410	Drilling Contractor: ECA	Approximate Surface Elevation
Groundwater Level and Date Measured: 16 feet ATD, 13 feet after 1 minute	Sampling Method(s): Tube (push)	Well Permit
Borehole Backfill: Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0					Concrete		
				CL		Coarse sandy clay, plastic, hard, dense, slightly moist. 10YR 2/1, black.		
			SB-1 3.5'				<1	
	5							
			SB-1 7'	CL		Sandy clay, clay increases with depth, less moisture, dense. 10YR 4/3, brown.	<1	
				SC		Coarse sand and clay, 10YR 4/6, dark yellowish brown.		
	10		SB-1 11'	CL		Sandy clay, soft, moist. 10YR 4/3, brown.	<1	
				CL		Sandy clay, soft and moist. Gley 1 4/10GY, dark greenish gray.		
				CL		(after 1 minute) ▽ Coarse sandy clay, dark green, with veins of black sludge with a very strong hydrocarbon odor. Gley 1 4/10GY, very dark greenish gray.		
	15		SB-1 15'				<1	
						(ATD) ▽ Bottom of Boring at 16 feet bgs		
	20							

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\DUE DIL & MISC\9440 PH II (Lucasey) Oakland - LH\SB-1.bgs (AEI geoprobe 20.tpl)

Project:
Project Location: 2744 East 11th Street
Project Number: 9440

Log of Boring SB-2

Sheet 1 of 1

Date(s) Drilled **August 31, 2004**	Logged By **LH**	Checked By **PM**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 1/4 inch**	Total Depth of Borehole **16 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **16 feet ATD, 13 feet after 1 minute**	Sampling Method(s) **Tube (push)**	Well Permit
Borehole Backfill **Cement Slurry**	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0					Concrete		
				CL		Coarse sandy clay, plastic, compact, dense. 10YR 2/1, black.		
			SB-2 4'				<1	
	5							
			SB-2 8'	SC		Coarse sand with clay, moist to dry. 10YR 4/4dark yellowish brown.	<1	
				SC		Gravelly sand and clay, veins of black sludge throughout the samples with a very strong hydrocarbon odor. Gley 1 2.5/5GY, greenish black.		
	10		SB-2 12'				16	
						(after 1 minute) ▼		
	15		SB-2 16'				20	
						(ATD) ▽		
						Bottom of Boring at 16 feet bgs		
	20							

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Project:
Project Location: 2744 East 11th Street
Project Number: 9440

Log of Boring SB-3

Sheet 1 of 1

Date(s) Drilled **August 31, 2004**	Logged By **LH**	Checked By **PM**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 1/4 inch**	Total Depth of Borehole **16 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **16 feet ATD, 13 feet after 1 minute**	Sampling Method(s) **Tube (push)**	Well Permit.
Borehole Backfill **Cement Slurry**	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0					Concrete		
			SB-3 4'	GW		Gravelly sand, loose, slightly moist. 10YR 4/3, dark yellowish brown.	<1	
	5			CL		Sandy clay, dark, dense. 10YR 2/1, black.		
			SB-3 8'	SC		Coarse sand and clay, small sized gravel pieces. 10YR 4/3, brown.	<1	
	10			CL		Sandy clay, moist and soft. 10 YR 4/3, brown.		
			SB-3 12'			(after 1 minute) ▼	<1	
	15		SB-3 16'			(ATD) ▽	<1	
						Bottom of Boring at 16 feet bgs		
	20							

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Project:
Project Location: 2744 East 11th Street
Project Number: 9440

Log of Boring SB-4

Sheet 1 of 1

Date(s) Drilled **August 31, 2004**	Logged By **LH**	Checked By **PM**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 1/4 inch**	Total Depth of Borehole **16 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **16 feet ATD, 13 feet after 1 minute**	Sampling Method(s) **Tube (push)**	Well Permit.
Borehole Backfill **Cement Slurry**	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0					Concrete		
				GW		Sand and gravel, loose, 10YR 4/4, dark yellowish brown.		
			SB-4 4'	CL		Sandy clay, dark, dense, plastic. 10YR 2/1, black.	<1	
	5			CL		Sandy clay, slightly moist to dry, dense. 10YR 4/3, brown.		
			SB-4 8'	SC		Coarse sand to gravel with clay mixture. 10YR 4/3 brown.	<1	
	10			CL		Sandy clay, slightly moist, veins of black sludge throughout, strong hydrocarbon odor, green coloration. Gley 1 3/10GY, very dark greenish gray.		
			SB-4 12'				23	
						(after 1 minute) ▽		
	15		SB-4 16'			(ATD) ▽	25	
						Bottom of Boring at 16 feet bgs		
	20							

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Project:
Project Location: 2744 East 11th Street
Project Number: 9440

Log of Boring SB-6

Sheet 1 of 1

Date(s) Drilled **August 31, 2004**	Logged By **LH**	Checked By **PM**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 1/4 inch**	Total Depth of Borehole **12 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **12 feet ATD, 11 feet after 1 minute**	Sampling Method(s) **Tube (push)**	Well Permit.
Borehole Backfill **Cement Slurry**	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0					Concrete		
				GM		Sand and gravel, loose, 10YR 4/4, dark yellowish brown.		
			SB-6 4'	CL		Sandy clay, dark, dense, plastic. 10YR 2/1, black.	<1	
	5							
			SB-6 8'	CL		Sandy clay, black organic material streaks, no hydrocarbon odor. 10YR 4/3, brown.	<1	
	10		SB-6 12'	SC		Sandy clay, greenish, plastic, soft and moist. Veins of black sludge throughout. Gley 1 3/10GY, very dark greenish gray. (after 1 minute) ▼ (ATD) ▽	12	
						Bottom of Boring at 12 feet bgs		
	15							

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ATTACHMENT A

CLEARWATER
GROUP
Environmental Services

ADDENDUM SUBSURFACE INVESTIGATION REPORT

LUCASEY MANUFACTURING CORPORATION
2744 East 11th Street
Oakland, California

Prepared by:

CLEARWATER GROUP

April 25, 2006

229 Tewksbury Avenue ◆ Point Richmond, California 94801 ◆ Telephone: 510-307-9943 ◆ Fax: 510-232-2823

TABLE OF CONTENTS

INTRODUCTION

The Clearwater Group Inc. (Clearwater) is pleased to present this addendum report to the Soil and Groundwater Investigation Workplan for the Lucasey Manufacturing Corporation, 2744 East 11th Street, in Oakland, California (Figure 1). This report was prepared by Clearwater, based on field data and information supplied by Cabe Silverhame, P.G., of Terra Firma Consulting, Mill Valley, California. This report summarizes the results of a site investigation performed on July 9, 2005 and overseen by Terra Firma Consulting. This report was prepared to comply with City of Oakland Fire Department, Alameda County Department of Environmental Health, and State of California Regional Water Quality Control Board (RWQCB) regulations and the Tri-Regional Guidelines set forth by the RWQCB, April 2004.

BACKGROUND INFORMATION

Site Description

The site is located in a mixed light industrial, transportation corridor and residential area of Oakland. The subject property occupies about 2.32 acres and is improved with one building of approximately 100,000 square feet. The building is owned and occupied by Lucasey Manufacturing Corporation, a sheet metal fabricator of television mounting systems.

FIELD INVESTIGATION

On July 9, 2005, six soil borings (BH-1 through BH-6; Figure 2) were driven by FAST-TEK Engineering Support Services (FAST-TEK) of Point Richmond, California (C-57 license #624461). FAST-TEK used a direct push, Geoprobe® Macro-Core Soil Sampling System to obtain continuous soil cores and to minimize the volume of soil cuttings from the borings.

A California Professional Geologist with Terra Firma Consulting, LLC, Mill Valley, California, logged and supervised the soil borings. The boring logs were drafted by Clearwater based on field logs and data sheets supplied by Terra Firma Consulting. The soil boring logs are presented in Appendix A. Borings BH-1 through BH-4 and BH-6 were driven to 16 feet bgs, boring BH-5 was driven to 20 feet bgs.

A photo-ionization detector (PID) was used to screen the soil samples for petroleum hydrocarbons. The soil samples were collected and preserved within acetate sleeves. Grab groundwater samples were collected from borings BH-2, BH-4 and BH-5 using disposable bailers.

Selected soil and groundwater samples were sent under Chain of Custody documentation to McCampbell Analytical, LLC, in Pacheco, California, for analyses of TPH-diesel (total petroleum hydrocarbons as diesel), TPH-motor oil, TPH-gasoline, MTBE (methyl tertiary butyl ether), and BTEX (benzene, toluene, ethylbenzene and total xylenes). The grab groundwater samples were additionally analyzed for volatile organic compounds by method SW8260B. McCampbell Analytical, LLC, is a California Department of Health certified laboratory.

After completing the soil borings, all of the boreholes were tremmie grouted to the ground surface with neat cement.

ANALYTICAL RESULTS

Tables 1 and 2 summarize the soil sample analytical results. All of the soil samples contained detectable concentrations of petroleum hydrocarbons. The soil sample results indicate that the highest concentration of TPH-d (8,900 mg/kg) and TPH-mo (7,500 mg/kg) was detected in one sample, #50603-2-12, from boring BH-2. The TPH-g concentrations are in general approximately one order of magnitude lower than the THP-d and TPH-mo concentrations in the soil samples, MTBE was non-detect in all samples and BTEX concentrations are non-detect or slightly above the detection limit.

Table 3 presents the grab groundwater sample analytical results. All of the grab groundwater samples contained detectable concentrations of petroleum hydrocarbons. The results ranged from 670 micrograms per liter (µg/L) of TPH-d and 2,800 µg/L of TPH-mo (sample 50603-5-20, from boring BH-5) to 580,000 µg/L TPH-d and 510,000 µg/L of TPH-mo (sample 506-2-16, from boring BH-2). MTBE and the BTEX compounds were non-detect in all of the water samples. Volatile organic compounds (VOCs) were non-detect in the water sample from boring BH-6. The water samples from borings BH-2 and BH-4 contained low concentrations of VOCs (1.5 µg/L or less of individual detected analytes). A copy of the analytical report is presented in Appendix B.

CONCLUSIONS

The boring logs indicate that the soil underlying the site is predominantly silty clay to clay with layers of fine sand and gravel. Groundwater was encountered at approximately 12 feet below ground surface (bgs) in boring BH-2 and 11 feet bgs in boring BH-4. The soil samples indicate that high concentrations of petroleum hydrocarbons occur in the site soil (8,900 mg/kg of TPH-d and 7,500 mg/kg of TPH-mo in sample 50603-2-12).

The soil and groundwater sample results from this investigation were combined with the soil sample results presented in the AEI Consultants, September 14, 2004, *Phase II Subsurface Investigation Report* and plotted to create Figure 2. Figure 2 shows the current estimated extent of the free phase plume and the current estimated extent of the groundwater contamination plume. The results from this investigation will be combined with the results from previous site investigations to help plan a Soil and Groundwater Investigation to better determine the horizontal and vertical extent of subsurface contamination.

CERTIFICATION

This report was prepared by and under the supervision of a State of California Professional Geologist at the Clearwater Group. All statements, conclusions and recommendations are based solely upon field observations by Clearwater Group, documents by Terra Firma Consultants and laboratory analysis performed by a California DHS-certified laboratory related to the work performed by Clearwater Group.

Information and interpretation presented herein are for the sole use of the client and regulatory agency. A third party should not rely upon the information and interpretation contained in this document. The service performed by the Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Sincerely,

The Clearwater Group

Prepared by:

Matthew Ryder-Smith

Project Manager

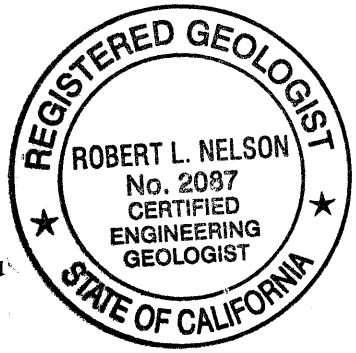
Reviewed by:

Olivia Jacobs

President, Clearwater Group

Robert L. Nelson, PG #6270, CEG #2087

Senior Geologist



Cc: City of Oakland, Fire Prevention Bureau
Alameda County Environmental Health

TABLES

Table 1. Summary of Soil Sample Analytical Results

Petroleum Hydrocarbons

Sample Name	Boring Name	Depth of Sample (ft)	TPH-d mg/kg	TPH-mo mg/kg	TPH-g mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Total Xylenes mg/kg
Analytical Method			SW8015C		SW8021B/8015Cm					
50603-1-12	BH-1	12	22, g, b	83	<1.0	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
50603-1-16	BH-1	16	48, b,g	46	4.8, g	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
50603-2-12	BH-2	12	8,900,b,g	7,500	700, g	<05.0	<0.50	<0.50	<0.50	<0.50
50603-3-7.5	BH-3	7.5	50,g,b	79	4.7, g	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
50603-4-12	BH-4	12	2,800,g,b	3,000	89, g	<2.0	<0.20	<0.20	<0.20	0.23
50603-6-12	BH-6	12	41,g,b	53	<1.0	<0.05	<0.0050	<0.0050	<0.0050	<0.0050
50603-6-16	BH-6	16	1,800,b,g	1,700	73, g	<0.05	<0.050	<0.050	<0.050	<0.050

Footnotes: Compiled below Table 3.

Table 2. Summary of Soil Sample Analytical Results

Volatile Organics by SW8260B

Sample Name	Boring Name	Depth of Sample (ft)	Result	Analyte
50603-2-16	BH-2	16	1.5 µg/L 0.75 µg/L 0.60 µg/L 0.57 µg/L 0.68 µg/L 0.68 µg/L	n-Butyl benzene 1,4-Dichlorobenzene sec-Butyl benzene cis-1,2-Dichloroethene Tetrachloroethene Xylenes
50603-4-16	BH-4	16	1.4 µg/L	cis-1,2-Dichloroethene
50603-6-16	BH-6	16	All compounds non-detect	

Footnotes: Compiled below Table 3.

Table 3. Summary of Grab Groundwater Sample Analytical Results

Petroleum Hydrocarbons

Sample Name	Boring Name	TPH-d µg/L	TPH-mo µg/L	TPH-g µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L
Analytical Method		SW8015C		SW8021/8016Cm					
50603-2-16	BH-2	580,000 b,g,h,i	510,000	310,g,h,i	<05.0	<0.50	<0.50	<0.50	<0.50
50603-4-16	BH-4	160,000 b,g,h,i	150,000	<50	<05.0	<0.50	<0.50	<0.50	<0.50
50603-5-20	BH-5	670 g,b,i	2,800	<50,i	<05.0	<0.50	<0.50	<0.50	<0.50

Footnotes for Analytical Tables 1 through 3 quoted from McCampbell Analytical, Inc. Report #0507132-004C, July 14, 2005.

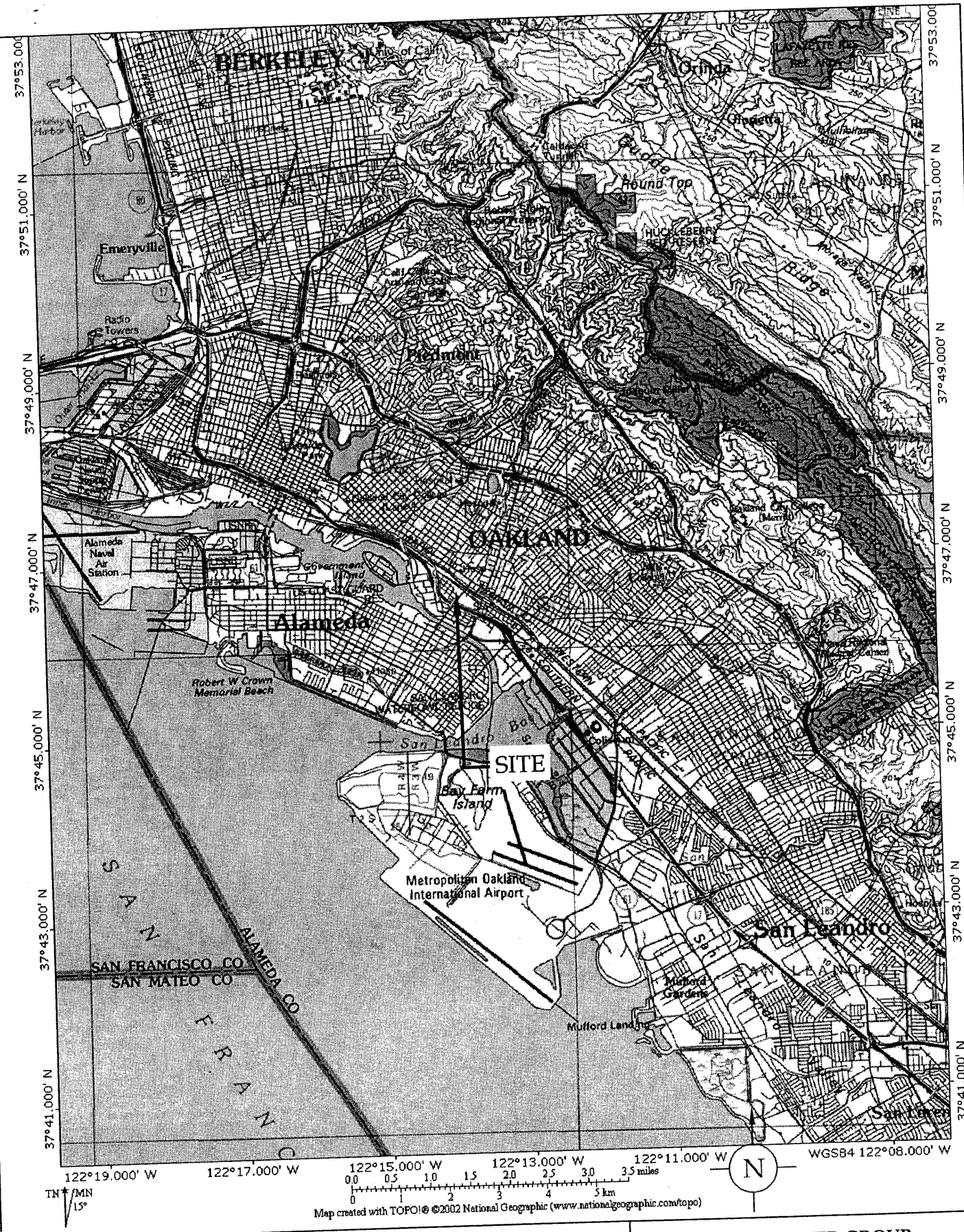
b. Heavier gasoline range compounds are significant (aged gasoline?)

g. Strongly aged gasoline or diesel range compounds are significant

h. Lighter than water immiscible sheen/product is present

i. Liquid sample contains greater than 1 vol % sediment

FIGURES

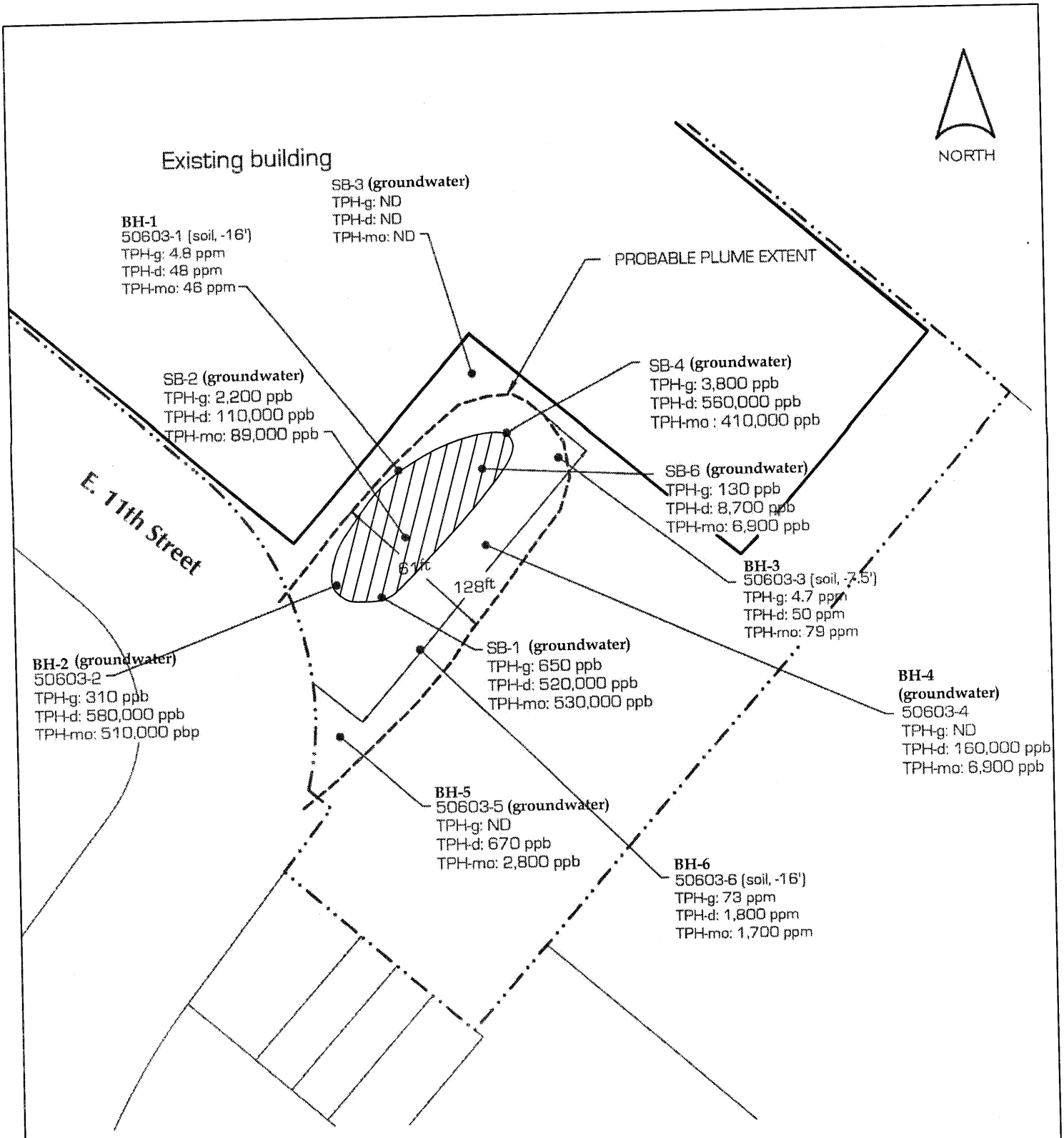


SITE VICINITY MAP

Lucasey Manufacturing
2744 E 11th Street
Oakland, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
FB022E	**4/06**	**1**



LEGEND
SB - AEI Soil Borings 08/31/04
BH - Terra Firma Borings 07/09/05

ESTIMATED FREE PHASE PLUME

SITE PLAN - PREVIOUS INVESTIGATION RESULTS

Lucasey Manufacturing
2744 East 11th St
Oakland, CA

NOT TO SCALE

CLEARWATER GROUP

Project No.	Figure Date	Figure
FB022E	**4/06**	**2**

APPENDIX A

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 1 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 16'	BORING/WELL NO.: BH-1
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

FINISH:

DRILLING START:

LOGGED BY: C. Silverhame

APPROVED BY: R.Nelson, PG, CEG

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: N/A

STATIC WATER DEPTH - DATE: N/A

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0-0.25' Concrete Paving 0.25-3.0' Silty CLAY (CL), dark brown, low plasticity. (FILL)
						2						
						3						3.0-10.5' Silty CLAY (CL), medium brown, low plasticity. (FILL)
						4	0					
						5						
						6						
						7						
						8						
						9	0					
						10						
						11						10.5-13.0' CLAY (CH), brown, high plasticity.
50603-1-12'						12						
						13						13.0-16.0' CLAY (CH), grey, high plasticity, hydrocarbon staining and odor from 14' to 16'.
						14						
						15						
50603-1-16'						16	0.5					Boring Terminated at 16 feet
						17						
						18						
						19						
						20						
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 2 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 16'	BORING/WELL NO.: BH-2
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

FINISH:

DRILLING START:

LOGGED BY: C. Silverhame

APPROVED BY: R.Nelson PG, CEG

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: 12 ft

STATIC WATER DEPTH - DATE: N/A

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0-0.25' Concrete Paving 0.25-7.0' Silty CLAY (CL), darkk brown, low plasticity.
						2						
						3						
						4						
						5						
						6						
						7						7.0-8.0' Clayey SILT (ML), medium brown, non-plastic.
						8						8.0-11.0' Clayey SILT (ML), dark brown.
						9						
						10						
						11						11.0-16.0' Silty CLAY (CH), dark grey, high plasticity, hydrocarbon staining and odor from 11' to 16'.
50603-2-12'					▼	12						
						13						
						14						
						15						
						16						Boring Terminated at 16 feet
						17						
						18						
						19						
						20						
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 3 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 16'	BORING/WELL NO.: BH-3
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

FINISH:

DRILLING START:

LOGGED BY: C. Silverhame

APPROVED BY: R. Nelson PG, CEG

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: N/A

STATIC WATER DEPTH - DATE: N/A

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0-0.6' Concrete Paving 0.6-2.0' Gravelly Silt (ML), brown. (FILL)
						2						2.0-7.5' Poorly Graded SAND (SP), grey, fine grained.
						3						
						4	0					
						5						
						6						
						7						
50603-3-7.5'						8	0					7.5-12.0' Silty CLAY (CL), brown, low plasticity.
						9						
						10						
						11						
						12	0					12.0-16.0' Poorly Graded SAND (SP), grey, fine grained.
						13						
						14						
						15						
						16	0					Boring Terminated at 16 feet
						17						
						18						
						19						
						20						
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 4 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 16'	BORING/WELL NO.: BH-4
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: 11 ft

STATIC WATER DEPTH - DATE: N/A

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0-0.6' Concrete Paving
						2						0.6-7.0' Silty CLAY (CL), dark brown, low plasticity. (FILL)
						3						
						4	0					
						5						
						6						
						7						7.0-11.0' Clayey Silt (ML), medium brown, low plasticity clay.
						8	0					
						9						
						10						
					▼	11						11.0-16.0' Sandy GRAVEL (GP), dark grey, hydrocarbon odor and staining from 11' to 16'.
12'				■		12						
						13						
						14						
						15						
						16						Boring Terminated at 16 feet
						17						
						18						
						19						
						20						
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

FINISH: _____

DRILLING START: _____

LOGGED BY: C. Silverhame

APPROVED BY: R. Nelson PG, CEG

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 5 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 20'	BORING/WELL NO.: BH-5
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

FINISH:

DRILLING START:

LOGGED BY: C. Silverhame

APPROVED BY: R. Nelson PG, CEG

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: N/A

STATIC WATER DEPTH - DATE: N/A

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0.0-4.0' Silty CLAY (CL), medium to dark brown, low plasticity. (FILL)
						2						
						3						
						4	0					4.0-10.0' Silty CLAY (CL), dark brown, low plasticity.
						5						
						6						
						7						
						8	0					
						9						
						10						10.0-16.5' Silty CLAY (CH), dark green to grey, high plasticity.
						11						
						12	0					
						13						
						14						
						15						
						16	0					
						17						16.5-18.0' Sandy GRAVEL (GP), dark grey with some clay.
						18						18.0-20.0' Silty CLAY (CH), medium brown, high plasticity.
						19						
						20	0					Boring Terminated at 20 feet
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022E

Sheet 1 of 6

FIELD LOCATION OF BORING:	CLIENT/LOCATION: Lucasey Manufacturing 2744 East 11th Street, Oakland CA	PLANNED USE: Soil Investigation	BORING DEPTH: 16'	BORING/WELL NO.: BH-6
	DRILLING CONTRACTOR: Fasttek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH:	BORING DIAMETER: 1.5"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
	WET SEAL:			DRILLING DATE: 7/9/05

SAMPLING METHOD: Direct Push tube

MONITORING INSTRUMENT: PID

FIRST ENCOUNTERED WATER DEPTH: N/A

STATIC WATER DEPTH - DATE: N/A

FINISH:

DRILLING START:

LOGGED BY: C. Silverhame

APPROVED BY: R. Nelson PG, CEG

SAMPLE	SAMPLING: BLOWS/6" INTERVAL	SAMPLING: INTERVAL	SAMPLING: RECOVERY	SAMPLING: ANALYTICAL	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT: GRAVEL	ESTIMATED PERCENT: SAND	ESTIMATED PERCENT: FINES	GRAPHIC LOG	
						1						0-0.2' Asphalt 0.2-2.0' Clayey SILT with sand and gravel (MH), medium brown. (FILL)
						2						2.0-3.0' Poorly Graded SAND (SP), grey-green, fine grained.
						3						3.0-7.0' Silty CLAY (CH), dark brown, high plasticity.
						4						
						5						
						6						
						7						7.0-10.0' Clayey SILT (MH), medium brown, low plasticity.
						8						
						9						
						10						10.0-16.0' Silty CLAY (CH), dark grey-green, medium to high plasticity. Interlayered at 13' with dark brown silty clay.
50603-6-12'						11						
						12						
						13						
						14						
						15						
50603-6-16'						16						Boring Terminated at 16 feet
						17						
						18						
						19						
						20						
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						

APPENDIX B

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0507132

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 17078** **Spiked Sample ID: 0507135-011A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex)£	ND	0.60	94.6	96.8	2.35	94.7	94.8	0.0541	70 - 130	70 - 130
MTBE	ND	0.10	93.8	102	8.26	106	108	1.73	70 - 130	70 - 130
Benzene	ND	0.10	93.1	91.5	1.78	92.3	93.7	1.54	70 - 130	70 - 130
Toluene	ND	0.10	94.3	92.5	1.89	93.1	95.2	2.16	70 - 130	70 - 130
Ethylbenzene	ND	0.10	97.9	97.1	0.828	97.2	99.2	2.04	70 - 130	70 - 130
Xylenes	ND	0.30	100	99.7	0.334	99.7	100	0.334	70 - 130	70 - 130
%SS:	90	0.10	99	98	0.609	94	98	3.75	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17078 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0507132-001A	7/09/05	7/11/05	7/12/05 8:55 AM	0507132-002A	7/09/05 8:55 AM	7/11/05	7/12/05 2:00 AM
0507132-003A	7/09/05 9:15 AM	7/11/05	7/12/05 2:56 AM	0507132-005A	7/09/05 10:20 AM	7/11/05	7/12/05 2:33 AM
0507132-006A	7/09/05 12:10 PM	7/11/05	7/12/05 3:06 AM	0507132-008A	7/09/05 1:50 PM	7/11/05	7/12/05 9:57 PM
0507132-009A	7/09/05 2:05 PM	7/11/05	7/12/05 7:05 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

_____QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0507132

EPA Method: SW8015C	Extraction: SW3550C				BatchID: 17076			Spiked Sample ID: 0507127-001A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	ND	20	103	105	2.27	99.9	101	0.961	70 - 130	70 - 130
%SS:	99	50	94	95	1.15	100	100	0	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17076 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0507132-001A	7/09/05	7/11/05	7/13/05 3:59 PM	0507132-002A	7/09/05 8:55 AM	7/11/05	7/13/05 5:36 AM
0507132-003A	7/09/05 9:15 AM	7/11/05	7/12/05 5:30 AM	0507132-005A	7/09/05 10:20 AM	7/11/05	7/13/05 2:36 PM
0507132-006A	7/09/05 12:10 PM	7/11/05	7/12/05 12:26 PM	0507132-008A	7/09/05 1:50 PM	7/11/05	7/13/05 2:36 PM
0507132-009A	7/09/05 2:05 PM	7/11/05	7/12/05 8:29 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

_____QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0507132

EPA Method: SW8260B	Extraction: SW5030B				BatchID: 17073			Spiked Sample ID: 0507131-011B	
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	109	115	5.82	112	107	4.45	70 - 130	70 - 130
Benzene	ND	10	105	106	0.881	104	104	0	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	118	115	2.18	99.7	101	1.34	70 - 130	70 - 130
Chlorobenzene	ND	10	112	115	2.37	107	109	1.61	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	108	110	1.81	105	106	1.05	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	116	119	2.41	116	118	1.29	70 - 130	70 - 130
1,1-Dichloroethene	ND	10	92.5	93.8	1.34	94.9	94.7	0.202	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	119	119	0	119	119	0	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	108	112	3.13	110	109	0.969	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	106	109	3.21	104	104	0	70 - 130	70 - 130
Toluene	ND	10	103	103	0	99.2	100	1.24	70 - 130	70 - 130
Trichloroethene	ND	10	80.1	80.7	0.800	81.2	80.4	0.976	70 - 130	70 - 130
%SS1:	100	10	93	92	2.01	100	98	2.68	70 - 130	70 - 130
%SS2:	116	10	99	97	2.53	99	98	1.04	70 - 130	70 - 130
%SS3:	115	10	110	115	4.21	109	108	1.30	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17073 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0507132-004C	7/09/05 3:00 PM	7/14/05	7/14/05 5:16 PM	0507132-007C	7/09/05 3:15 PM	7/14/05	7/14/05 4:32 PM
0507132-010C	7/09/05 3:30 PM	7/14/05	7/14/05 4:33 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

_____QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0507132

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 17072** **Spiked Sample ID: 0507131-010A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex)£	ND	60	104	106	1.22	104	103	0.347	70 - 130	70 - 130
MTBE	ND	10	96.9	93.9	3.12	108	100	7.51	70 - 130	70 - 130
Benzene	ND	10	98.5	99.8	1.24	107	106	1.72	70 - 130	70 - 130
Toluene	ND	10	103	103	0	104	104	0	70 - 130	70 - 130
Ethylbenzene	ND	10	110	110	0	109	108	1.16	70 - 130	70 - 130
Xylenes	ND	30	96.7	96.7	0	95.7	95.7	0	70 - 130	70 - 130
%SS:	98	10	103	106	3.02	107	105	1.65	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17072 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0507132-004A	7/09/05 3:00 PM	7/18/05	7/18/05 12:23 PM	0507132-007A	7/09/05 3:15 PM	7/16/05	7/16/05 8:22 AM
0507132-010A	7/09/05 3:30 PM	7/15/05	7/15/05 1:36 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

_____QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0507132

EPA Method: SW8015C	Extraction: SW3510C			BatchID: 17044		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	115	115	0	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	88	90	2.77	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17044 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0507132-004b	7/09/05 3:00 PM	7/11/05	7/12/05 7:46 AM	0507132-007b	7/09/05 3:15 PM	7/11/05	7/12/05 2:42 PM
0507132-010B	7/09/05 3:30 PM	7/11/05	7/14/05 2:29 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

_____QA/QC Officer

McCampbell Analytical, Inc.

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Terra Firma Consulting, LLC	Client Project ID: #E50603; Lucasey	Date Sampled: 07/09/05
		Date Received: 07/11/05
20 Sunnyside Avenue #14-418	Client Contact: Cabe Silverhame	Date Extracted: 07/11/05-07/18/05
Mill Valley, CA 94941	Client P.O.:	Date Analyzed: 07/12/05-07/18/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0507132

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	50603-1-12	S	ND	ND	ND	ND	ND	ND	1	97
002A	50603-1-16	S	4.8,g	ND	ND	ND	ND	ND	1	83
003A	50603-2-12	S	700,g	ND<5.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	100	103
004A	50603-2-16	W	310,g,h,i	ND	ND	ND	ND	ND	1	97
005A	50603-3-7.5	S	4.7,g	ND	ND	ND	ND	ND	1	91
006A	50603-4-12	S	89,g	ND<2.0	ND<0.20	ND<0.20	ND<0.20	0.23	40	87
007A	50603-4-16	W	ND,h,i	ND	ND	ND	ND	ND	1	104
008A	50603-6-12	S	ND	ND	ND	ND	ND	ND	1	88
009A	50603-6-16	S	73,g	ND<0.50	ND<0.050	ND<0.050	ND<0.050	ND<0.050	10	83
010A	50603-5-20	W	ND,i	ND	ND	ND	ND	ND	1	99

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

DHS Certification No. 1644

_____Angela Rydelius, Lab Manager

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Terra Firma Consulting, LLC 20 Sunnyside Avenue #14-418 Mill Valley, CA 94941	Client Project ID: #E50603; Lucasey	Date Sampled: 07/09/05
		Date Received: 07/11/05
	Client Contact: Cabe Silverhame	Date Extracted: 07/11/05
	Client P.O.:	Date Analyzed: 07/12/05-07/14/05

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil*

Extraction method: SW3510C/SW3550C Analytical methods: SW8015C Work Order: 0507132

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0507132-001A	50603-1-12	S	22,g,b	83	10	95.0
0507132-002A	50603-1-16	S	48,b,g	46	2	98.0
0507132-003A	50603-2-12	S	8900,b,g	7500	200	---#
0507132-004B	50603-2-16	W	580,000,b,g,h,i	510,000	100	97.0
0507132-005A	50603-3-7.5	S	50,g,b	79	10	105
0507132-006A	50603-4-12	S	2800,g,b	3000	50	101
0507132-007B	50603-4-16	W	160,000,b,g,h,i	150,000	50	95.0
0507132-008A	50603-6-12	S	41,g,b	53	2	103
0507132-009A	50603-6-16	S	1800,b,g	1700	50	100
0507132-010B	50603-5-20	W	670,g,b,i	2800	2	88.0

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	1.0	5.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

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Terra Firma Consulting, LLC	Client Project ID: #E50603; Lucasey	Date Sampled: 07/09/05
		Date Received: 07/11/05
20 Sunnyside Avenue #14-418	Client Contact: Cabe Silverhame	Date Extracted: 07/14/05
Mill Valley, CA 94941	Client P.O.:	Date Analyzed: 07/14/05

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0507132

Lab ID	0507132-010C
Client ID	50603-5-20
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND<1.0	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

Surrogate Recoveries (%)

%SS1:	103	%SS2:	95
%SS3:	101		

Comments: i

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

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Terra Firma Consulting, LLC	Client Project ID: #E50603; Lucasey	Date Sampled: 07/09/05
		Date Received: 07/11/05
20 Sunnyside Avenue #14-418	Client Contact: Cabe Silverhame	Date Extracted: 07/14/05
Mill Valley, CA 94941	Client P.O.:	Date Analyzed: 07/14/05

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0507132

Lab ID	0507132-007C
Client ID	50603-4-16
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND<1.0	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	1.4	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

Surrogate Recoveries (%)

%SS1:	108	%SS2:	93
%SS3:	89		

Comments: h,i

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

_____ Angela Rydelius, Lab Manager

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Terra Firma Consulting, LLC	Client Project ID: #E50603; Lucasey	Date Sampled: 07/09/05
		Date Received: 07/11/05
20 Sunnyside Avenue #14-418	Client Contact: Cabe Silverhame	Date Extracted: 07/14/05
Mill Valley, CA 94941	Client P.O.:	Date Analyzed: 07/14/05

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0507132

Lab ID	0507132-004C
Client ID	50603-2-16
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	1.5	1.0	0.5	sec-Butyl benzene	0.60	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND<1.0	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	0.75	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	0.57	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	0.68	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	0.68	1.0	0.5

Surrogate Recoveries (%)			
%SS1:	107	%SS2:	96
%SS3:	87		

Comments: h,i

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

McCampbell Analytical, Inc.
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 0507132 **ClientID: TFCL** **EDF: NO**

Requested TAT: 5 days

Report to:
Cabe Silverhame
Terra Firma Consulting, LLC
20 Sunnyside Avenue #14-418
Mill Valley, CA 94941

TEL: (408) 868-0855
FAX: (415) 868-0858
ProjectNo: #E50603; Lucasey
PO:

Bill to
Gabe Silverhame
Terra Firma Consulting, LLC
20 Sunnyside Avenue #14-418
Mill Valley, CA 94941

Date Received: **07/11/2005**
Date Printed: **07/18/2005**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0507132-001	50603-1-12	Soil	07/09/2005	☐		A		A											
0507132-002	50603-1-16	Soil	07/09/2005	☐		A		A											
0507132-003	50603-2-12	Soil	07/09/2005	☐		A		A											
0507132-004	50603-2-16	Water	07/09/2005	☐	C		A		B										
0507132-005	50603-3-7.5	Soil	07/09/2005	☐		A		A											
0507132-006	50603-4-12	Soil	07/09/2005	☐		A		A											
0507132-007	50603-4-16	Water	07/09/2005	☐	C		A		B										
0507132-008	50603-6-12	Soil	07/09/2005	☐		A		A											
0507132-009	50603-6-16	Soil	07/09/2005	☐		A		A											
0507132-010	50603-5-20	Water	07/09/2005	☐	C		A		B										

Test Legend:

1	8260B_W	2	G-MBTEX_S	3	G-MBTEX_W	4	TPH(DMO)_S	5	TPH(DMO)_W
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Cabe Silverhawk	Bill To: same
Company: Terra Firma Consulting LLC	
20 Sunnyside Ave. #A-110	
Mill Valley CA 94941	E-Mail: cabe@terrafirma-llc.com
Tele: (415) 381 0855	Fax: (415) 381 0858
Project #: E50603	Project Name: Lucasey
Project Location: 2749 E. 11th / Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX & TPH as Gas (602/8020 + 8015/MTBE) *	Multi-range	~~BTEX only (8021 + 8015/8260)~~	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520/1664 (HEM))	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010/8021 (Halocarbons)	EPA 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141 (Np Pesticides)	EPA 8150 / 8151 (Acidic Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525 / 625 / 8270 (SVOCs)	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Other	Comments
50603-1-12	N.N.	7/9	8:40	1	tube		X								X	X																	* fuel range
-1-16	N.N.		8:55	1	tube		X								X	X																	
-2-12	W.N		9:15	1	tube		X								X	X																	
-2-16	W.N.		15:00	4	VOA VIAL	X									X	X	X									X							
-3-7.5	E.E.		10:20	1	tube		X								X	X																	
-4-12	S.S.		12:10	1	tube		X								X	X																	
-4-16	S.S.		15:15	4	VOA VIAL	X									X	X	X									X							
-6-12	SWC		13:50	1	tube		X								X	X																	
-6-16	SWC		14:05	1	tube		X								X	X																	
-5-20	SW	7/9	15:30	4	VOA VIAL	X									X	X	X									X							

	Date:	Time:	Received By:
Relinquished By:	7/11	10:20	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

COMMENTS:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

PRESERVATION	VOAs	O&G	METALS	OTHER
	✓		pH<2	

ATTACHMENT B

Sensitive Receptor Survey

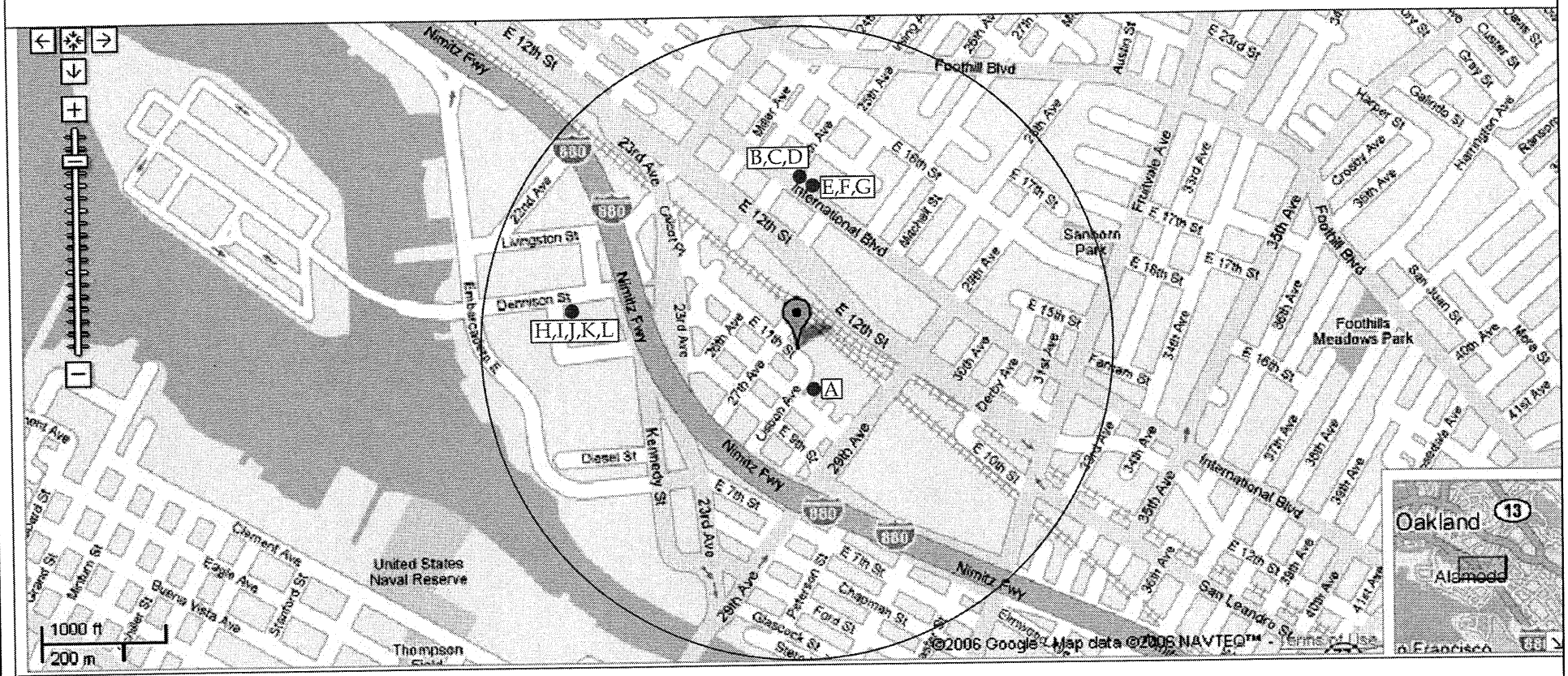
A sensitive receptor survey was conducted within a 500-foot radius of the site (search area). There are no hospitals, clinics, schools, or public facilities within the search area. Directly to the south and west of the site is residential development. The Oakland Animal Shelter is located southeast of the site. A rail line and commercial storage units are located to the north and east of the site.

The search area is developed and there are no wetlands, streams, ponds, or sensitive habitats within the search area.

Detailed Well Survey

A request for a records search for all wells within a ½ mile radius search area was made to the California Department of Water Resources (DWR) and the County of Alameda Public Works Agency. The County of Alameda Public Works Agency had not responded to the well search request by the time this report was issued. Presented below are those wells identified by the DWR search. See attached Figure A for well locations. A field inspection of the search area did not discover any additional wells.

State Well No.	Type Well	Distance from Site	Map Ref
2S/3W-7B2	Abandoned	on the site	A
2S/3W-6Q6	Test Well	~1400 feet	B
2S/3W6Q7	Test Well	~1400 feet	C
2S3W6Q5	Test Well	~1400 feet	D
2S/3W6Q2	Test Well	~1400 feet	E
2S/3W6Q3	Test Well	~1400 feet	F
2S/3W6Q4	Test Well	~1400 feet	G
2S/3W7C1	Domestic Well	~2000 feet	H
2S/3W7C2	Domestic Well	~2000 feet	I
2S/3W7C3	Domestic Well	~2000 feet	J
2S/3W7C4	Domestic Well	~2000 feet	K
2S/3W7C5	Domestic Well	~2000 feet	L



WELL DETAILS

A - DWR No. 33107	G - DWR No. 260147
B - DWR No. 259853	H - DWR No. 340360
C - DWR No. 259851	I - DWR No. 340361
D - DWR No. 259852	J - DWR No. 340362
E - DWR No. 260145	K - DWR No. 340363
F - DWR No. 260146	L - DWR No. 340364

DWR No. 33107 - Department of Water Resources - Water Well Drillers Report

DWR WELL SEARCH RESULTS (0.5 mile Radius)
Lucasey Manufacturing
2744 East 11th Street
Oakland, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
FB022E	**04/06**	**A**

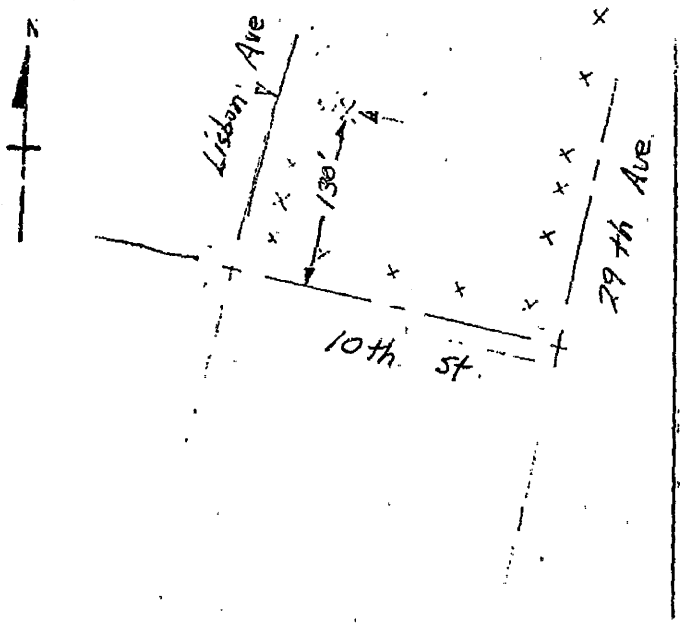
CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

33107

SKETCH
No scale
ACFC & WCD



CONFIDENTIAL

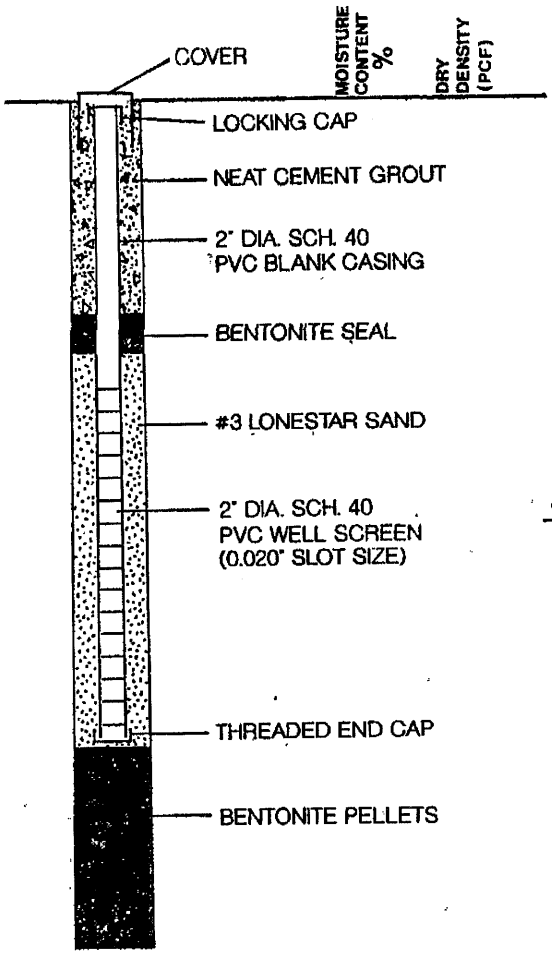
STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

260147

LOG OF TEST BORING 14

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 3/23/90
ELEVATION --



MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
		0		26	GRAY BROWN SANDY GRAVEL (GW) medium dense, dry
				20	DARK BROWN SILTY CLAY (CL) medium stiff, moist, with occasional rock fragments
		5		21	
		10		24	GROUNDWATER LEVEL DURING DRILLING MOTTLED GRAY AND BROWN SILTY CLAY (CL) medium stiff, moist
		15		39	MOTTLED OLIVE BROWN SILTY CLAY (CL) stiff, moist, with occasional rock fragments BROWN CLAYEY GRAVEL (GC) medium dense, wet
		20		48	BROWN GRAVELLY CLAY (CL) very stiff
				28*	
		25			
		30			
		35			
		40			

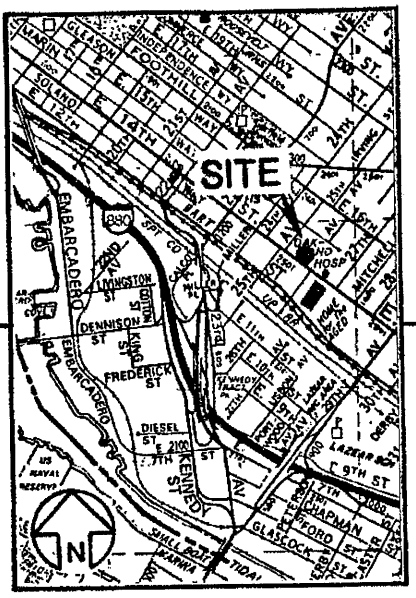
Subsurface Consultants

2530 E. 14TH STREET - OAKLAND, CA

JOB NUMBER 586.001 | DATE 4/9/90 | APPROVED

PLATE 6

260147



VICINITY MAP

TEST BORING

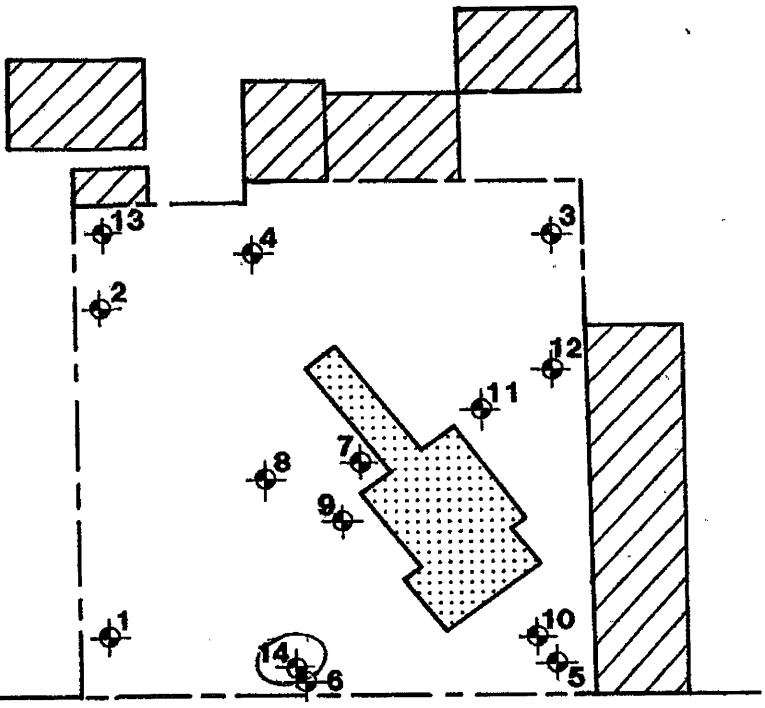
PROPERTY BOUNDARY

ADJACENT AND NEARBY STRUCTURES

EXISTING EXCAVATION

EAST 15TH STREET

25TH AVENUE



EAST 14TH STREET

PLAN NORTH

TRUE NORTH

APPROXIMATE SCALE (feet)

0 60 120

SITE PLAN

Subsurface Consultants

2530 EAST 14TH STREET, OAKLAND, CA

JOB NUMBER 586.001

DATE 10/17/89

APPROVED

PLATE 1

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

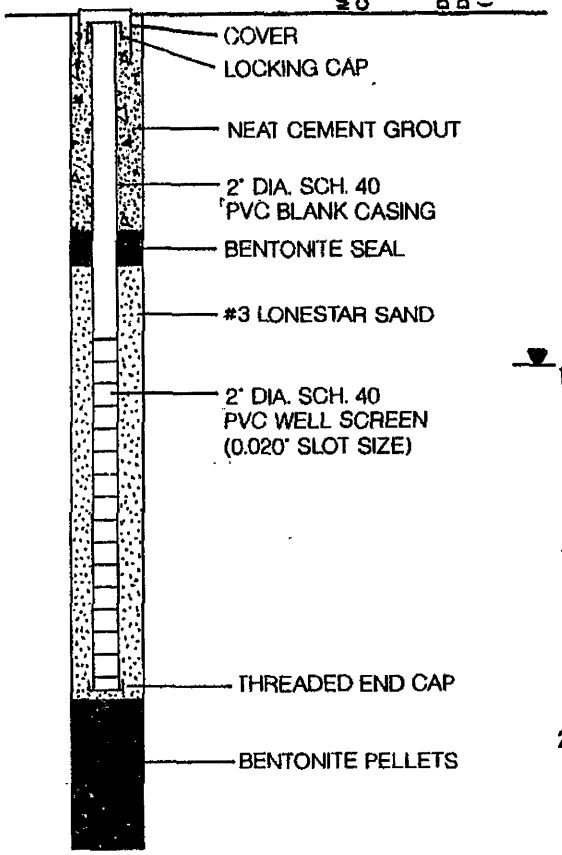
STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

260145

LOG OF TEST BORING 12

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 3/22/90
ELEVATION --



MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
		0		31	GRAY BROWN SANDY GRAVEL (GW) dense, dry
				21	DARK BRONW SILTY CLAY (CL) medium stiff, moist, with occasional rock fragments
		5		20	
					color change to mottled blue gray
		10			GROUNDWATER LEVEL DURING DRILLING
				25	BROWN CLAYEY GRAVEL (GC) medium dense, wet
		15		81	BROWN SANDY SILTY GRAVEL (GM) medium dense, wet
		20		40	BROWN SILTY CLAY (CL) very stiff, moist
				Push*	
		25			
		30			
		35			
		40			

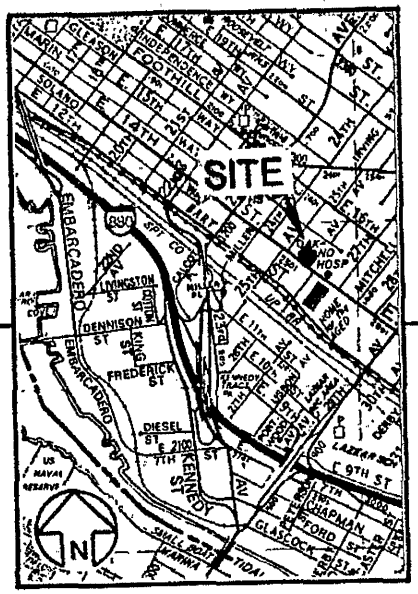
Subsurface Consultants

2530 E. 14TH STREET - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
586.001	4/9/90	

PLATE 4

260145



VICINITY MAP

TEST BORING

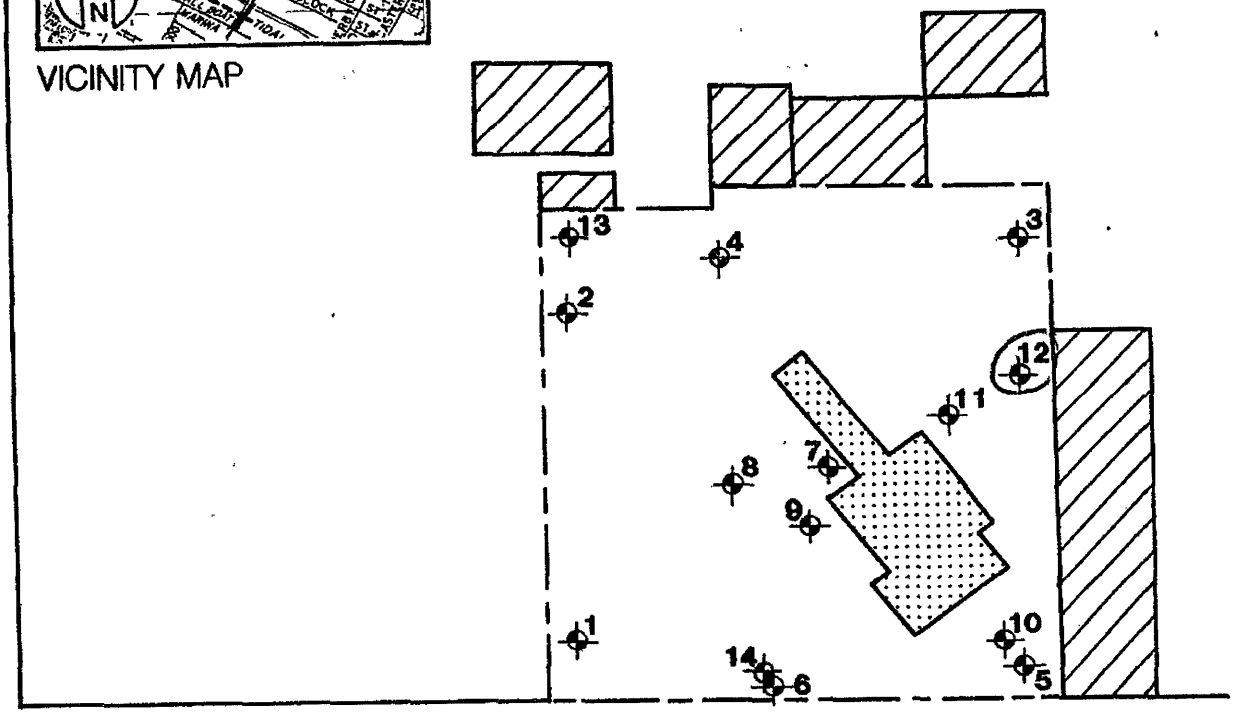
PROPERTY BOUNDARY

ADJACENT AND NEARBY STRUCTURES

EXISTING EXCAVATION

EAST 15TH STREET

25TH AVENUE



EAST 14TH STREET

PLAN NORTH

TRUE NORTH

APPROXIMATE SCALE (feet)

0 60 120

SITE PLAN

2530 EAST 14TH STREET, OAKLAND, CA

Subsurface Consultants

JOB NUMBER	DATE	APPROVED	PLATE
586.001	10/17/89		1

CONFIDENTIAL

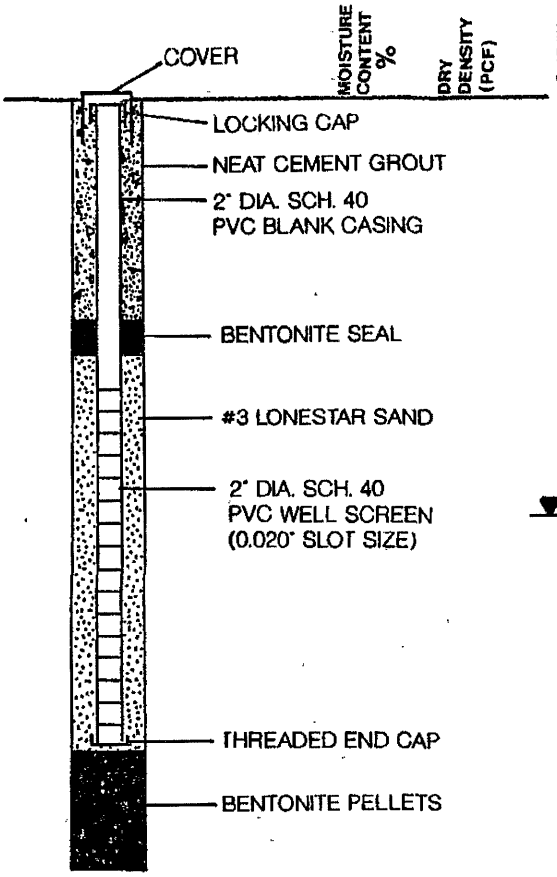
STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

260146

LOG OF TEST BORING 13

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 3/23/90
ELEVATION --



MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
		0		15	GRAY BROWN SANDY GRAVEL (GW) medium dense, moist
				30	DARK BROWN SILTY CLAY (CL) medium stiff, moist, with occasional rock fragments
		5			BROWN CLAYEY GRAVEL (GC) medium dense, moist
				21	DARK BROWN SILTY CLAY (CL) medium stiff, moist
		10			GROUNDWATER LEVEL DURING DRILLING
				21	BROWN SILTY CLAY (CL) medium stiff, wet, with occasional rock fragments
		15		42	becoming sandy below 19 feet
		20		Push	
		25			
		30			
		35			
		40			

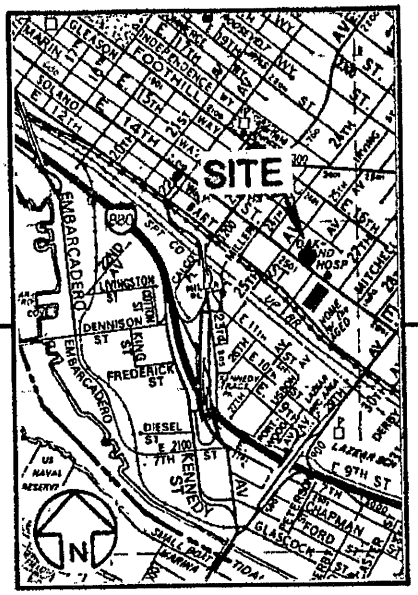
Subsurface Consultants

2530 E. 14TH STREET - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
586.001	4/9/90	

PLATE 5

260146



VICINITY MAP

TEST BORING

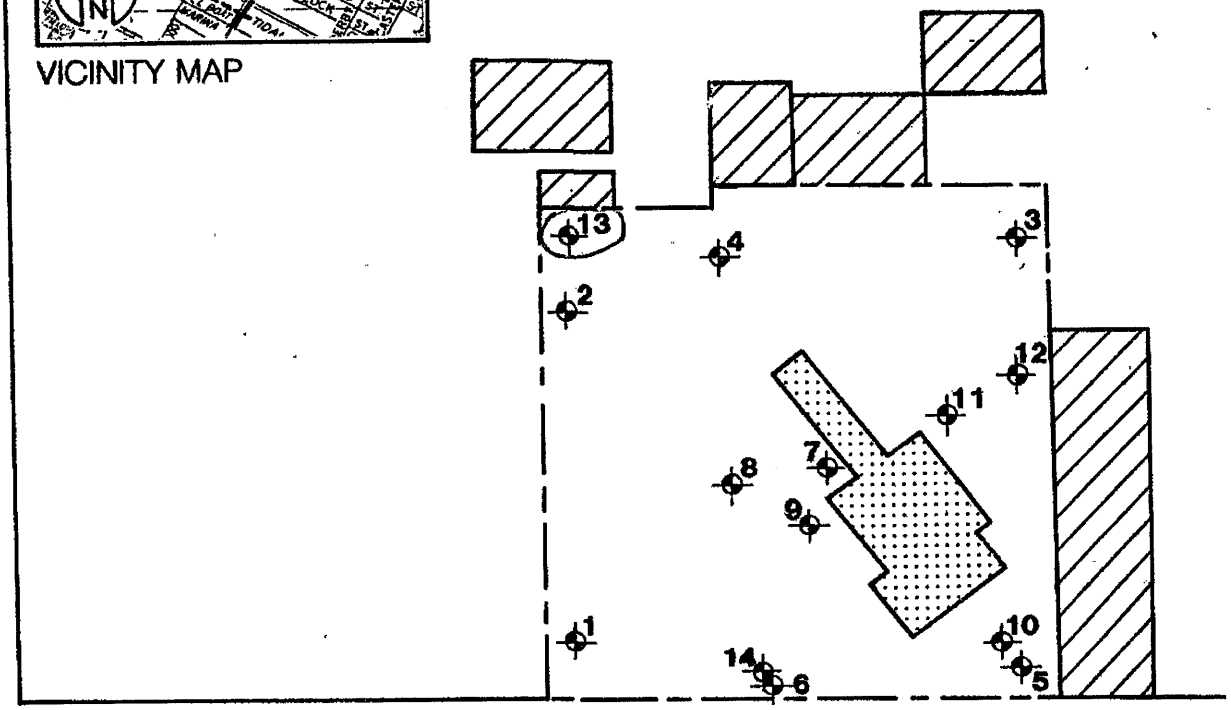
PROPERTY BOUNDARY

ADJACENT AND NEARBY STRUCTURES

EXISTING EXCAVATION

EAST 15TH STREET

25TH AVENUE



EAST 14TH STREET

PLAN NORTH

TRUE NORTH

APPROXIMATE SCALE (feet)

0 60 120

SITE PLAN

2530 EAST 14TH STREET, OAKLAND, CA

Subsurface Consultants

JOB NUMBER	DATE	APPROVED	PLATE
586.001	10/17/89		1

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
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(WELL LOGS)

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