No FP

CAMBRIA

July 25, 2006

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Status Update, Report of Geophysical Survey, And Request for Agency Meeting**
Former Shell Service Station/Auto Tech West
2703 Martin Luther King Jr. Way
Oakland, California
SAP Code 129449
Incident No. 97093397
ACEH File No. RO0000145

Dear Mr. Wickham:

Cambria Environmental Technology, Inc. (Cambria) prepared this submittal on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to provide a status update of previously proposed offsite investigation activities, to provide a report of the geophysical investigation conducted, and to request a meeting to discuss the data and develop an approved scope of work for this site. This document is submitted in response to a request in Alameda County Environmental Health (ACEH) correspondence dated June 7, 2006.

SITE LOCATION AND DESCRIPTION

The site is a former service station located on the northwest corner of Martin Luther King Jr. Way and 27th Street in a commercial and residential area of Oakland, California (Figure 1). The site layout consisted of a service station building, two dispenser islands, three underground fuel storage tanks (USTs), associated product piping, and a waste oil UST (Figure 2). Until recently, the station building was used as a repair shop and with two service bays. Currently, the site is used for storage and some auto repair work by the property owner.

SITE BACKGROUND

Site Use: A Shell service station operated on the property from approximately 1959 to 1979. Three fuel underground storage tanks (USTs) associated with the former Shell service station were removed after Shell terminated operations at the site.

Cambria Environmental Technology, Inc.

270 Perkins Street
Sonoma, CA 95476
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In 1979, Acme West Ambulance Company (Acme) purchased the site and installed a 2,000-gallon UST for gasoline storage. Acme sold the property to Auto-Tech West (ATW) in 1986. According to an August 25, 1986 ACHCSA inspector's report, ATW reportedly never used the UST, although a 150-gallon aboveground waste oil tank, a 15-gallon carburetor cleaner tank, and a parts cleaning tank with solvent were reportedly in use.

Currently, the site is occupied by ATW and is utilized as an automotive repair shop. The current site operator has used the northwest corner of the property and the wooden car port for storage of such things as non-operational automobiles, portable gasoline containers, tires, and drums which are possibly used for waste oil collection and storage. These areas were cleared in May 2006 in order for us to perform a geophysical survey of the area.

STATUS UPDATE

In Cambria's December 20, 2005 *Plume Delineation Work Plan*, we proposed installing offsite groundwater monitoring wells and soil vapor probes on seven private properties and within the public right of way of 27th Street. To date, the only offsite work successfully completed was the installation of offsite wells MW-12 (north of the site on 2727-2729 MLK Jr. Way) and MW-14 (three parcels west of the site on 670 27th Street). Shell is currently negotiating limited access to 664 27th Street, immediately west of the site. No responses have been received from any of the other offsite property owners.

In his response to Shell's request for access, the property owner at 664 27th Street denied the installation of any physical monitoring devices and any intrusive work in areas that are not already soil. He did, however, approve the possibility of sampling ambient air conditions beneath his dwelling. Once Shell finalizes an access agreement for that property, Cambria will schedule air monitoring in the basement area beneath the dwelling.

With respect to the installation of proposed wells within 27th Street, a tentative field date of July 6 and 7, 2006 was recently cancelled due to delays caused by encroachment permit requirements. As soon as the permit issues are resolved, the field work within 27th Street will be scheduled and performed. Cambria will notify the ACEH once a field date has been confirmed.

In addition to outstanding activities proposed at offsite locations, the installation of the proposed onsite soil vapor probes has been delayed due to excessive water in the shallow formation. Cambria has periodically checked the borings and found standing water in them each month. Since there has been no precipitation events, and because groundwater monitoring data shows groundwater levels at 6 to 7 feet below grade, we have scheduled the completion of the soil vapor probe installations for July 27, 2006. If standing water is found in the borings, it will be

bailed to determine if it is trapped, or if there is recharge. The intent is to install the soil vapor probes in unsaturated conditions, so that soil gas samples can be collected.

REPORT OF GEOPHYSICAL SURVEY

As recommended in Cambria's May 25, 2006 *Subsurface Investigation Report*, a geophysical study was performed on May 22, 2006. The objectives of this effort were to determine whether or not a waste oil UST was in the ground in the northwest portion of the property, and to evaluate the presence of subsurface utilities in this area that may act as preferential pathways, including the mapping of the sewer line from the floor drain found inside the northwest corner of the building during the April 19, 2006 site inspection.

The survey was performed by NORCAL Geophysical Consultants, Inc., and a copy of their report is included in Appendix A. The results did not identify the presence of a UST on the northwest corner of the site, but did find another vent line located behind the northeast corner of the station building. They traced the vent line into the subsurface a short distance, but the survey was limited by parked vehicles and equipment in this area. As depicted on the map in their report, several vent lines from the former USTs appear to dead-end beneath the canopy structure. A subsurface electric line was traced from the station building to the western property boundary, and an unidentified subsurface utility was traced from the northwest corner of the station building to the southwest, near MW-5 and toward MW-6. The presence of the unknown utility line in the northwest corner confirms the observations of a possible preferential pathway in this area based on the dual-phase extraction pilot test performed in January 2006.

NORCAL was unable to run a line down the floor drain inside of the building due to the trap in the line, so the sewer cleanout was found on the exterior of the building. Accessing the cleanout would have resulted in damage to the cap, and the property owner would not grant permission for Cambria to open the cleanout and repair any damage. Thus, the location, direction, and depth of the sewer line in this area are still unknown. However, based on the GPR survey that was performed to try to locate a non-metallic sewer line, NORCAL concludes that the sewer line may be more than 4 feet below grade, since the GPR was unable to identify the line.

REQUEST FOR MEETING

Because there has been a significant amount of data generated through various activities performed this year, Shell would like to meet with ACEH prior to development of a work plan. This will allow for Shell, ACEH, and Cambria to review and discuss the data, determine priorities, and dvelop and acceptable and focused scope of work.
Shell and Cambria are available to meet with ACEH as early as August 2, 2006 and has requested a 10:00am meeting in electronic correspondence to ACEH on July 19, 2006.

CLOSING

If you have any questions regarding the contents of this document, please call Ana Friel at (707) 268-3812.

Sincerely,
Cambria Environmental Technology, Inc.

for

Ana Friel, P.G.
Senior Project Geologist

Attachments:

Figure 1. Site Vicinity/Receptor Survey Map
Figure 2. Site Plan

Appendix A. NORCAL Geophysical Survey Report

cc: Denis Brown, Shell
Rodney & Janet Kwan, property owners

I:\Oakland 2703 Martin Luther King Jr Way\CORRESPONDENCE\Letters\28Jul06 Status Update, GPSurvey, Mtg Req\28Jul06 Status Update, GPSurvey, Mtg Req.doc

12/11/03

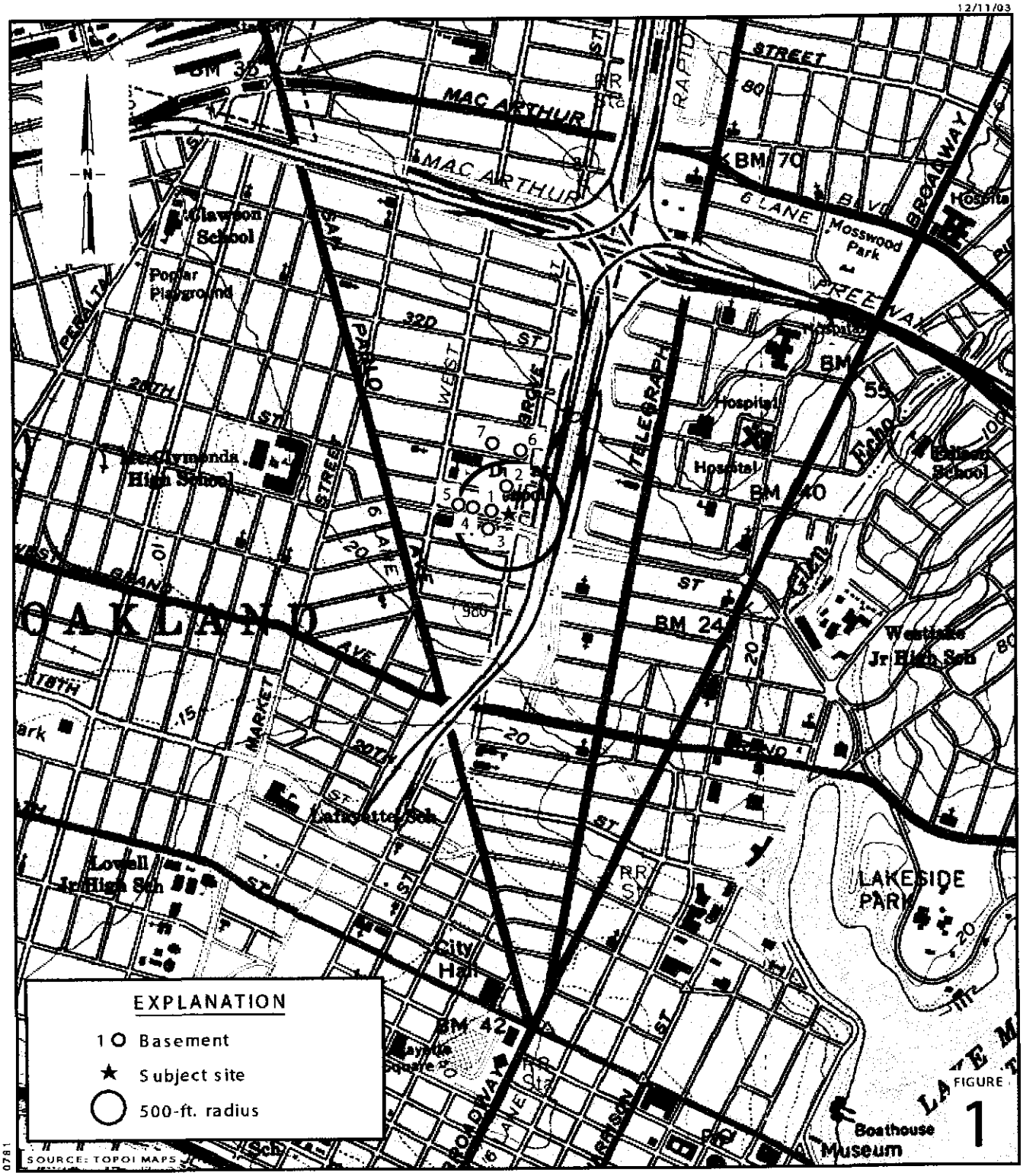


FIGURE 1

0 1/8 1/4 1/2 1

SCALE (MILES)

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CAMBRIA

Site Vicinity/Receptor Survey Map

APPENDIX A

NORCAL Geophysical Survey Report

NORCAL GEOPHYSICAL CONSULTANTS, INC.

June 6, 2006

Mr. Bill DeBoer
Cambria Environmental
5900 Hollis Street, Suite A
Emeryville, CA 94608

Subject: Geophysical Survey
Automotive Repair Facility, 2703 Martin Luther King Jr. Way, Oakland, CA
NORCAL Job No. 06-462.29

Dear Mr. DeBoer:

This letter presents the findings of a geophysical investigation performed by NORCAL Geophysical Consultants, Inc. at the automotive repair facility in Oakland, CA. The field survey was conducted on May 22, 2006 by NORCAL Geophysicist Donald J. Kirker and Geophysical Technician Travis Black. Logistical support and site information were provided by Bill DeBoer of Cambria Environmental.

PURPOSE

Site information, provided by Cambria Environmental, indicates that the automotive repair facility was formerly a service station. When the station was decommissioned, the underground storage tanks (USTs) used to store gasoline were removed. However, it is not known if the waste oil tank was removed. Cambria Environmental speculates that it may be located west of the current building. Therefore, the purpose of the geophysical investigation was to obtain subsurface information that will aid in determining if USTs exist west of the building, and to locate detectable utilities throughout accessible portions of the remaining property.

SITE AND SURVEY DESCRIPTION

The subject property measures approximately 114 by 112 feet and is surrounded by a chain link fence. It consists of a building and a large asphalt covered lot. As shown on Plate 1, the building is located on the north side of the property. Five UST vent lines, four at the northwest corner and one at the northeast corner, are situated along the back side of the building. A sewer clean-out is located on the west side of the building. The remaining lot is currently being used for the storage of numerous vehicles, trailers, boats, and other equipment. Surface cracks, outlining the shape of former concrete slabs and pump island areas, are evident in the asphalt pavement beneath some of the vehicles. At the time of the survey, most of the vehicles could not be moved.

The survey for detectable underground utilities was conducted over the entire property in areas free of vehicles and stored equipment. The survey for the UST, as specified by Cambria Environmental, was conducted along the west side of the building in an area that encompasses approximately 960 square feet. It is generally free of above ground objects and debris.

METHODOLOGY

We used the metal detection (MD), ground penetrating radar (GPR), and electromagnetic line locating (EMLL) methods. The MD method was used to detect shallow subsurface metal objects that may represent a UST. The GPR method was used to image variations in the electrical properties of the shallow subsurface. These variations can provide information on the location and dimensions of buried objects and fill boundaries. The EMLL was used to locate detectable utility alignments.

Typically, we use the magnetic (MAG) method in conjunction with the MD, EMLL, and GPR methods to investigate for USTs. However, interference caused by the nearby buildings and vehicles precluded the use of the MAG. Descriptions of the MD, EMLL, and GPR methods are provided in Appendix A.

FIELD INVESTIGATIONS

For the utility investigation, we scanned accessible portions of the site with the MD and EMLL equipment. All detected utilities were marked on the ground surface with pink spray paint. We then used the GPR technique over the same areas to determine the locations of possible nonmetallic utilities, such as the sanitary sewer line.

For the UST investigation, we established a horizontal control grid based on a rectangular coordinate system using a fiberglass measuring tape. The limits of this grid (UST survey area) is shown on Plate 1. We then scanned the site with the MD along east-west and south-north trending traverses spaced five feet apart. The GPR technique was used over the same traverses. The GPR records were examined for reflection patterns characteristic of USTs and other buried objects. All detected features were marked on the ground surface with pink spray paint.

RESULTS

The results of the utility and UST investigations are presented on the Geophysical Survey Map, Plate 1. This map shows the limits of the geophysical investigation, the locations of above ground features, and the locations of any detected subsurface features.

Utility Investigation

The results of the MD and EMLL surveys defined the location of several utility alignments located throughout the survey area. The MD detected a water (W) line east of the building and undifferentiated utilities (UU) west and south of the building, as shown on Plate 1. Utilities are considered undifferentiated when the specific type of utility (i.e. water, gas, etc.) can not be determined. However, these undifferentiated utilities probably represent lines associated with the former service station.

The EMLL method was used to determine the location of vent, electric, telecommunication, natural gas, and sanitary sewer lines. The four vent lines at the northwest corner trend south along the west side of the building where they terminate. Their termination may represent the edge of the excavation where the gasoline USTs were removed. The single vent line at the northeast corner trends southeast below the parked vehicles and stored equipment. Since the vehicles cover the area where this line most likely terminates, it can not be determined if an associated UST is still present. The electric (E) lines were detected west and south of the building, as shown on Plate 1. The telecommunication (T) line trends south from the building to 27th Street. The natural gas (NG) line trends from the building east to Martin Luther King Jr. Way.

The GPR method was used to investigate the sanitary sewer (SS) line, since this line is probably nonmetallic. However, the results of this survey did not define reflection patterns indicative of the SS line. Therefore, we believe that the SS line is probably buried deeper than the detection capabilities of the GPR. It should be noted, that the GPR did not detect all of the utilities located by the MD and EMLL techniques. Based on this information, we believe that the GPR's depth of detection varies locally through the site from approximately 1 to 4 feet below ground surface.

UST Investigation (West Side of Building)

The results of the MD survey defined the location of the undifferentiated utility line, as shown on Plate 1. The MD method did not define a buried metal object large enough to represent a UST within the designated limits of the UST investigation.

Our analysis of the GPR data obtained over this area resolved small, isolated hyperbolic reflections typical of the utility lines shown on Plate 1. The GPR records also exhibit reflection patterns typical of shallow fill horizons associated with the pavement, and continuous reflecting horizons typical of undisturbed strata. The GPR data did not display hyperbolic reflection patterns large enough to represent a UST.

DISCUSSION

We did not detect any subsurface objects that could be interpreted as representing a UST within the survey limits on the west side of the building. However, we did identify the location of a single vent line that terminates below parked vehicles on the opposite side of this building. Therefore, it is highly possible that the waste oil tank is located on the east side of the building, instead of the west as originally thought.

LIMITATIONS

Electromagnetic Line Locating

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying

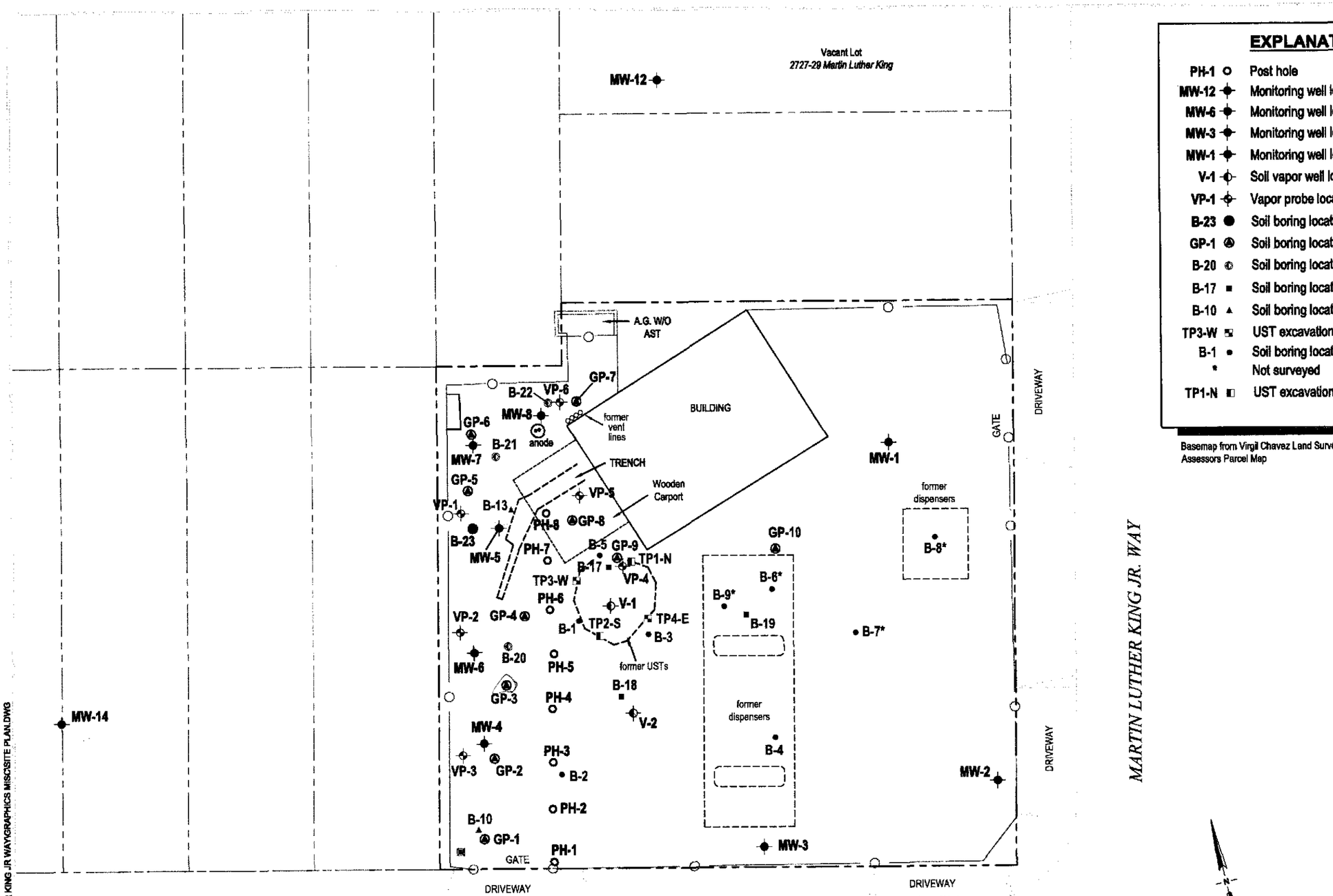
05/19/06

Site Plan and Historical Sample Locations

EXPLANATION

PH-1 ○	Post hole
MW-12 ⊕	Monitoring well location (2/06)
MW-6 ⊕	Monitoring well location (1/06)
MW-3 ⊕	Monitoring well location (11/00)
MW-1 ⊕	Monitoring well location (7/96)
V-1 ⊕	Soil vapor well location (7/96)
VP-1 ⊕	Vapor probe location (1/06)
B-23 ●	Soil boring location (1/06)
GP-1 Ⓐ	Soil boring location (8/05)
B-20 ◐	Soil boring location (4/02)
B-17 ■	Soil boring location (11/00)
B-10 ▲	Soil boring location (7/96)
TP3-W ▣	UST excavation samples (3/96)
B-1 •	Soil boring location (5/95)
*	Not surveyed
TP1-N ◧	UST excavation samples (10/94)

Basemap from Virgil Chavez Land Surveying and Alameda County Assessors Parcel Map



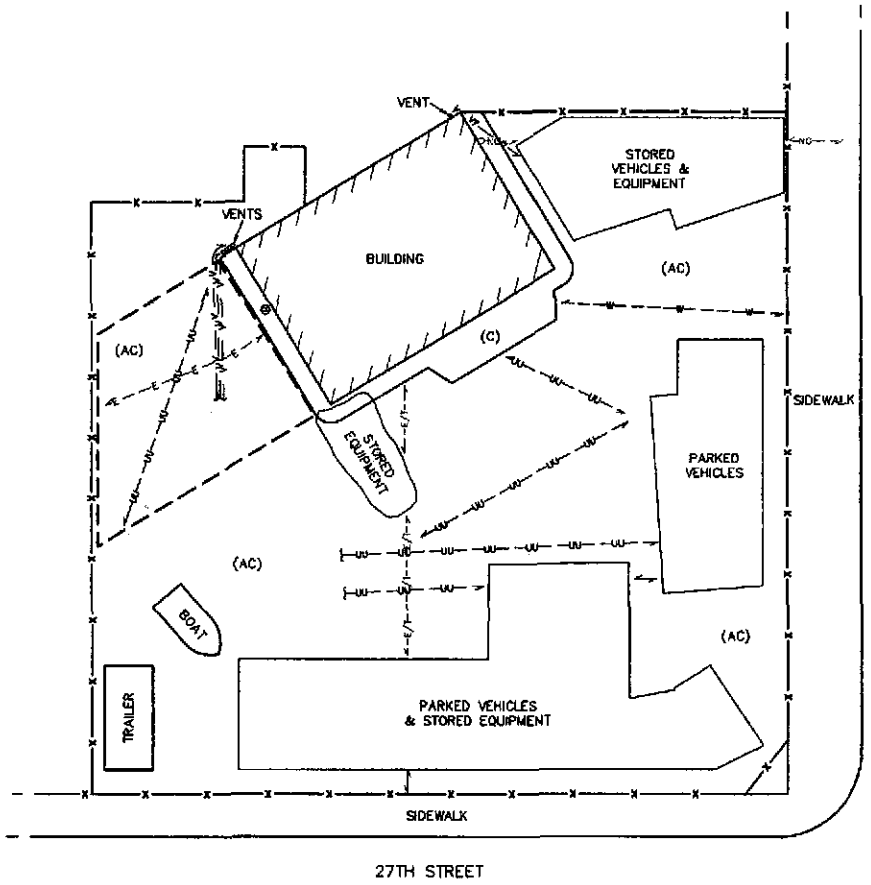
FIGURE

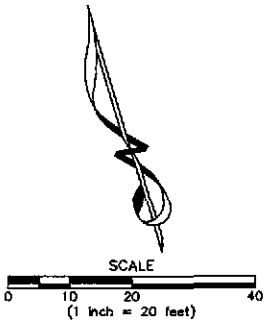
2

Former Shell Service Station
2703 Martin Luther King Jr Way
Oakland, California

CAMBRIA

O:\OAKLAND 2703 MARTIN LUTHER KING JR WAY\GRAPHICS MISCSITE PLAN.DWG





LEGEND	
— — —	LIMITS OF GPR/METAL DETECTOR SURVEY FOR POSSIBLE USTs
—E—	ELECTRIC LINE
—E/T—	ELECTRIC & TELECOMMUNICATIONS LINE
—NG—	NATURAL GAS LINE
—UU—	UNDIFFERENTIATED UTILITY LINE
— V —	VENT LINE
— VT — VT —	SUSPECTED VENT LINE
— W —	WATER LINE
—X—	CHAIN-LINK FENCE
⊙	SANITARY SEWER CLEANOUT
(AC)	ASPHALT
(C)	CONCRETE

NORCAL

GEOPHYSICAL SURVEY MAP
2703 MARTIN LUTHER KING JR. WAY

LOCATION: OAKLAND, CALIFORNIA

CLIENT: CAMBRIA

JOB #: 08-462.29 | NORCAL GEOPHYSICAL CONSULTANTS INC.

DATE: MAY 2008 | DRAWN BY: G.RANDALL | APPROVED BY: DJK

PLATE 1

a passive current these utilities must be exposed at the surface or accessible in utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques may include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Also, pipes generally deeper than about five to seven feet may not be detected.

Ground Penetrating Radar

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper two to four feet below ground surface.

STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to characterize the shallow subsurface. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate having the opportunity to provide you with this information.

Respectfully,

NORCAL Geophysical Consultants, Inc.

Donald J. Kirker

Donald J. Kirker
Geophysicist, GP-997

DJK/tt

Enclosure: Plate 1
Appendix A GEOPHYSICAL METHODOLOGY

Appendix A

GEOPHYSICAL METHODOLOGY

Appendix A

ELECTROMAGNETIC LINE LOCATION/METAL DETECTION (EMLL/MD)

Methodology

Electromagnetic line location techniques (EMLL) are used to locate the magnetic field resulting from an electric current flowing on a line. These magnetic fields can arise from currents already on the line (passive) or currents applied to a line with a transmitter (active). The most common passive signals are generated by live electric lines and re-radiated radio signals. Active signals can be introduced by connecting the transmitter to the line at accessible locations or by induction.

The detection of underground utilities is affected by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless the utilities carry a passive current, they must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and pipes with insulated connections.

Buried objects can also be detected, without direct contact, by using the metal detection technique (MD). This is used to detect buried near surface metal objects such as rebar, manhole covers, USTs, and various metallic debris. The MD transmitter-receiver unit is held above the ground and continuously scanned over the surface. The unit utilizes two orthogonal coils that are separated by a specified distance. One of the coils transmits an electromagnetic signal (primary magnetic field) which in turn produces a secondary magnetic field about the subsurface metal object. Since the receiver coil is orthogonal to the transmitter coil, it is unaffected by the primary field. Therefore, the secondary magnetic fields produced by buried metal object will generate an audible response from the unit. The peak of this response indicates when the unit is directly over the metal object.

The instrumentation we used for the EMLL and MD survey consists of a Radio Detection RD-400 and a Fisher TW-6 inductive pipe and cable locator.

Data Analysis

The EMLL/MD instrumentation indicates the presence of buried metal by emitting an audible tone; there are no recorded data to analyze. Therefore, the locations of buried objects detected with these methods are marked on the ground surface during the survey.

Limitations

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or accessible in an utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Pipes generally deeper than about five to seven feet may not be detected.

GROUND PENETRATING RADAR (GPR)

Methodology

Ground penetrating radar is a method that provides a continuous, high resolution cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The GPR system operates by radiating electromagnetic pulses into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, the signal spreads downward into the subsurface. However, when the signal encounters a variation in electrical permittivity, a portion of the electromagnetic energy is reflected back to the surface. When the signal encounters a metal object, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Changes in subsurface reflection character on the GPR records can provide information regarding the location of USTs, sumps, buried debris, underground utilities, and variations in the shallow stratigraphy.

The GPR system used was a Geophysical Survey Systems, Inc. SIR-2 Subsurface Interface Radar Systems equipped with a 500 megahertz (MHz) transducer. This transducer is near the center of the available frequency range and is used to provide high resolution at shallow depths.

Data Analysis

GPR records are examined to identify reflection patterns characteristic of USTs, utilities, and other buried debris. Typically, USTs are manifested by broad localized hyperbolic (upside-down "U" shape) reflection patterns that vary in intensity. The intensity of a reflection pattern is usually dependent upon the condition of the respective UST, its burial depth, and the type of fill over the UST. Utilities and other buried debris are typically manifested by narrow localized hyperbolic reflections that also vary in intensity.

Limitations

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper one to two feet below ground surface.