Letter Report to Alameda County Department of Environmental Health (ACDEH)

Assessor's Parcel Number (APN) 045-6302-010-05 555 98th Avenue Oakland, California

Prepared by:

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October 11, 2007

Project Number: 01205501.17

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October 10, 2007
Project Number: 01205501.17

Ms. Donna Dragos
Local Oversight Program Supervisor
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

cc: Mr. Leo Puig
AMCAL Multi-Housing, Inc.
4545 North West Avenue, Suite 118
Fresno, California 93705

RE: Letter Report to Alameda County Department of Environmental Health (ACDEH)

SITE: Assessor's Parcel Number (APN) 045-5302-010-05
555 98th Avenue
Oakland, California

Dear Ms. Dragos:

SCS Engineers (SCS) is submitting this Letter Report (Report) to the ACDEH in connection with the closed leaking underground storage tank (LUST case) associated with the Site. This Report serves to notify the ACDEH of the proposed change in Site use from commercial to residential. This Report summarizes the following:

- Subsurface assessment activities (soil and groundwater sampling activities) conducted at the Site prior to the time of LUST case closure on August 25, 1997.
- Subsurface assessment activities (soil and groundwater sampling activities) conducted at the Site after the ACDEH granted case closure.
- *Phase I Environmental Site Assessment*, prepared by SCS and dated November 8, 2007.
- *Additional Site Investigation Activities* (geophysical survey and soil and soil vapor sampling activities), prepared by SCS and dated June 19, 2007.
- A human health risk assessment in general accordance with California Department of Toxic Substances Control (DTSC) guidelines and a professional opinion by SCS whether the known or reported soil, groundwater, and soil vapor impacts at the Site are likely to result in a human health risk to future occupants of the Site assuming a residential use.

Offices Nationwide

OBJECTIVE

The objective of this Report is to receive a "concurrence" letter from the ACDEH in connection with the former LUST case as it relates to a change in the proposed land use at the Site from commercial to residential.

BACKGROUND

The approximately 1.6-acre vacant lot located at 555 98th Avenue, Oakland, California, is comprised of *Alameda County Assessor's Parcel Number (APN) 045-5302-010-05*. The Site is located southwest of the intersection of 98th Avenue and Edes Avenue. Available historical information indicates that the Site parcel has undergone several parcel adjustments. SCS created the following table using available historical information and environmental reports in connection with the Site. The table lists the historical and current APNs as well as the historical and current addresses associated with the APNs. Bolded addresses are (or were) part of the Site and non-bolded addresses are part of the adjacent property to the north.

Historical APN	**Historical Addresses**	**Historical APN**	**Historical Addresses**	**Current APN**	**Current Addresses**
045-5302-10-1 (Parcel I)*	9755, 9759, 9763, 9767 and 9771 Edes Ave./**525,** 601, 603, 609 and 619 98th Ave.	045-5302-10-3	9755, 9759, 9763, 9767 and 9771 Edes Ave. 601, 609 and 619 98th Ave.	045-5302-10-3	9755, 9759, 9763, 9767 and 9771 Edes Ave. 601, 609 and 619 98th Ave.
		045-5302-10-4	**555** 98th Ave.	045-5302-10-5	**555, 591, 593 and 599** 98th Ave.
045-5302-10-2 (Parcel II)**	**591, 593 and 599** 98th Ave.	Same	Same	045-5302-10-5	**555, 591, 593 and 599** 98th Ave.

Notes:
*: Parcel I originally included a portion of the Site and the property adjacent to the north of the Site which is now not a part of the Site (9755 Edes).
**: Parcel II is currently part of the Site.

Information obtained during the above-referenced previous Phase I Environmental Assessment activities at the Site indicated that the Site was occupied by a gasoline service station with an automobile service area and car wash from the early 1950s to 1995. Prior to the early 1950s the Site was either vacant or used for agricultural purposes.

CHANGE IN PROPOSED LAND USE

AMCAL Multi-Housing, Inc. (AMCAL) proposes to redevelop the Site for residential use. SCS understands that the proposed development will consist of multi-family residences constructed over slab on-grade foundations. It was reported that, with the possible exception of minor excavation for utilities, no soil will be excavated or exported from the Site during development.

PREVIOUS SUBSURFACE ASSESSMENT ACTIVITIES CONDUCTED BY OTHERS

Subsurface Assessment Activities Conducted Prior to LUST Case Closure

The following reports are summarized below:

- *Limited Phase I Environmental Site Assessment, 9755 Eads Avenue/593 98th Avenue, Oakland, California*, prepared by Getter-Ryan, Inc. and dated August 28, 1997.
- *Well Installation and Soil Boring Report, 9755 Eads Avenue/593 98th Avenue, Oakland, California*, prepared by Getter-Ryan, Inc. and dated October 9, 1997.

Two fuel underground storage tanks (USTs) with capacities of 4,000-gallons and 6,000-gallons, and one 500-gallon waste oil UST associated with the former gasoline service station were reportedly removed from the Site on December 7, 1993. Soil samples collected in the areas of the product piping and waste oil UST did not contain detectable concentrations of petroleum hydrocarbons. Analytical data for soil samples collected beneath the gasoline USTs contained up to 12,000 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons as gasoline (TPHg) and up to 11 mg/kg of benzene.

Based on the results of the sampling conducted during the UST and product piping removal, the ACDEH requested additional subsurface assessment activities be conducted. A workplan for subsurface assessment activities was conducted for the Site, including overexcavation of the fuel USTs to remove impacted soil, additional soil sampling activities, and the installation of groundwater monitoring wells.

In March 1995, six soil borings were reportedly advanced in the vicinity of the former fuel USTs. Soil sample analysis indicated concentrations of TPHg ranging from 25 to 46 mg/kg and benzene ranging from 0.03 to 0.044 mg/kg. Three of the soil borings were reportedly converted to groundwater monitoring wells. Groundwater sample analysis indicated concentrations of TPHg up to 13 mg/L, total petroleum hydrocarbons as diesel fuel (TPHd) up to 0.067 mg/L, and benzene up to 0.0059 mg/L. Free product was observed in one of the monitoring wells. In January of 1996, the UST pit was overexcavated reportedly removing sloughed material, concrete and debris, and contaminated soil.

At the request of the ACDEH, groundwater monitoring continued for five quarters (April of 1995 to April of 1996). On April 3, 1997, the ACDEH stated that the environmental investigation was complete and that the monitoring wells could be destroyed. The ACDEH closed the LUST case on August 25, 1997, with residual petroleum hydrocarbon-bearing soil and groundwater reportedly remaining in place beneath the Site.

Subsurface Assessment Activities Conducted After LUST Case Closure

The following report is summarized below:

- *Groundwater Monitoring and Sampling at Freedom Fund Site, 9755 Edes Avenue/593 98th Avenue, Oakland, California*, prepared by Getter-Ryan, Inc. and dated October 21, 1997.

In September 1997, subsequent to case closure, eight groundwater monitoring wells were reportedly installed at the Site. The concentrations of CoCs from the soil samples collected from the groundwater monitoring well borings were as follows: concentrations of TPHg ranged from none detected above the laboratory detection limit (ND) to 22 mg/kg, concentrations of benzene were not detected in the soil samples, and concentrations of methyl tertiary butyl ether (MTBE) ranged from ND to 0.03 mg/kg.

The concentrations of CoCs from groundwater samples collected from the eight groundwater monitoring wells were as follows: concentrations of TPHg ranged from ND to 330 ug/L, TPHd from ND to 410 ug/L, benzene from ND to 9.3 ug/L, and MTBE from ND to 3.9 ug/L.

Discussion of Pre and Post LUST Case Closure Soil and Groundwater Concentrations

The following table compares CoCs concentrations in soil and groundwater before and after LUST case closure was granted by the ACDEH (based on reviews of the above-referenced reports). The concentrations in the table are from soil samples collected from the two monitoring well installation activities (pre- and post-closure).

	TPHg (soil)	TPHg (groundwater)	Benzene (soil)	Benzene (groundwater)	MTBE (soil)	MTBE (groundwater)
Pre-Closure (1995-1996)	up to 46 mg/kg	up to 1,300 ug/L	up to 0.044 mg/kg	up to 5.9 ug/L	NA	NA
Post-Closure (1997)	up to 22 mg/kg	Up to 330 ug/L	ND	up to 9.3 ug/L	up to 0.03 mg/kg	3.9 ug/L

Notes:
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
mg/kg: Milligram per kilogram
ug/L: Microgram per kilogram
ND: None detected above the laboratory detection limit
NA: Not analyzed

As indicated in the table above, there was no significant change in the concentrations TPHg and benzene in soil and groundwater samples between the March 1995 (pre-closure) and September 1997 (post-closure) sampling events. Concentrations of TPHg in soil were extremely low. Concentrations of TPHg in groundwater were reported to have decreased. Low concentrations of benzene were present in both pre- and post-closure sampling events. The September 1997 post-closure sampling activities reported detectable concentrations of MTBE. However, the concentrations of MTBE in groundwater are below the Maximum Contaminant Level (MCL) of 5 ug/L.

PHASE I ENVIRONMENTAL SITE ASSESSMENT CONDUCTED BY SCS

SCS prepared a report entitled, *Phase I Environmental Site Assessment, Assessor's Parcel Number (APN) 045-5302-010-05, 555, 591, 594, and 599 98th Avenue, Oakland, California*, which was dated November 8, 2006 (text included in the appendix of this report). This report included the following conclusions and recommendations:

- A gasoline service station and car wash were present at the Site from circa 1950 to 1995. Three USTs were reportedly removed from the Site in circa 1993. The majority of the petroleum hydrocarbon-impacted soil was reportedly removed. However TPH, benzene, toluene, ethylbenzene, xylene, and MTBE, collectively constituents of concern (CoCs) were reportedly present in groundwater samples collected from the vicinity of the USTs. Based on the fact that the ACDEH issued a "closure" to the Site after review of soil and groundwater data and assuming the current land use does not change, the former release would represent a historical recognized environmental condition, but not considered a current recognized environmental condition. However, based on conversation with the Client, the Site will be redeveloped for residential use; therefore, the reported presence of CoCs in the groundwater beneath the Site may result in a recognized environmental condition for the proposed residential land use (i.e., vapor intrusion into proposed Site buildings from impacted groundwater).

  Based on the reported depth to groundwater (approximately 10 feet below ground surface) and the reported presence of CoCs in the groundwater beneath the Site, we recommend the collection and analysis of soil vapor samples at select Site locations. If CoCs are detected in the soil vapor, we recommend that a limited health risk assessment be conducted. We also recommend a geophysical survey be performed at the Site to confirm that typical underground structures associated with the operation of a service station and car wash (e.g., lifts, clarifiers, additional USTs, dispenser piping/islands, etc.) are no longer present at the Site. If these features are found, additional investigation may be required.

- Based on the aerial photographs reviewed, it is likely that some sort of agricultural activity occurred at the Site (based on a review of a 1939 aerial photograph). If the Site and Site vicinity were used for agricultural purposes, these agricultural activities were interpreted to have taken place at the time that organochlorine pesticides, such as dichlorodiphenyltrichloroethane (DDT) and chlordane, and metal-based pesticides, such as lead, copper, and arsenic, were in wide general use for pest control.

  These classes of pesticides are known to have the potential to remain in detectable concentrations in the subsurface for extended periods of time. Based on the interpreted land use, our experience with agricultural properties, and a review of the available literature, it is our judgment that it is likely that trace concentrations of organochlorine or metallic pesticides are present in the soil at the Site and Site vicinity as a result of the interpreted agricultural land use. It is also our experience that trace concentrations are likely to be present even after mass grading and earth movement. However, it has

generally been our experience that unless a pesticide mixing, storage, or disposal area was present, concentrations of organochlorine pesticides in the subsurface in general agricultural areas tend to be low. No such areas were reported or are known to have existed at the Site and Site vicinity.

While there are currently no regulations that stipulate cleanup levels for pesticides in soil, there is a level at which soil could be classified as a hazardous waste based on, for example, a DDT concentration. However, it has been our experience that in order for a pesticide-impacted soil at the Site and Site vicinity to be classified as a hazardous waste, the soil would first need to be classified as a "waste" (e.g., to be excavated and transported off-site). In addition, it would need to have concentrations of pesticides, such as DDT, in excess of regulatory values, such as the total threshold limit or soluble threshold limit concentrations (TTLC/STLC) values, for specific pesticides in soil samples.

There is a moderate likelihood that residual concentrations of organochlorine pesticides are present in the shallow surface soil beneath those sites used for agricultural purposes. Assuming the legal and permitted application of these pesticides, and assuming existing Site use remains the same, this common occurrence is, in our experience, unlikely to lead to an enforcement action and to a human health risk and is therefore likely to be considered *de minimis*, as defined by ASTM.

However, based on the information provided by the Client, we understand that the Site will be developed with single-family residences. We recommend that limited soil sampling be conducted as a precautionary measure to ensure that future occupants of Site buildings, construction workers, and others are not exposed to elevated concentrations of pesticides. In addition, if soil is to be transported off-site, soil sampling should be conducted to assess whether the soil contains pesticide concentrations that would cause the soil to be classified as a hazardous waste.

- Based on a review of city directories, cleaners and tailors and cleaners and laundry were reportedly located adjacent (north) to the Site from 1950 to 1970. Based on our experience, dry cleaning facilities use and store tetrachloroethylene (PCE), generate waste (such as still bottoms and used filters), and often experience releases (to the soil, soil vapor, and/or groundwater). Although, based on available data, there are no known and reported releases in connection with this facility, in our experience, over time, PCE liquid and vapor have the ability to permeate flooring and building foundations, entering the subsurface soils and potentially impacting groundwater. It is not known what time frame is required for this to occur. Many property owners and lenders have established a Phase II sampling "trigger" of 5 to 7 years (i.e., dry cleaning facilities in operation over 5 years are subject to Phase II subsurface testing for the presence of PCE), and in some cases, as little as two years.

  Based on its proximity to the Site (adjacent), the interpreted depth to groundwater (10 feet bgs), and the length of time this property has been occupied by a dry cleaning facility (at least 20 years), there is a potential that PCE-bearing soil, soil vapor, and/or groundwater has migrated beneath the Site. If CoCs have migrated to the Site it is, in our opinion and based on our experience, unlikely that a regulatory agency would require

remediation of an on-Site release caused by an off-site source (the Site did not cause, contribute to, or exacerbate possible PCE impacts to soil, soil vapor, and/or groundwater).

However, if redeveloped as described above, there is a potential for vapor intrusion (from possible impacts to soil, soil vapor, and groundwater) into the proposed Site buildings, which may be considered a recognized environmental condition. This potential can be assessed in connection with the soil vapor survey and health risk assessment described in the conclusions and recommendations above.

ADDITIONAL SUBSURFACE ASSESSMENT ACTIVITIES CONDUCTED BY SCS

Based on the above-referenced conclusions and recommendations in the SCS Phase I Environmental Site Assessment, SCS prepared a report entitled, *Additional Site Investigation Activities, 555 98th Avenue, Oakland, California*, dated June 19, 2007 (included in the appendix to this Report). SCS completed the following activities as part of this subsurface assessment:

- Geophysical survey to assess the possible presence of geophysical anomalies in connection with the historical Site land use as a gasoline service station (e.g., USTs, wastewater clarifier systems, inground hydraulic lifts, etc.).

- Soil vapor survey to assess the possible presence of volatile organic compounds (VOCs) at the Site in connection with known and reported soil and groundwater impacts associated with the former LUST case and in connection with an adjacent dry cleaning facility.

- Shallow soil sampling to assess the possible presence of CoCs in connection with the historical agricultural land use.

Based on the findings of the subsurface assessment activities, the above-referenced report concluded the following:

- The geophysical survey did not reveal any large anomalies on the Property, but instead discovered two small anomalies. The geophysical survey did not find any evidence of USTs in the majority of the Property, but the presence of a UST cannot be ruled out in the areas of the construction and metallic debris piles.

- Methylene Chloride was detected in 1 of the 12 soil vapor samples at a concentration of 0.10 ug/L of vapor. This concentration is below the 2.4 ug/L residential Environmental Screening Level (ESL) for methylene chloride in soil vapor as established by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

- Toluene was detected in 1 of the 12 soil vapor samples at a concentration of 0.12 ug/L of vapor. This concentration is below the 63 ug/L residential ESL established for toluene in soil vapor.

- All other remaining VOCs (analyzed in general accordance with EPA Method 8260B) were not detected above the laboratory detection limit in soil vapor samples collected at the Site.

- Organochlorine pesticides, silver, and thallium were not detected above the laboratory detection limit in the shallow soil samples collected.

- Cadmium, chromium, copper, lead, mercury, and zinc were detected in some of the shallow soil samples collected; however, none of the detected concentrations exceeded their respective residential ESLs.

- Arsenic was detected in all ten soil samples at concentrations ranging from 6.5 mg/kg to 14 mg/kg. The residential ESL for arsenic in soil is 5.5 mg/kg. These concentrations exceed the 5.5 mg/L ESL established for arsenic in soil at residential sites. However, these concentrations are within the background range reported for Bay Area soil (Oakland Public Works Agency [Oakland], January 1, 2000. *Oakland Urban Land Redevelopment Program: Guidance Document. [City of Oakland, Survey of Background Metal Concentrations]*). A copy of the background metals summary table can be found in the appendix to this Report. Based on the elevated background soil concentrations of arsenic in the Site vicinity, remediation of arsenic at this Site to below ESLs may not be practical.

HUMAN HEALTH RISK ASSESSMENT

As indicated above, VOCs were detected in the soil vapor beneath the Site. As discussed above, although these reported concentrations were less than the ESLs, SCS conducted a human health risk assessment for the Site in connection with proposed residential land use. The risk from migration of VOC vapors has been evaluated, as described in the following section, by using the DTSC Indoor Air Guidance Unclassified Soil Screening Model (DTSC/HERD, last updated November 1, 2003).

Carcinogenic and noncarcinogenic health risks were calculated for the analytes that were reported above laboratory detection limits (methylene chloride at a concentration of 0.10 ug/L in SV-2, and toluene at a concentration of 0.12 ug/L in SV-7). The chemical abstract service number (CAS Number) for each analyte, the soil gas concentration of each analyte, along with the depth where each soil gas sample was collected, and the vadose zone soil type were input into the model, all other parameters were left at residential land use default values. The following table summarizes the analytical model inputs and outputs.

Soil Vapor Sample	Constituent of Concern	Model Input Concentration (ug/M^3)	Excess Cancer Risk	Hazard Index
SV-2	Methylene Chloride	100	4.7×10^{-9}	2.7×10^{-5}
SV-7	Toluene	120	No Slope Factor	4.1×10^{-5}
Total			4.7×10^{-9}	6.8×10^{-5}

As indicated in the table above, the calculated health risk at the Site does not exceed the DTSC criterion of one-in-one-million (1.00×10^{-6}) Excess Cancer Risk. In addition, a hazard index of one (significant noncarcinogenic risk criterion) was not exceeded in this analytical model output. The data entry sheet, chemical property sheet, intermediate calculations sheet, and result sheet for methylene chloride and toluene models are included in the appendix of this Report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the information provided above, the attached supporting documentation, and our experience, we believe that the former closed leaking underground storage tank (LUST) case at the Site will not have an impact on the redevelopment of the Site for residential purposes for the following reasons:

- It was reported that soil will not be excavated or exported from the Site as part of Site redevelopment.
- Reported soil and groundwater concentrations of total petroleum hydrocarbons as gasoline (TPHg) and benzene collected and analyzed after the Alameda County Department of Environmental Health (ACDEH) LUST case closure were not significantly different from the reported concentrations of these constituents in the soil and groundwater prior to closure. In addition, Concentrations of TPHg in soil and groundwater and concentrations of benzene in soil were reported to have decreased.
- The September 1996 post-closure sampling activities reported detectable concentrations of MTBE. However, the concentrations of MTBE in groundwater are below the Maximum Contaminant Level (MCL) of 5 ug/L.
- The geophysical survey for the Site did not indicate obvious evidence of large anomalies that may be indicative of features of concern (e.g., underground storage tanks, etc.).
- Reported concentrations of volatile organic compounds (VOCs) in the soil vapor beneath the Site are less than Environmental Screening Levels (ESLs) as established by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

- A human health risk assessment using the results of the soil vapor survey and conducted in general accordance with California Department of Toxic Substances Control (DTSC) guidelines for residential Site land use indicated that there is a low likelihood that a significant human health risk exists at the Site in connection with vapor intrusion into the proposed Site buildings.

- With the possible exception of arsenic, toxic metals in the shallow soil at the Site are below their respective ESLs for residential land use. Concentrations of arsenic at the Site exceed the ESL; however, these concentrations are within the background range reported for Bay Area soil (Oakland Public Works Agency [Oakland], January 1, 2000. *Oakland Urban Land Redevelopment Program: Guidance Document. [City of Oakland, Survey of Background Metal Concentrations]*). Based on the elevated background soil concentrations of arsenic in the Site vicinity, remediation of arsenic at this Site to below ESLs may not be practical.

Our Client has requested your written acknowledgment of this Notice of Change in the Proposed Land Use and is proposing to proceed with their development and planning in the near future. Therefore, we would greatly appreciate your response to this notice. If, upon review of this letter you should have any questions or concerns, please do not hesitate to call any of the undersigned.

Respectfully,
SCS ENGINEERS

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Limited Phase I
Environmental Site Assessment,
9755 Eads Avenue/593 98th Avenue,
Oakland, California,

prepared by Getter-Ryan, Inc.

dated August 28, 1997

GETTLER-RYAN INC.

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT

at

9755 Edes Avenue/593 98th Avenue
Oakland, California

Report No. 6409.01-1

Prepared for:

Freedom Fund Foundations, Inc

Prepared by:

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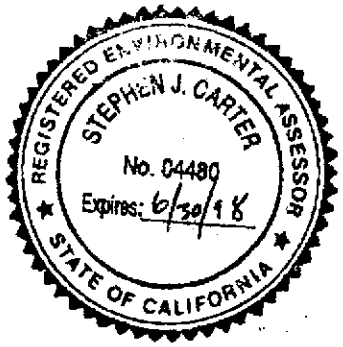

August 28, 1997

GETTLER-RYAN INC.

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT

at

9755 Edes Avenue/593 98th Avenue
Oakland, California

Report No. 6409.01-1

Prepared for:

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Gettler-Ryan Inc.
3164 Gold Camp Drive, Suite 240
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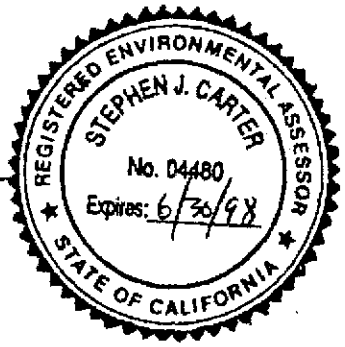

August 28, 1997

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GETTLER-RYAN INC.

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT

at

9755 Edes Avenue/593 98th Avenue
Oakland, California

Report No. 6409.01-1

INTRODUCTION

At the request of Freedom Fund Foundations, Inc. (FFFI), Gettler-Ryan Inc. (GR) conducted a Limited Phase I Environmental Site Assessment for the above referenced site (Figure 1). The purpose of this investigation was to assess the potential for environmental impact to the subject site from past site usage, or from current or former usages of other properties in the site vicinity. The scope of work performed included site inspection and reconnaissance of properties in the site vicinity, and review of available public records. This report presents the information collected during this investigation, along with our conclusions based on a review of these data.

SITE DESCRIPTION

The subject site consists of two parcels: parcel I at 9755 Edes Avenue (APN 045-5302-10-1), and parcel II at 593 98th Avenue (APN 045-5302-10-2). These parcels are situated on the western corner of the intersection of Edes and 98th Avenues. Parcel I is bordered by Edes Avenue to the north, 98th Avenue to the east, and several residential properties to the west and south. Street addresses assigned to this parcel include: 9755, 9759, 9763, 9767, and 9771 Edes Avenue; and 525, 601, 603, 609, and 619 98th Avenue. Parcel II is bordered by 98th Avenue to the east, and by parcel I to the north, west and south. Street addresses assigned to this parcel include: 591, 593, and 599 98th Avenue. Topography in the site vicinity is flat-lying, at an elevation of approximately 20 feet above mean sea level (U.S. Geological Survey Topographic Map, San Leandro 7.5-Minute Quadrangle, 1959, photorevised 1980).

There are two attached low rise multi-tenant retail buildings (I and II) and a parking lot behind the buildings at the site. The buildings are divided into several separate spaces, which formerly were used by a variety of retail businesses, but currently are vacant. Properties in the site vicinity are developed for residential, retail, commercial and industrial use.

RECORDS SEARCH

GSI contracted with Vista Information Solutions, Inc. (Vista) to perform a computerized search of 17 national, state, and regional governmental databases. City directories were researched by

Environmental Risk Information & Imaging Service (ERIIS) to obtain names of businesses that had operated at the subject site in the past. The property ownership reports were prepared for the subject site by Milliken & Michaels Credit Services (M&MCS). GR reviewed data delivered by Vista, ERIIS, M&MCS, and also Sanborn Maps and site aerial photos. GSI also consulted with the Alameda County Health Care Services Agency (ACHCSA) and the City of Oakland Fire, Public Works, and Administration Departments to ascertain if their files contained information on the subject site.

Vista Computerized Search

Vista identified a total of 46 sites within a one-mile radius of the subject site. Seven of these sites were within 1/8-mile of the subject site, eight sites were between 1/8- and 1/4-mile of the subject site, 30 of these sites were between 1/4- and 1/2-mile of the subject site, and one site was identified between 1/2- and one-mile of the subject site. The databases searched and the results of this search are summarized on pages 1 through 10 of the Vista report (Appendix A).

Vista identified seven sites within 1/8-mile west, northeast, east, and southeast of the subject site. One site (Vista ID 1C, Amco Chemical) is listed on the U.S. EPA Resource Conservation and Recovery Act (RCRA) list of non-acute hazardous waste generators. The current occupant of the site is a construction equipment rental company. Sites included in the RCRA list are not reported as having had spills or discharges to the environment.

One site was identified from the U.S. EPA Emergency Response Notification System (ERNS) list. This is a PG&E facility (Vista ID #3A) located 0.12 mile east of subject site. Spill involved approximately 1 gallon involving PCB-tainted oil, impacting only surface pavement, in June 1988.

One site was identified from the list of registered underground storage tanks (USTs). This site (Vista ID #1A) is the subject property. The Vista reports indicates there are two gasoline USTs in service at the site.

One site (Vista ID #1B) was identified from the Cortese leaking tank list. Based on Vista description (City of Oakland, 98th Street Edes Avenue), we were unable to verify the location of this site.

Three site were identified on the State and Regional LUST lists:

- Vista ID #1B: City of Oakland, 0.2 mile northeast of the subject site. Groundwater beneath this site was impacted by gasoline and diesel hydrocarbons. Appears three times in Regional LUST database, and once in State database. Tank status is not listed. Site status reported as "Case Closed/Cleanup Complete." This has active USTs, and was discussed above.

- Vista ID #2: Edes Avenue Senior Housing, 0.11 mile west of the subject site. Appears on the State LUST only. Affected media not listed, but because the remedial status is listed as

"Monitoring," it is assumed groundwater is impacted. Tank status or hydrocarbons involved are not listed.

- Vista ID #3B: Allen Abdo S Company, 0.12 mile east of subject site. Site is listed on both the State and Regional LUST lists. Impact appears limited to soil contamination from gasoline hydrocarbons. Site status reported as "Case Closed/Cleanup Complete."

Properties listed in the Vista report that were identified between 1/8-mile and 1-mile radius of the subject site consist predominantly of leaking gasoline and diesel USTs (25 sites) and metal plating shops (4 sites). Notable exceptions listed in the search area include:

- Vista ID #11: IMO Industries Inc., 0.29 mile northwest of subject site. Leaking solvent and diesel USTs and surface impoundments. Appears to be under assessment.

- Vista ID #14: Pacific Pumping Company, 0.41 mile north of subject site. Discharge of chemical waste to open ground. Did not require Federal Superfund or NPL consideration.

- Vista ID#16: Paco Pumps; 0.48 mile north of subject site. Abandoned site from CalSites list.

Alameda County Health Care Services Agency

Environmentally-impacted sites in the City of Oakland are overseen by the ACHCSA. A review of the ACHCSA file on the subject site was performed by GR on August 26, 1997. The ACHCSA files contained information regarding 525 98th Avenue (LOP Case No 4865). A listing of the documents reviewed is included in the References section of this report. Soil Tech Engineering, Inc. (STEI) figures, tables, boring logs presenting results of the environmental work performed at the site are included in Appendix B.

Three steel USTs (one 6,000-gallon fuel UST, one 4,000-gallon fuel UST, and one 550-gallon waste oil UST) were removed from the site on December 7, 1993, by Alpha Geo Services. The fuel USTs were located in the common pit immediately northeast of the station building, and the waste oil UST was located in the separate pit west of the fuel tanks. Visual inspection performed upon UST removal indicated that the fuel USTs were corroded and pitted but had no obvious holes. The waste oil UST was corroded and pitted and had ½-inch hole on the top of the fill end. Ground water was not encountered in the UST pits. Soil samples were collected from the UST pits and product line trenches. Four soil samples (B-1-12 through B-4-12) were collected from beneath the fuel USTs at approximately 12 feet below ground surface (bgs), and one soil sample (WO-1-8) was collected from beneath the waste oil UST at approximately 8 feet bgs. Two soil samples (P-1-3 and P-2-2) were collected from beneath the product lines at depths 3 and 2 feet bgs, respectively. All soil samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) and as diesel (TPHd), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total lead. In addition the soil sample collected from beneath the waste oil UST was analyzed for Total Oil and Grease (TOG), Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), and the metals cadmium, chromium, lead, nickel and zinc. Sample locations are shown on STEI's Figures

of concrete, asphalt, soil, and broken glass was present in the southwestern corner of the site (#1, Figure 1), along with four rusty, empty 55-gallon drums (#3, Figure 2).

A concrete floor pad from the former service station building was observed in the southern portion of the site. Two hydraulic hoist and an oil water separator were present on the concrete floor pad. The asphaltic pavement near the northeastern corner of the concrete pad was partially removed, suggesting that these areas have been excavated (former USTs and product lines locations) and backfilled.

GR did not observe any pits, ditches, culverts, ponds, lakes, or impoundment associated with waste disposal at the site other than mentioned above small trash piles. No electrical transformers, water supply wells or groundwater monitoring wells were observed.

RECONNAISSANCE OF SITE VICINITY

To assess whether current usage of the properties in the site vicinity had the potential to impact the subject site, GR conducted a reconnaissance of properties in the immediate vicinity on August 8, 1997. The reconnaissance consisted of observations that could be reasonably made from the curb, sidewalk, or public right-of-way.

Properties immediately adjacent to the subject site and their apparent current usage include:

- North — Public street (Edes Avenue)/Commercial (Greers Liquor Store, Greater Mount Calvary Church of God in Christ, former Sarvey's Department Store - currently vacant) across the street
- Northeast — Public street (intersection of Edes and 98th Avenues)/Commercial (U.S. Rentals - construction equipment rentals) across the intersection
- East — Public street (98th Avenue)/Residential and vacant lot across the street
- South — Residential
- West — Residential
- Northwest — Residential

CONCLUSIONS

A gasoline service station operated on the southern portion of the subject site starting in approximately 1935. USTs and product piping associated with this facility were removed in 1993. Following an environmental investigation of subsurface conditions and remedial action that included overexcavation of the fuel UST pit, the ACHCSA closured this site in 1997. Soil and backfill

material removed from the fuel UST pit appear to have been used as backfill material in the former UST pit.

A review of available records for businesses that have operated on other portions of the subject site do not suggest activities that might have resulted in impact to the site. The Vista report indicated that there are other sites in the vicinity that have had environmental impact, but the nearest fuel hydrocarbon impact site in the upgradient direction (west) is over 0.1 mile away. A review of available record from the City of Oakland, aerial photographs, Sanborn maps, or title search did not indicate potential environmental impact to the site. The reconnaissance of the site vicinity did not indicate current usage of the adjacent parcels would impact the site.

LIMITATIONS

GR has performed this Limited Environmental Site Assessment in a manner consistent with the level of care and skill normally exercised by members of the earth science, environmental, geologic, and engineering consulting professions currently practicing under similar conditions in the area. This investigation was conducted according to the scope of work agreed upon with FFFI for the purpose of evaluating environmental impairments to the parcels in the vicinity of the subject site. Where important, GR identifies the sources used for the facts presented in this report, and also notes any verifications from other sources, if such verification was deemed necessary. GR recommends this report be used only for the purpose intended at the time the report was prepared. Any use of the information provided in this report by third parties shall be at their own risk. GR is not responsible for errors or omissions in the database search report prepared by Vista, ERIIS, or M&MCS.

REFERENCES

ACHCSA, December 7, 1993, Hazardous Materials Inspection Forms for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, January 14, 1994, Letter to Nissan Saidian Requesting Preliminary Site Assessment for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, July 1, 1994, Letter to Nissan Saidian Regarding Work Plan Approval for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, July 14, 1995, Letter to Nissan Saidian Requesting Implementation of Quarterly Groundwater Monitoring at the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, September 28, 1995, Hazardous Materials Inspection Form for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, September 28, 1995, Letter to Nissan Saidian Regarding Uncovered Stockpiled Soil and Open UST Pit at the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, January 22, 1996, Hazardous Materials Inspection Forms for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, July 19, 1996, Letter to Nissan Saidian Regarding Reduced Sampling Frequency at the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, February 21, 1997, Case Closure Summary for the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, April 3, 1997, Letter to Nissan Saidian Regarding No Further Action Site Status and Decommissioning of Site Wells at the Property Located at 525 98th Avenue, Oakland, California.

ACHCSA, August 25, 1997, LOP Record Change Request Form for the Property Located at 525 98th Avenue, Oakland, California.

Alpha Geo Services, October 29, 1993, Underground Closure Plan for the Property Located at 525 98th Avenue, Oakland, California.

DWR Forms #452041 through 452041.

Nissan Saidian, January 5, 1994, Underground Storage Tank Unauthorized Release (leak)/Contamination Site Report.

STEI, January 5, 1994, Soil Sampling Below Removed Underground Storage Tanks at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, April 27, 1994, Proposed Work Plan for Contaminated Soil Excavation and Preliminary Site Assessment at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, April 19, 1995, Preliminary Site Assessment of Contaminated Soil and Groundwater at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, August 2, 1995, Quarterly Groundwater Monitoring and Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, November 1, 1995, Quarterly Groundwater Monitoring and Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, March 8, 1996, Quarterly Groundwater Monitoring and Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, May 1, 1996, Remedial Excavation Activities and Soil Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, May 6, 1996, Quarterly Groundwater Monitoring and Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

STEI, December 20, 1996, Semi-Annual Groundwater Monitoring and Sampling at the Property Located at 525 98th Avenue, Oakland, California. File No. 10-93570-ST.

TABLE 1. SUMMARY OF CITY DIRECTORY SEARCH
Parcels No. 045-5302-10-1 and 045-5302-10-2
9755 - 9771 Edes Avenue and 525 - 599 98th Avenue (former Jones Avenue)
Oakland, California

Address	Directory Listings					
	1967	1971	1976	1981	1985	1990
9755 Edes Avenue	Zeigler's BBQ Pit	Johnnies BBQ	x	x	Waltons BBQ	Jays BBQ
9759 Edes Avenue	Brookfield Bty Sln	Brookfield Bty Sln	Brookfield Bty Sln	Brookfield Bty Sln	x	x
9763 Edes Avenue	vacant	---	---	---	---	---
9765 Edes Avenue	vacant	---	---	---	---	---
9767 Edes Avenue	Brookfield Cleaners & Tailors	Don Rite Cleaners	x	x	x	x
9771 Edes Avenue	Brookfield Barber	Brookfield Barber	Brookfield Barber	Brookfield Barber	Comnty Barber Shop	x
525 98th Avenue	Phillips Sixty Six Service Station	Clarence Phillips Frazier Clarence	Sadi & Zeiglers SS U Haul Co Dealer	Zeigler & Sons Mobil	Zeigler & Sons Mobil	Bettys
591 98th Avenue	Big Ten Liquors	Big Ten Liquors	Big Ten Liquors	Big Ten Liquors	---	x
593 98th Avenue	under construction	Burger Bar	x	x	---	x
599 98th Avenue	Edes Ave. intersection	---	x	x	---	x
601 98th Avenue	vacant	---	x	x	x	x
603 98th Avenue	---	---	---	Chambers Thos Do	x	x
609 98th Avenue	---	Azar Adeline, Azar Mkt	Oakland Street Acadmy	x	x	First Universe Bapt
619 98th Avenue	Thrift Drug Co	Thrift Drug Co	Sadies & Zeigler Deli	Sadies & Zeigler Deli	Sadies & Zeigler Deli	Greer Liquor & Grocery

x Occupant name not listed.
--- Street No. not listed.

Source: Street Atlas USA, Delorme (1995).

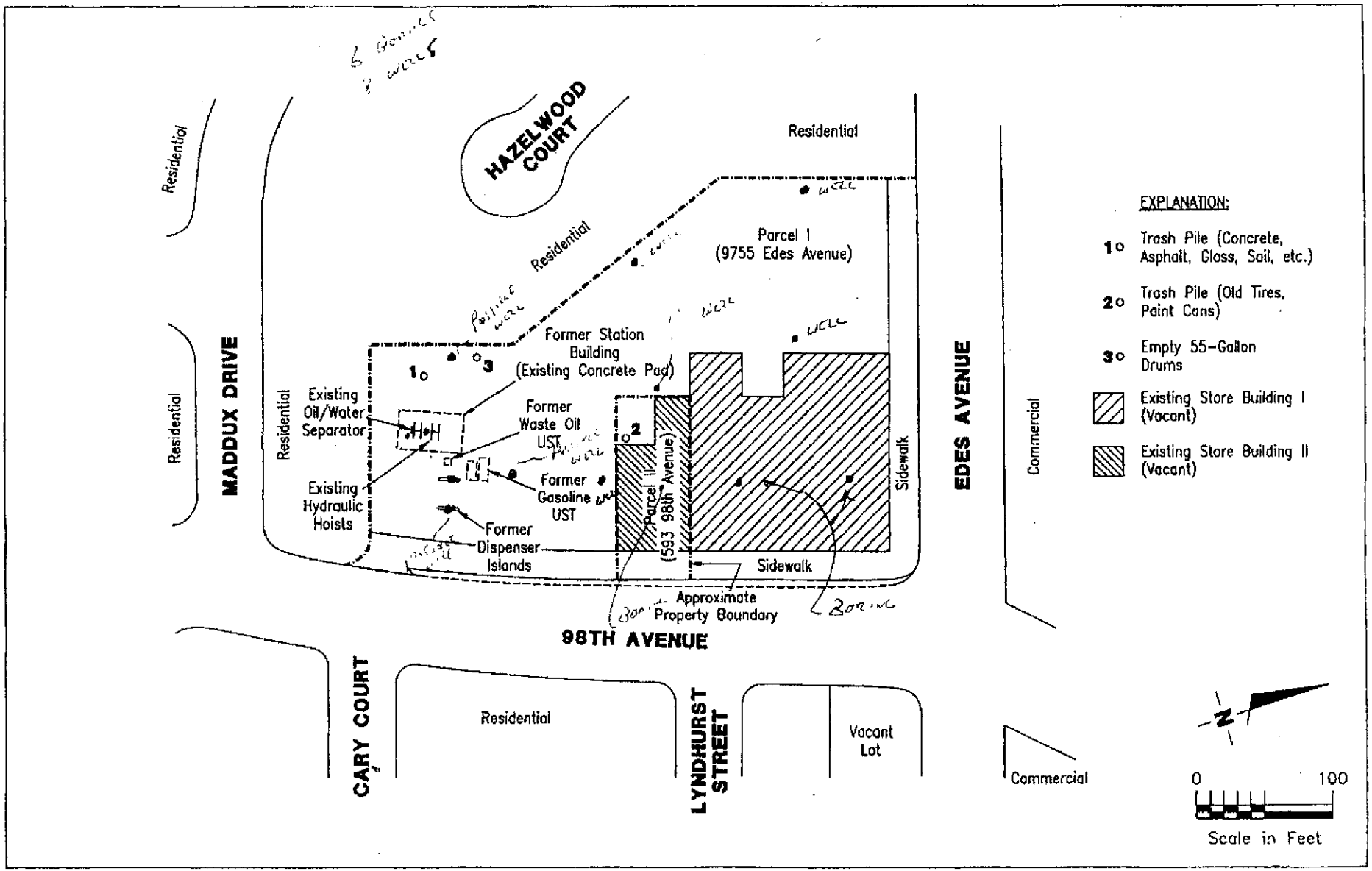
FIGURE 1

Gettler - Ryan Inc.

6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

VICINITY MAP
Freedom Fund Foundation Property
9755 Edes Avenue/593 98th Avenue
Oakland, California

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6409		08/97	



Gettler - Ryan Inc.

6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

SITE PLAN
Freedom Fund Foundation Property
9755 Edes Avenue/593 98th Avenue
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6409		08/97	

Well Installation and Soil Boring Report, 9755 Eads Avenue/593 98th Avenue, Oakland, California

prepared by Getter-Ryan, Inc.

dated October 9, 1997

GETTLER-RYAN INC.

WELL INSTALLATION AND SOIL BORING REPORT

for
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Report No. 6409.02-1

COPY

Prepared for:

Freedom Fund Inc.
9117 Castlewood Street
Oakland, California 94605

Prepared by:

Gettler-Ryan Inc.
3164 Gold Camp Drive, Suite 240
Rancho Cordova, California 95670

REGISTERED GEOLOGIST
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Stephen J. Carter
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Greg A. Gurss
Project Manager

October 9, 1997

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EXECUTIVE SUMMARY

Eight groundwater monitoring wells were installed and five exploratory soil borings were drilled at the site. The wells were installed to a depth of 22 feet bgs. The exploratory soil borings were drilled to depths between 12 and 14.5 feet bgs. Soil in the saturated zone consists predominantly of clay and silt, with lesser amounts of sand. Groundwater beneath the site is currently measured at approximately 10 feet bgs. Groundwater flows toward the west-northwest at a gradient of 0.002.

Hydrocarbon-impacted soil appears limited to the vicinity of wells MW-2 and MW-7, and boring B-1. Total Petroleum Hydrocarbons as gasoline (TPHg) were detected at 22 parts per million (ppm) in the soil sample collected from 10.5 feet below ground surface (bgs) in boring MW-2. The soil sample from boring MW-7 at 10 feet bgs contained 10 ppm TPHg. Methyl tert-butyl ether (MTBE) was detected in the sample from 5.5 feet bgs in boring B-1. Petroleum hydrocarbons were not detected in any of the other borings. The oil/water separator or the hydraulic lifts located inside the former service station building or the dispenser islands do not appear to have impacted soil. Lead was detected in three of the samples analyzed at concentrations ranging from 5.2 to 8.3 ppm.

Hydrocarbon-impacted groundwater was detected in four of the monitoring wells. Well MW-1 contained Total Petroleum Hydrocarbons as diesel, or TPHd (76 parts per billion, or ppb). Well MW-2 contained TPHg (140 ppb), benzene (1.3 ppb), and TPHd (61 ppb). Well MW-5 contained TPHg (76 ppb), benzene (8.3 ppb), methyl tert-butyl ether, or MTBE (3.9 ppb) and TPHd (240 ppb). Well MW-7 contained TPHg (330 ppb) and TPHd (410 ppb).

GETTLER-RYAN INC.

WELL INSTALLATION AND SOIL BORING REPORT

for
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Report No. 6409.02-1

INTRODUCTION

This report summarizes the results of a limited subsurface investigation performed at the subject site. The work was performed at the request of the Freedom Fund Inc. to evaluate whether soil and groundwater beneath the subject site had been impacted by hydrocarbons. The scope of work included: obtaining the required well installation permit; installing eight groundwater monitoring wells (MW-1 through MW-8) and drilling five exploratory soil borings (B-1 through B-5); collecting soil samples for chemical analysis; developing and sampling the newly installed wells; surveying wellhead elevations; arranging for disposal of the waste materials; and preparing a report documenting the work.

SITE DESCRIPTION

The subject site consists of two parcels situated on the southwest corner of the intersection of Edes Avenue and 98th Avenue (Figure 1). Existing facilities at the site consist of two abandoned building in the northeast corner of the site. The southern portion of the site is occupied by the remnants of a gasoline station. The remainder of the site is paved with asphaltic concrete. Existing site features are shown on the Site Plan (Figure 2).

The subject site is flat-lying, at an elevation of approximately 20 feet above sea level. Properties situated north (across Edes Avenue) and east (across 98th Avenue) of the site are developed for retail commercial use. Properties adjoining the subject site to the south and west are developed for residential use, and are occupied by single family dwellings.

Geology and Hydrogeology

The subject site is located on the East Bay Plain, approximately 1½ miles east of San Francisco Bay and 1 mile west of the Oakland Hills. As mapped by Helley and others (1979), soil in the site vicinity consists of Holocene age medium-grained alluvium consisting of unconsolidated, moderately sorted, permeable find sand, silt, and clayey silt with a few thin beds of sand. The nearest surface water is San Leandro Creek located approximately ½ mile north of the site.

PREVIOUS ENVIRONMENTAL WORK

Information regarding previous environmental activities at the site is documented in GR's *Limited Phase I Environmental Site Assessment*. According to the documentation reviewed during preparation of the

Phase I report, a gas station may have operated at the site as early as 1935. One 6,000 gallon and one 4,000 gallon gasoline underground storage tanks (USTs), one 550 gallon waste oil UST, and associated product piping were removed on December 7, 1993. Holes were observed in the waste oil UST. Groundwater was not encountered in either the gasoline or waste oil UST pits at the time of excavation. Petroleum hydrocarbons were not detected in soil samples detected beneath the waste oil UST or the product lines. Soil samples from beneath the gasoline USTs contained up to 12,000 ppm of TPHg, and up to 11 ppm benzene. These data were presented in the Soil Tech Engineering, Inc. (STEI) report dated January 5, 1994.

On March 6 and 7, 1995, STEI installed three groundwater monitoring wells (STMW-1 through STMW-3) and drilled three exploratory soil borings (SB-4 through SB-6). Hydrocarbons were detected in soil samples from borings STMW-1, SB-4, and SB-5. A product sheen was observed on the groundwater in well STMW-1 during monitoring activities performed April 10, 1995, and petroleum hydrocarbons were detected in the groundwater samples from wells STMW-1 through STMW-3.

The former gasoline UST pit was overexcavated in January 1996. Water was present in the UST pit at approximately 7 feet bgs. Confirming soil samples collected from the pit walls did not contain petroleum hydrocarbons. Samples of the stockpile did not contain petroleum hydrocarbons, and the stockpile was reused to backfill the pit. Data is presented in STEI's *Remedial Excavation Activities Report*.

Regular monitoring of the wells began in April 1995. Groundwater flow during this period was to the north and northeast. Petroleum hydrocarbons were detected in wells STMW-1 and STMW-2. However, based on the EPA's Risk-Based Closure Assessment (RBCA) Tier 1 Look Up Tables, Alameda County Health Care Services Agency closed the investigation, concluding that the levels in the wells did not appear to pose risk to human health. Closure of the environmental investigation was documented in an April 3, 1997 letter to Mr. Nissan Saidian, the property owner. On May 20, 1997, the groundwater wells were drilled out and the borings grouted to ground surface. The site was closed on August 25, 1997.

FIELD ACTIVITIES

Field work was conducted in accordance with GR's Field Methods and Procedures (Appendix A) and Site Safety Plan #6409.02, dated September 16, 1997. Well installation permit #97WR1141 was obtained from the Alameda County Public Works Agency, and Underground Service Alert was notified prior to drilling. A copy of the permit is included in Appendix B.

Drilling and Well Installation Activities

On September 17, 18 and 19, 1997, a GR geologist observed Bay Area Exploration Services, Inc. (C57 #522125) install eight groundwater monitoring wells (MW-1 through MW-8) and drill five exploratory soil borings (B-1 through B-5) at the locations shown on Figure 2. Well borings were drilled to 22 feet bgs using 8-inch hollow-stem augers driven by a truck-mounted CME-55 drill rig. Exploratory soil borings were drilled to depths between 12 and 14.5 feet bgs. Soil samples were collected every 5 feet,

as a minimum. The GR geologist prepared logs of each boring and screened the soil samples in the field for the presence of volatile organic compounds. Screening data are presented on the boring logs (Appendix B). Upon completion of drilling, the exploratory soil borings ere backfilled to ground surface with neat cement containing approximately 5% bentonite powder placed with a tremie pipe and pump.

Groundwater monitoring wells were constructed using 15 feet of two-inch diameter, 0.010-inch machine-slotted Schedule 40 PVC screen. Lonestar #2/12 graded sand was placed in each well across the entire screen interval and extended approximately 2 feet above the top of the screen. Each well was then sealed with 1 foot of hydrated bentonite chips followed by neat cement. Well construction details are presented on the boring logs in Appendix B.

Drill cuttings were placed on and covered with plastic sheeting and stored at the site pending disposal. After completion of drilling, four samples for disposal characterization were collected from the drill cuttings and submitted to the laboratory for compositing and analysis as sample S-1(A-D)COMP. On October 9, 1997, the drill cuttings were removed from the site and transported to the BFI Landfill in Livermore by Integrated Wastestream Management (IWM).

Well Development and Sampling

On September 22, 1997, groundwater monitoring wells MW-1 through MW-8 were developed by GR personnel using a vented surge block and hand-bailing. Immediately following development, groundwater samples were collected from the wells. Depth to water was measured in the wells prior to well development and sampling. Water purged during well development and sampling was transported to McKittrick Waste Management by IWM. Groundwater monitoring data are presented in Table 1, and copies of the GR Well Development and Sampling Field Data Sheets are included in Appendix C.

Wellhead Survey

On September 23, 1997, wells MW-1 through MW-8 and boring B-1 through B-5 were surveyed relative to mean sea level by Virgil Chavez, a California licensed land surveyor (#6323). A copy of the survey report is included in Appendix D, and the survey data is summarized in Table 1.

RESULTS

Soil chemical analytical data are summarized in Table 2, and were used to construct a Soil Concentration Map (Figure 4). Groundwater chemical analytical and depth data are summarized in Table 1, and were used to construct a Potentiometric Map (Figure 3) and a Groundwater Concentration Map (Figure 5). Soil and groundwater laboratory reports and chains-of-custody forms are included in Appendix E and F, respectively.

Subsurface Conditions

Soil encountered in borings MW-1 through MW-3 consisted predominantly of clay and minor silt a depth of 12 to 20 feet bgs. This clayey zone is underlain by a sandy zone consisting of sand and clayey sand to the total depth explored of 22 feet bgs. Clay was encountered beneath the sandy zone at the base of boring MW-1. Groundwater was encountered in the borings at depths of approximately 12 feet bgs. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B. Based on the groundwater monitoring data collected on September 22, 1997, shallow groundwater beneath the site appears to flow to the west-northwest at an approximate gradient of 0.002 (Figure 3).

Laboratory Analyses

Soil samples were analyzed by Sequoia Analytical in Redwood City (ELAP #1210) and Sacramento, California (ELAP#1624). Selected soil samples from each boring were analyzed for TPHg by Environmental Protection Agency (EPA) Method 8015, and for benzene, toluene, ethylbenzene and xylenes (BTEX) and MTBE by EPA Methods 8015/8020. Selected soil samples were analyzed for lead by EPA Method 6010. Soil samples collected from borings B-3 and B-4 were also analyzed for TPHd by EPA Method 8015, Oil and Grease (O&G) by Stand Method 5520E&F, halogenated volatile organics (HVOs) using EPA Method 8260, semivolatile organics (SVOs) using EPA Method 8270. The composite sample from the drill cuttings was analyzed for TPHg, BTEX, and MTBE.

Groundwater samples were analyzed by Sequoia Analytical in Redwood City. These samples were analyzed for TPHg, BTEX, MTBE, and TPHd.

Soil Analytical Results

Petroleum hydrocarbons were identified in only three of the 15 soil samples analyzed. TPHg were detected in the sample from boring MW-2 at 10.5 feet bgs (22 ppm), and from boring MW-7 at 10 feet bgs (10 ppm). The laboratory noted the chromatogram patterns for these samples indicated weathered gasoline (C6 to C12 and C8 to C12, respectively). The sample from boring B-1 at 5.5 feet bgs contained MTBE (0.030 ppm). Lead was detected in only three of the samples analyzed, at concentrations ranging from 5.2 to 8.3 ppm.

Groundwater Analytical Results

Petroleum hydrocarbons were identified in four of the groundwater samples. TPHg were detected in the samples from wells MW-2 (140 ppb), MW-5 (76 ppb), and MW-7 (330 ppb). The laboratory noted the chromatogram pattern for the sample from well MW-7 indicated unidentified hydrocarbons (C6 to C12). Benzene was detected in wells MW-2 (1.3 ppb) and MW-5 (8.3 ppb). TPHd were detected in wells MW-1 (76 ppb), MW-2 (61 ppb), MW-5 (240 ppb) and MW-7 (410 ppb). The laboratory noted that the chromatogram pattern for all four samples containing TPHd indicated an unidentified hydrocarbons (C9 to C24). MTBE was detected only in the sample from well MW-5 (3.9 ppm).

CONCLUSIONS

Groundwater beneath the site is currently measured at approximately 10 feet bgs. Soil beneath the site consists of clay and silt to approximately 12 to 20 feet bgs, underlain by a sandy zone to a depth of 22 feet bgs. Groundwater flows toward the west-northwest at a gradient of 0.002.

Hydrocarbon-impacted soil appears limited to the vicinity of wells MW-2 and MW-7, and boring B-1. TPHg were detected at a low concentration (22 ppm) in boring MW-2 at 10.5 feet bgs. The TPHg detected in boring MW-7 at 10 feet bgs (10 ppm) appears limited to the capillary fringe zone. The MTBE detected in the sample from 5.5 feet bgs in boring B-1 (0.030 ppm) appears insignificant. The oil/water separator or the hydraulic lifts located inside the former service station building or the dispenser islands do not appear to have impacted soil in their vicinity.

Hydrocarbon-impacted groundwater was detected in four of the monitoring wells. Two of the wells (MW-1 and MW-2) are located near the former source areas, and the other two wells (MW-5 and MW-7) are located downgradient of the former source areas at the property boundaries. The maximum concentrations detected in groundwater are 330 ppb of TPHg, 410 ppb TPHd, 8.3 ppb of benzene, and 3.9 ppb of MTBE.

REFERENCES

E. J. Helley and others, 1979, Flatland Deposits of the San Francisco Bay Region, California: U.S. Geological Survey Professional Paper 943.

Gettler-Ryan Inc., 1997, Site Safety Plan: GR Job No. 6409.02, dated September 16, 1997.

Soil Tech Engineering, Inc., 1994, Soil Sampling Below Removed Underground Storage Tanks at the Property Located at 525 98th Avenue, Oakland, California: File No. 10-93570-ST, dated January 5, 1994.

----, 1995, Preliminary Site Assessment of Contaminated Soil and Groundwater at the Property Located at 525 98th Avenue, Oakland, California: File No. 10-93570-ST, dated April 19, 1995.

Table 1. Groundwater Monitoring and Analytical Data

Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Sample ID	Sample Date	Casing Elevation[1] (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppb)
MW-1	9/22/97	20.47	10.18	10.29	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	76[2]
MW-2	9/22/97	20.29	9.33	10.96	0.00	140	1.3	1.2	<0.50	1.0	<2.5	61[2]
MW-3	9/22/97	20.51	10.21	10.30	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-4	9/22/97	20.04	9.92	10.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-5	9/22/97	19.75	9.62	10.13	0.00	76	8.3	11	0.91	8.8	3.9	240[2]
MW-6	9/22/97	19.63	9.62	10.01	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-7	9/22/97	19.20	9.28	9.92	0.00	330[3]	<0.50	<0.50	2.0	<0.50	<2.5	410[2]
MW-8	9/22/97	19.91	9.86	10.05	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
Trip Blank	----	----	----	----	----	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA

Explanation:
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel
MTBE = Methyl t-butyl ether
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
ppb = parts per billion
NA = not analyzed for this constituent
---- = not applicable

Analytic Laboratory
Sequoia Analytical (ELAP #1210)

Analytic Methods
TPHg/BTEX/MTBE = EPA Methods 8015/8020
TPHd = EPA Method 8015

[1] Elevations surveyed by Virgil chavez Land Surveying (P.L.S. 6323) on September 23, 1997.
[2] Chromatogram pattern indicated unidentified hydrocarbons C9 - C24.
[3] Chromatogram pattern indicated unidentified hydrocarbons C6 - C12.

Table 2. Soil Analytical Data

Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Sample ID	Sample Date	Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE (ppm)	TPHd (ppm)	O&G (ppm)	HVOs (ppm)	SVOs (ppm)	Lead (ppm)
Well Borings													
MW1-10.5	9/17/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	na	na	na	na	na
MW2-10.5	9/17/97	10.5	22[1]	<0.01	0.012	0.032	0.031	<0.050	na	na	na	na	<10
MW3-10.5	9/18/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	na	na	na	na	<10
MW4-10.5	9/17/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	na	na	na	na	<10
MW5-10.5	9/17/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	na	na	na	na	<10
MW-6-10	9/18/97	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	8.3
MW-7-10	9/18/97	10	10[2]	<0.0050	<0.0050	0.0099	0.078	<0.025	na	na	na	na	<5.0
MW-8-10	9/18/97	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	<10
Exploratory Soil Borings													
B-1-5.5	9/19/97	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.030	na	na	na	na	6.6
B-1-10.5	9/19/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	na
B-2-5.5	9/19/97	5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	5.2
B-2-10.5	9/19/97	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	na
B-3-6	9/19/97	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<1.0	<50	ND	ND	<5[3]
B-4-6	9/19/97	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<1.0	<50	ND	ND	<5[4]
B-5-10	9/19/97	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	na
Drill Cuttings Stockpile													
S-1(A-D)Comp	9/19/97	----	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	na	na	na	na	na

For Explanation refer to page 2.

Table 2. Soil Analytical Data

Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Sample ID	Sample Date	Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE (ppm)	TPHd (ppm)	O&G (ppm)	HVOs (ppm)	SVOs (ppm)	Lead (ppm)

Explanation:

TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel
O&G = Oil and Grease
MTBE = Methyl t-butyl ether
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
HVOs = Halogenated volatile organics
SVOs = Semi-volatile organic compounds
na = not analyzed for this constituent
ND = None detected

ppm = parts per million
---- = not applicable

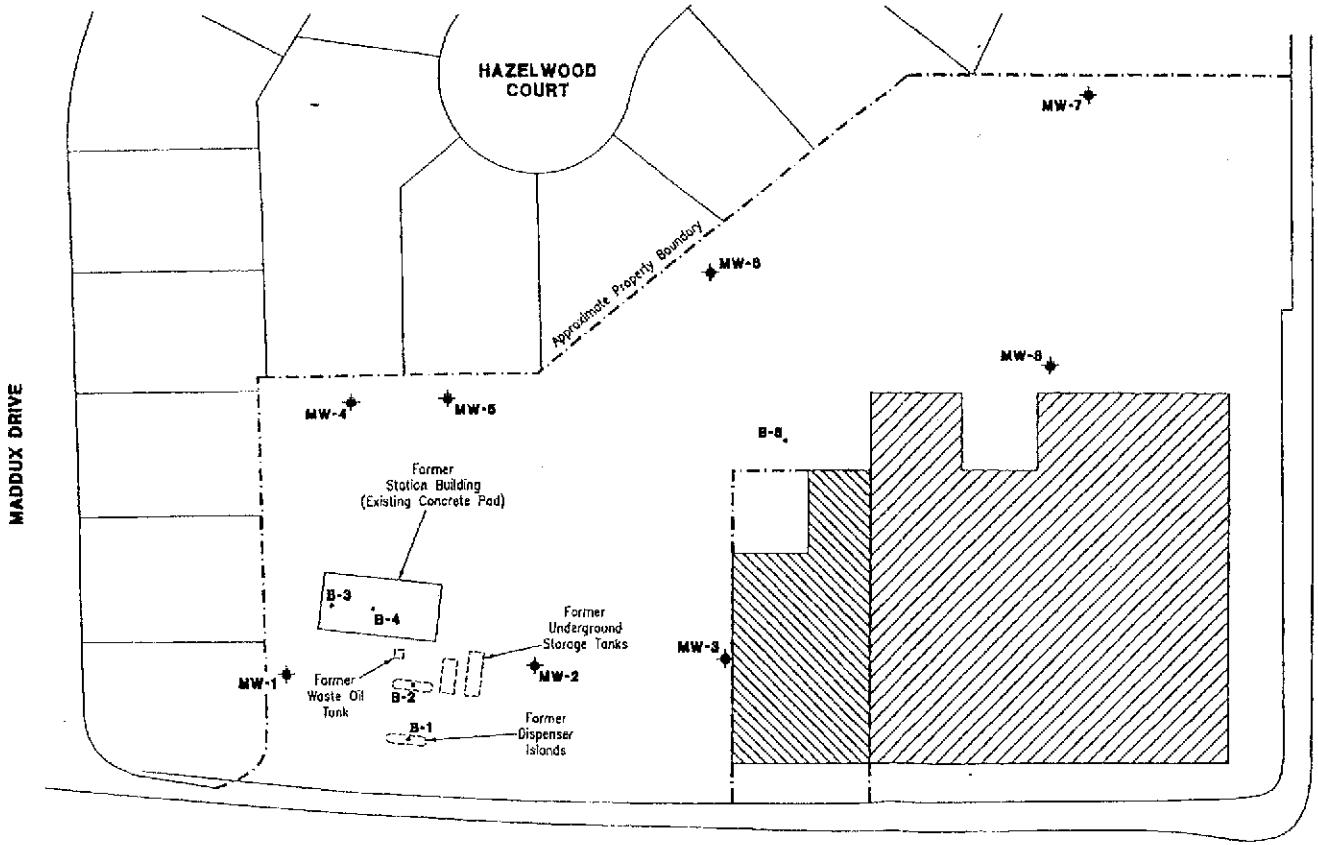
Analytic Laboratory

Sequoia Analytical (ELAP #1210 and #1624)

Analytic Methods

TPHg/BTEX/MTBE = EPA Methods 8015/8020
TPHd = EPA Method 8015
O&G = Standard Method 5520E&F
HVOs = EPA Method 8260
SVOs = EPA Method 8270
metals = EPA Method 6010

[1] Chromatogram pattern indicated weathered gas C6 - C12.
[1] Chromatogram pattern indicated weathered gas C8 - C12.
[3] Sample also analyzed for cadmium (<0.50 ppm), chromium (37 ppm), nickel (42 ppm) and zinc (40 ppm).
[4] Sample also analyzed for cadmium (<0.50 ppm), chromium (39 ppm), nickel (46 ppm) and zinc (45 ppm).



Source: Figure Modified From Drawings Provided By Tidewater Oil Company (Drawing 0321-D 7104), And Soil Tech Engineering, Inc. (Figure 3). Survey Provided By Virgil Chavez Land Surveying, And Field Measurements.

FIGURE 2

SITE MAP
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

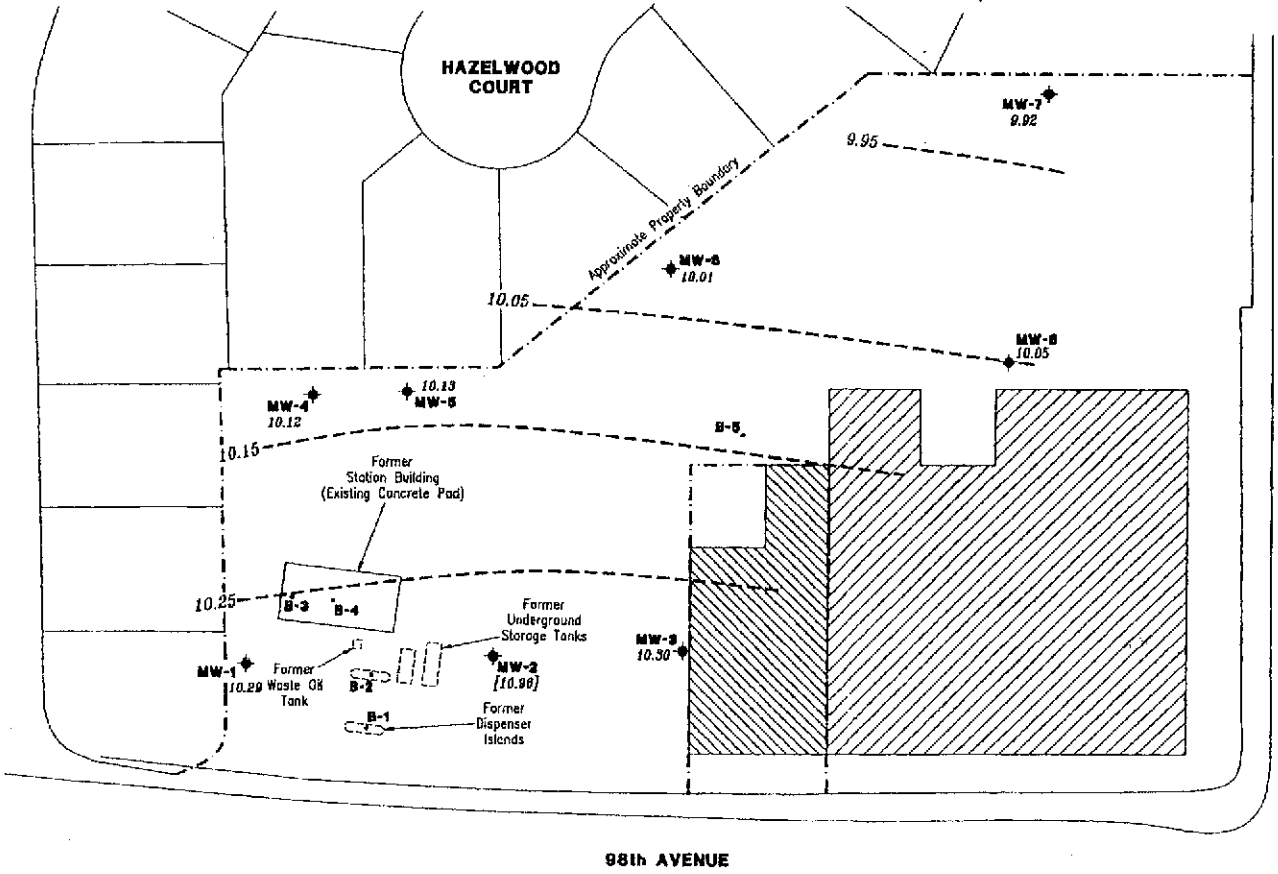
DATE 10/97

REVISED DATE

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

JOB NUMBER 6409

REVIEWED BY



EXPLANATION:

- Groundwater Monitoring Well
- Soil Boring
- Existing Store Building I (Vacant)
- Existing Store Building II (Vacant)
- 10.30 Groundwater elevation in feet referenced to Mean Sea Level
- 10.25 Groundwater elevation contour, dashed where inferred
- [10.96] Not used in contouring

Approximate groundwater flow direction at a gradient of 0.002 Ft./Ft.

N

0 50

Scale in Feet

Source: Figure Modified From Drawings Provided By Tidewater Oil Company (Drawing 0321-D 7104).
And Soil Tech Engineering, Inc. (Figure 3).
Survey Provided By Virgil Chavez Land Surveying.
And Field Measurements.

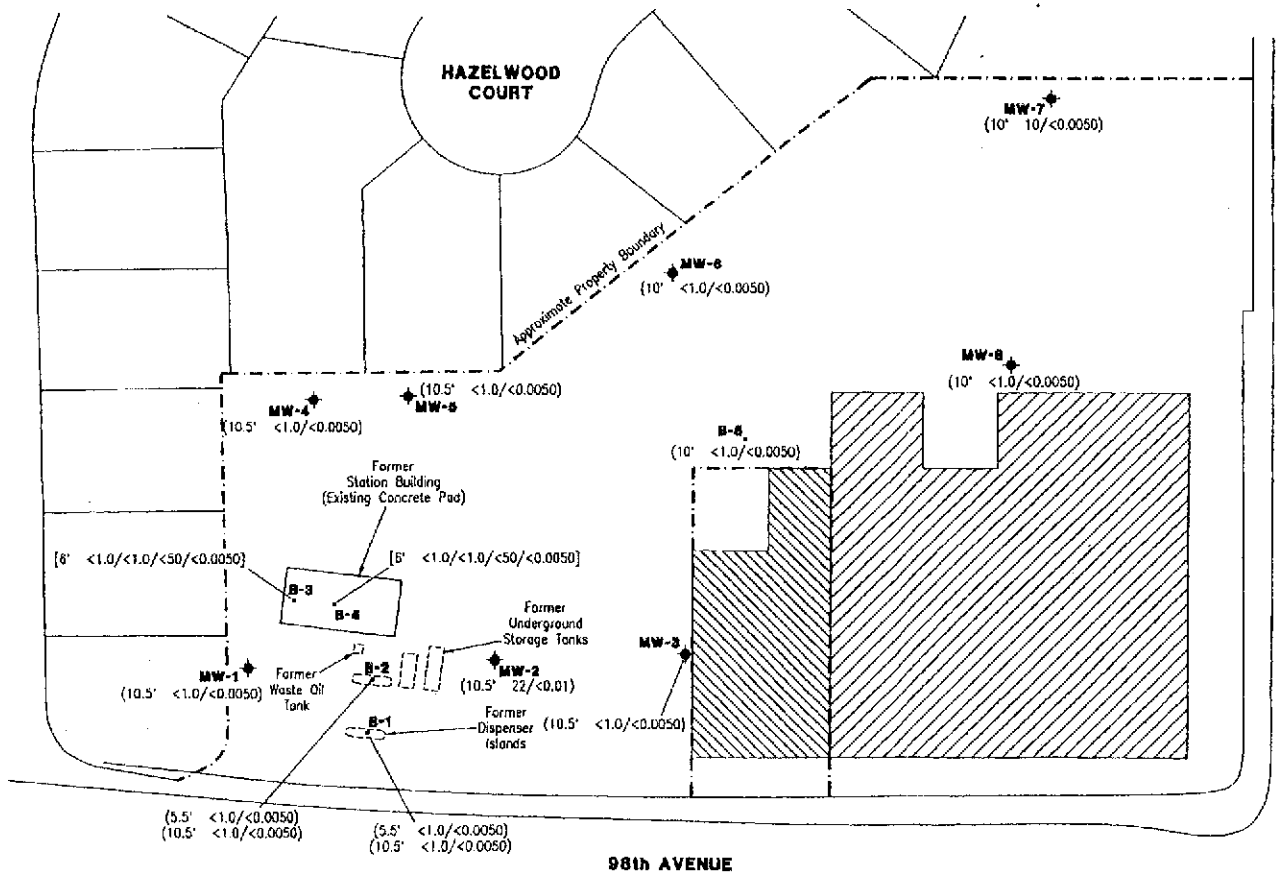
FIGURE 3

POTENTIOMETRIC MAP
Freedom Fund Inc.
9755 Edes Avenue/583 98th Avenue
Oakland, California

DATE: September 23, 1997
REVISED DATE:

JOB NUMBER: 6409
REVIEWED BY:

Getler - Ryan Inc.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555



Source: Figure Modified From Drawings Provided By Tidewater Oil Company (Drawing 0321-D 7104), And Soil Tech Engineering, Inc. (Figure 3), Survey Provided By Virgil Chavez Land Surveying, And Field Measurements.

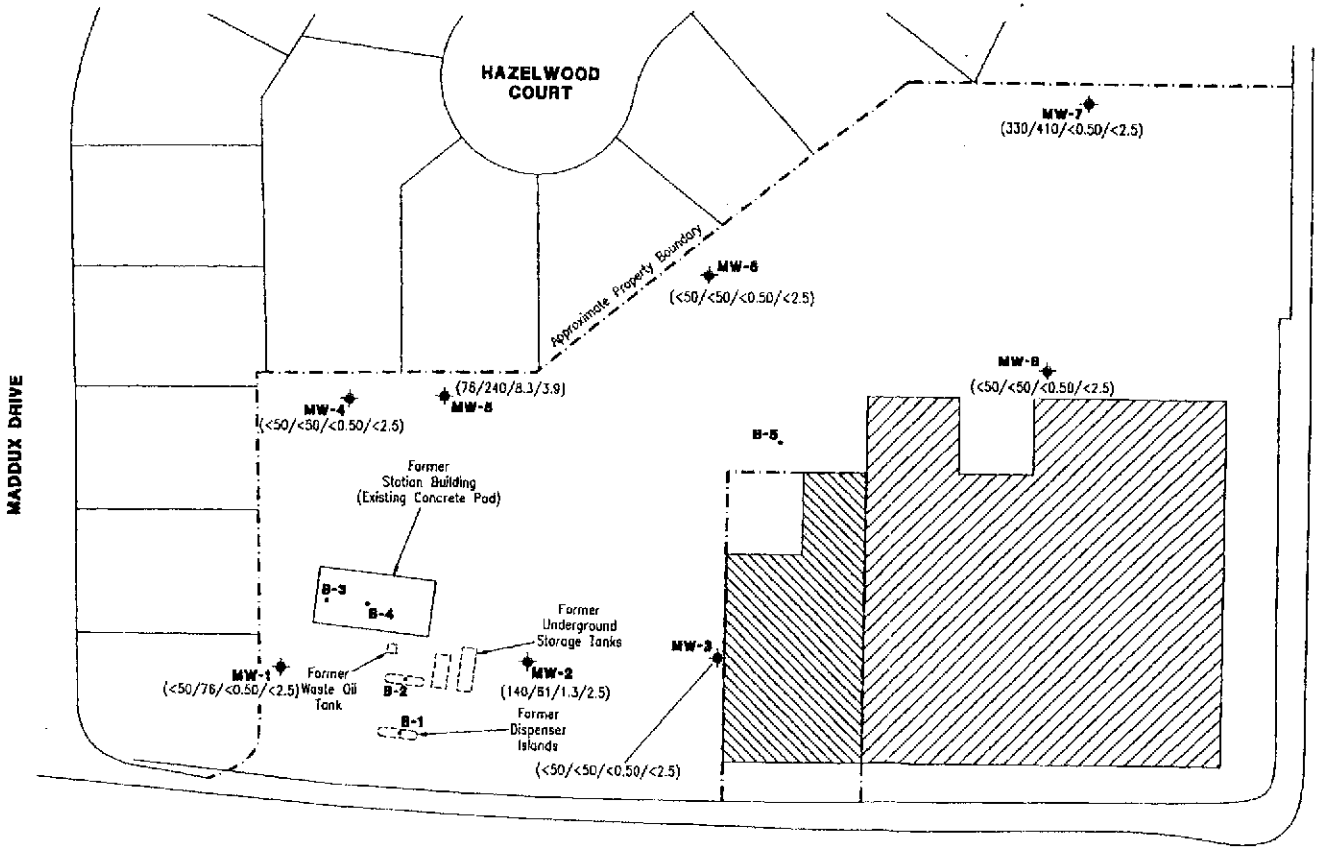
SOIL CONCENTRATION MAP
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

FIGURE 4

DATE: September 17-19, 1997
REVISED DATE:

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

JOB NUMBER 6409
REVIEWED BY



Source: Figure Modified From Drawings Provided By Tidewater Oil Company (Drawing 8521-D 7104), And Soil Tech Engineering, Inc. (Figure 3), Survey Provided By Virgil Chavez Land Surveying, And Field Measurements.

FIGURE 5

GROUNDWATER CONCENTRATION MAP
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

DATE September 23, 1997
REVISED DATE

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

JOB NUMBER 6409
REVIEWED BY

Groundwater Monitoring and Sampling at Freedom Fund Site, 9755 Edes Avenue/593 98th Avenue, Oakland, California

prepared by Getter-Ryan, Inc.

dated October 21, 1997

GETTLER-RYAN INC.

October 21, 1997

Mr. Phil Briggs
Chevron Products Company
P.O. Box 604
San Ramon, California 94583

Subject: **Groundwater Monitoring and Sampling at Freedom Fund Site, 9755 Edes Avenue/593 98th Avenue, Oakland, California**

Mr. Briggs:

This report documents the recent groundwater sampling event at the subject site performed by Gettler-Ryan Inc. (GR). On October 6, 1997, field personnel monitored and sampled eight wells (MW-1 through MW-8). Static groundwater levels were measured prior to purging and sample collection, and the wells checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are presented in Table 1. These data were used to construct a potentiometric map (Figure 2).

Groundwater samples were collected from the monitoring wells as specified by GR Standard operating Procedure - Groundwater Sampling (attached). Samples were analyzed by Sequoia Analytical. Chemical analytical data are summarized in Table 1. Copies of the analytical report and chain-of-custody form are attached.

If you have questions, please call us in Sacramento at (916) 631-1300.

Sincerely,
Gettler-Ryan Inc.

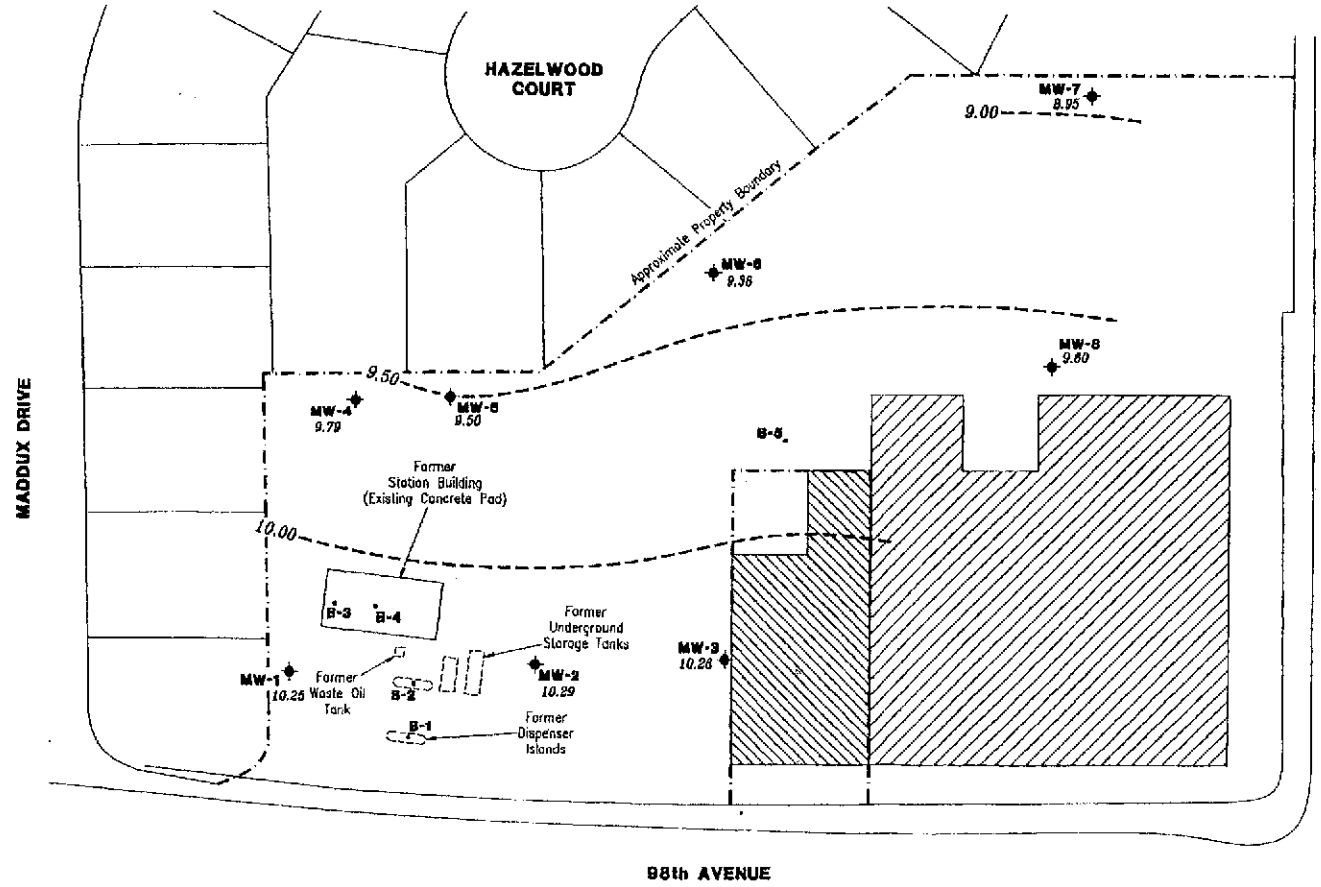
REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

Stephen J. Carter
Senior Geologist
R.G. 5577

Greg A. Gurss
Project Manager

Attachments: Table 1. Groundwater Monitoring and Analytical Data
Figure 2. Potentiometric Map
Laboratory Report and Chain-of-Custody Form
Standard Operating Procedure - Groundwater Sampling

6409.02-2



EXPLANATION:

- Groundwater Monitoring Well
- Soil Boring
- Existing Store Building I (Vacant)
- Existing Store Building II (Vacant)
- 10.29 Groundwater elevation in feet referenced to Mean Sea Level
- 10.00 Groundwater elevation contour, dashed where inferred

Approximate groundwater flow direction at a gradient of 0.005 to 0.007 ft./Ft.

N

0 50

Scale In Feet

Source: Figure Modified From Drawings Provided By Tidewater Oil Company (Drawing 3321-0 7104), And Soil Tech Engineering, Inc. (Figure 3), Survey Provided By Virgil Chavez Land Surveying, And Field Measurements.

FIGURE 2

POTENTIOMETRIC MAP
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

DATE October 6, 1997

REVISED DATE

REVIEWED BY

JOB NUMBER 5409

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

Table 1. Groundwater Monitoring and Analytical Data

Freedom Fund Inc.

9755 Edes Avenue/593 98th Avenue

Oakland, California

Well ID/ Casing Elevation[1]	Sample Date	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppb)
MW-1/ 20.47	9/22/97	10.18	10.29	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	76[2]
	10/6/97	10.22	10.25	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-2/ 20.29	9/22/97	9.33	10.96	0.00	140	1.3	1.2	<0.50	1.0	<2.5	61[2]
	10/6/97	10.00	10.29	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-3/ 20.51	9/22/97	10.21	10.30	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
	10/6/97	10.25	10.26	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-4/ 20.04	9/22/97	9.92	10.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
	10/6/97	10.25	9.79	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-5/ 19.75	9/22/97	9.62	10.13	0.00	76	8.3	11	0.91	8.8	3.9	240[2]
	10/6/97	10.25	9.50	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	92[5]/<50[6]
MW-6/ 19.63	9/22/97	9.62	10.01	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
	10/6/97	10.25	9.38	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
MW-7/ 19.20	9/22/97	9.28	9.92	0.00	330[3]	<0.50	<0.50	2.0	<0.50	<2.5	410[2]
	10/6/97	10.25	8.95	0.00	170[4]	<0.50	<0.50	<0.50	<0.50	<2.5	120[7]/110[6,7]
MW-8/ 19.91	9/22/97	9.86	10.05	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
	10/6/97	10.25	9.66	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<50
Trip Blank	----	----	----	----	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA
	----	----	----	----	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA

For Explanation refer to page 2.

Table 1. Groundwater Monitoring and Analytical Data
Freedom Fund Inc.
9755 Edes Avenue/593 98th Avenue
Oakland, California

Explanation:
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel
MTBE = Methyl t-butyl ether
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
ppb = parts per billion
NA = not analyzed for this constituent
---- = not applicable

Analytic Laboratory
Sequoia Analytical (ELAP #1210, 1271)

Analytic Methods
TPHg/BTEX/MTBE = EPA Methods 8015/8020
TPHd = EPA Method 8015

[1] Elevations surveyed by Virgil Chavez Land Surveying (P.L.S. 6323) on September 23, 1997.
[2] Chromatogram pattern indicated unidentified hydrocarbons C9 - C24.
[3] Chromatogram pattern indicated unidentified hydrocarbons C6 - C12.
[4] Chromatogram pattern indicated unidentified hydrocarbons > C8.
[5] Chromatogram pattern indicated unidentified hydrocarbons > C16.
[6] Results of TPHd analysis after silica gel cleanup.
[7] Chromatogram pattern indicated unidentified hydrocarbons < C18.

Phase I Environmental Site Assessment, Assessor's Parcel Number (APN) 045-5302-010-05, 555, 591, 594, and 599 98th Avenue, Oakland, California

prepared by SCS Engineers

dated November 8, 2006

November 8, 2006
Project Number: 01205501.10

Copy No. ____

Mr. Leo Puig
Director of Development
AMCAL Multi-Housing, Inc.
2082 Michelson Drive, Suite 100
Irvine, California 92612

RE: Phase I Environmental Site Assessment (Assessment)

Site: Assessor's Parcel Number (APN) 045-5302-010-05
555, 591, 594, and 599 98th Avenue
Oakland, California

Dear Mr. Puig:

SCS Engineers (SCS), formerly dba Environmental Business Solution (EBS), is pleased to present this letter report (Report) of the Assessment of the above-described Site. This Report summarizes the results of the Assessment that was conducted in order to evaluate the Site's current environmental conditions. The work described in this Report was performed by SCS in general accordance with the Agreement between Client and Consultant (Contract) between SCS and AMCAL Multi-Housing, Inc. (Client). The Contract was dated August 29, 2006.

Because your full understanding of the Assessment is important to us, we recommend that you read the Report in its entirety. However, if time does not allow you a complete reading, summaries may be found in text boxes at the end of each section (pages 12, 20, and 29), and our conclusions may be found on page 29. A glossary of terms commonly used in environmental assessment is also provided as an appendix to this Report.

BACKGROUND

Based on our conversations and a review of our in-house databases, we understand that the Site consists of approximately 1.6 acres of vacant land in Oakland, California. We understand that the Client is proposing to purchase the Site for residential redevelopment. We understand that the proposed development will consist of multi-family residences constructed on-grade (i.e., proposed Site development does not include excavation for the purposes of subterranean parking).

Available historical information indicates that the Site parcel has undergone several parcel adjustments. SCS created the following table using available historical information and environmental reports. The table lists the historical and current APNs as well as the historical and current addresses associated with the APNs.

Environmental Consultants
and Contractors

8799 Balboa Avenue
Suite 290
San Diego, CA 92123

858 571-5500
Fax 858 571-5357
www.scsengineers.com

SCS ENGINEERS

November 8, 2006
Project Number: 01205501.10

Copy No. ____

Mr. Leo Puig
Director of Development
AMCAL Multi-Housing, Inc.
2082 Michelson Drive, Suite 100
Irvine, California 92612

RE: Phase I Environmental Site Assessment (Assessment)

Site: Assessor's Parcel Number (APN) 045-5302-010-05
555, 591, 594, and 599 98th Avenue
Oakland, California

Dear Mr. Puig:

SCS Engineers (SCS), formerly dba Environmental Business Solution (EBS), is pleased to present this letter report (Report) of the Assessment of the above-described Site. This Report summarizes the results of the Assessment that was conducted in order to evaluate the Site's current environmental conditions. The work described in this Report was performed by SCS in general accordance with the Agreement between Client and Consultant (Contract) between SCS and AMCAL Multi-Housing, Inc. (Client). The Contract was dated August 29, 2006.

Because your full understanding of the Assessment is important to us, we recommend that you read the Report in its entirety. However, if time does not allow you a complete reading, summaries may be found in text boxes at the end of each section (pages 12, 20, and 29), and our conclusions may be found on page 29. A glossary of terms commonly used in environmental assessment is also provided as an appendix to this Report.

BACKGROUND

Based on our conversations and a review of our in-house databases, we understand that the Site consists of approximately 1.6 acres of vacant land in Oakland, California. We understand that the Client is proposing to purchase the Site for residential redevelopment. We understand that the proposed development will consist of multi-family residences constructed on-grade (i.e., proposed Site development does not include excavation for the purposes of subterranean parking).

Available historical information indicates that the Site parcel has undergone several parcel adjustments. SCS created the following table using available historical information and environmental reports. The table lists the historical and current APNs as well as the historical and current addresses associated with the APNs.

Please refer to historical APN maps, Gettler-Ryan's Limited Phase I Environmental Site Assessment (Figure 2), and current APN map in the Appendix for additional information. Addresses in bold are current or historical addresses of the Site. Non-bolded addresses are part of the adjacent property to the north.

Historical APN	**Historical Addresses**	**Historical APN**	**Historical Addresses**	**Current APN**	**Current Addresses**
045-5302-10-1 (Parcel I)*	9755, 9759, 9763, 9767 and 9771 Edes Ave./**525,** 601, 603, 609 and 619 98th Ave.	045-5302-10-3	9755, 9759, 9763, 9767 and 9771 Edes Ave. 601, 609 and 619 98th Ave.	045-5302-10-3	9755, 9759, 9763, 9767 and 9771 Edes Ave. 601, 609 and 619 98th Ave.
		045-5302-10-4	**555** 98th Ave.	045-5302-10-5	**555, 591, 593 and 599** 98th Ave.
045-5302-10-2 (Parcel II)**	**591, 593 and 599** 98th Ave.	Same	Same	045-5302-10-5	555, 591, 593 and 599 98th Ave.

* Parcel I originally included a portion of the Site and the property adjacent to the north of the Site which is now not a part of the Site (9755 Edes).
* Parcel 2 is currently part of the Site

As an example, The Alameda County Assessor's Office no longer includes the 525 98th Avenue address in its parcel map. SCS interpretation of the current map and available information from the City of Oakland Community and Economic Development Agency (CEDA), Building Permits Division, is that the after the lot line for the historical parcels was adjusted, the address became 555 98th Avenue.

A review of an Environmental Date Resources, Inc. (EDR) Report indicated that a number of facilities store or use hazardous materials, generate hazardous waste, or have leaking underground storage tanks in the Site vicinity. Please note that relevant facilities were investigated as part of this Assessment.

Please note that this Assessment will be conducted in general accordance with the following:

- Environmental Protection Agency (EPA), 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule.
- ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E 1527-05.
- The scope, conditions, and limitations of Exhibit 10.
- SunAmerica guidelines.

The Client understands that the above-referenced EPA and ASTM standards were not developed to identify all environmental risk to property. The standards were

developed to allow a user (the Client) to qualify for the innocent purchaser defense, bona fide prospective purchaser defense, and the contiguous property owner defense to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, a.k.a Superfund) liability. This Assessment is intended to constitute an appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice, as part of the due diligence process required by CERCLA, the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the Small Business Liability Relief and Brownfields Revitalization Act of 2002 (Acts).

This process is intended to satisfy one requirement to qualify for the innocent purchaser defense, bona fide prospective purchaser defense, and the contiguous property owner defense to CERCLA liability. Please note that this Assessment may initially qualify you for a CERCLA defense; however, after purchase, there may be "continuing obligations" that must be implemented in order to preserve your defense through your term of property ownership. There may be additional requirements under state law that also apply. The Client should contact qualified legal counsel regarding matters of liability, interpretation of the acts, and in connection to potential continuing obligations. It is outside of the scope of this Assessment; however, SCS Engineers would be pleased to work with your legal counsel to develop and implement a strategy to preserve your CERCLA liability defenses through the term of your ownership.

This Assessment will focus on potential sources of hazardous substances and petroleum products that could be considered a *recognized environmental condition*[i,ii] and a liability due to their presence in significant concentrations (e.g., above acceptable limits set by the federal, state or local government) or due to the potential for exposure and risk due to contaminant migration and complete exposure pathways (e.g., soil vapor inhalation or groundwater ingestion). Materials that contain substances that are not currently deemed hazardous by the United States Environmental Protection Agency (U.S. EPA) or the California EPA (Cal-EPA) will not be considered as part of this study.

Unless specifically included in our scope of services, consideration of building materials such as asbestos, lead-based paint, lead in drinking water, urea

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i *Recognized environmental conditions*, as defined by ASTM, include the presence or likely presence of hazardous substances or petroleum products on a property that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property. However, the term is not intended to include *de minimis* conditions. A condition considered *de minimis* is not a recognized environmental condition.

ii *De minimis condition*. An environmental condition that does not generally present a material risk of harm to the public health or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

formaldehyde, and pressure-treated lumber will not be considered in this report, nor will building issues such as fire safety, indoor air quality, mold, or similar matters. We will not evaluate the Site for compliance with land use, zoning, wetlands, or similar laws. This Assessment also excludes regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines. This Assessment is not intended to be an environmental compliance audit.

Hazardous substances occurring naturally in plants, soils, and rocks; (e.g., heavy metals, naturally occurring asbestos, or radon) are not typically considered in these investigations. Similarly, construction debris (e.g., discarded concrete, asphalt) is not considered unless obvious indications suggest that hazardous substances are likely to be present in significant concentrations or likely to migrate.

An evaluation of business environmental risk associated with a parcel of commercial real estate may necessitate investigation beyond that identified herein.

OBJECTIVE

The objective of the scope of services was to assess the likelihood[iii] that recognized environmental conditions are present at the Site as a result of the current or historical Site land use or from a known and reported off-site source.

SCOPE OF SERVICES

The scope of services designed and conducted to meet the objective was as follows:

- Site Reconnaissance, Site Research, and Interviews
- Hydrogeology and Water Quality Survey
- Site Vicinity Reconnaissance and Off-Site Source Survey
- Historical Aerial Photograph and Land Use Review

---

iii Statements of "likelihood" are made in this Report, based on the professional judgment of SCS. A description of likelihood statements, as made in this Report, is included on page 32.

- Identification of Data Gaps
- Data Evaluation, Figure Preparation, and Assessment Report Preparation

Site Reconnaissance and Site Research

Site Reconnaissance

On October 13, 2006 SCS personnel conducted a Site reconnaissance to observe and document existing Site conditions.[1] The general Site location is shown in Figure 1. A Site and Site vicinity plan is shown in Figure 2. Selected color photographs of the Site are presented as Figures 3a through 3d.

General Observations

The Site was observed to consist of an irregular-shaped parcel with a reported area of approximately 1.6 acres, an APN of 045-5302-010-05, and addresses of 555, 591, 593, and 599 98th Avenue, Oakland, California. A chain-link fence with a locked gate surrounded the Site. Therefore, SCS did not have access to systematically traverse the Site grounds. The Site was observed to be vacant land covered with vegetation and some debris consisting of discarded cans, bottles, etc. (Figure 3a-1 through 3a-3). The Site was observed to be bounded to the north by the Silver Gas station (Figure 3b) and Edes Avenue; to the east by 98th Avenue, residences, and a vacant lot (Figure 3c); and to the south and west by residences (Figure 3d).

The following table summarizes observations from our Site reconnaissance.

Item	Description
General description of structures	No structures were observed at the Site at the time of our Site reconnaissance.
Roads	98th Avenue borders the Site to the east and Edes Avenue borders the Site to the north.
Potable water supply	The Site was observed to consist of vacant land. No obvious indications of potable water supply were observed at the Site at the time of our Site reconnaissance.
Sewage disposal system	The Site was observed to consist of vacant land. No obvious indications of a sewage disposal system were observed at the Site at the time of our Site reconnaissance.
Current Uses of Property	The Site was observed to be vacant land. Additional information regarding the Site grounds is provided in the section below.

Item	Description
Past Uses of Property	Discussed in the Historical Site Land Use section below.
Hazardous Substances and Petroleum Products	No obvious indications evidence of hazardous substances or petroleum products were observed at the Site at the time of our Site reconnaissance. However please see the Historical Site Land Use section below in connection with a historical gasoline service station reported to have been located at the Site.
Storage Tanks	No obvious indications of storage tanks were observed at the Site at the time of our Site reconnaissance. However please see the Historical Site Land Use section below in connection with a historical gasoline service station reported to have been located at the Site.
Odors	No obvious indications of odors were noted at the Site at the time of our Site reconnaissance.
Pools of Liquid	No pools of liquid were noted at the Site at the time of our Site reconnaissance.
Drums	No drums were observed at the Site at the time of our Site reconnaissance.
Unidentified Substance Containers	No unidentified substance containers were observed at the Site at the time of our Site reconnaissance.
PCBs	No electrical transformers, elevators, hydraulic lifts, etc. were observed at the Site during our Site reconnaissance that may contain PCBs.
Heating and Cooling	No heating and cooling systems were observed at the Site at the time of our Site reconnaissance.
Interior Stains or Corrosion	No visible stains or corrosion were observed at the Site at the time of our Site reconnaissance.
Drains and Sumps	No drains or sumps were observed at the Site at the time of our Site reconnaissance. However please see the Historical Site Land Use section below in connection with a historical gasoline service station reported to have been located at the Site.
Pits, Ponds, or Lagoons	No pits, ponds, or lagoons were observed at the Site at the time of our Site reconnaissance.
Stained Soil or Pavement	No obvious evidence of stained soil or pavement was observed at the Site at the time of our Site reconnaissance.

Item	Description
Stressed Vegetation	No stressed vegetation was observed at the Site at the time of our Site reconnaissance.
Waste Water	No waste water was observed at the Site at the time of our Site reconnaissance.
Wells	No obvious indications of wells were observed at the Site at the time of our Site reconnaissance.
Septic Systems	No obvious indications of septic tanks systems were observed at the Site at the time of our Site reconnaissance.

Site Grounds

At the time of our Site reconnaissance, a chain-link fence with a locked gate enclosed the Site and prevented SCS from accessing the Site. The Site was observed (from the Site perimeter) to be vacant land covered with vegetation composed primarily of weeds. Discarded sections of chain-link (Figure 3a-1) and household debris (i.e., cloths, cans, bottles, etc.) were observed at several Site locations during the Site reconnaissance. No evidence of hazardous substances or petroleum products was observed in the inspected debris. A concrete-paved sidewalk borders the eastern perimeter of the Site.

Hazardous Materials/Petroleum Products

No obvious indications of the use or storage of hazardous materials or petroleum products were observed at the Site at the time of our Site reconnaissance.

Hazardous Wastes

No obvious indications of generation of hazardous waste were observed at the Site at the time of our Site reconnaissance.

Indications of Releases of Hazardous Materials/Wastes or Petroleum Products

No obvious indications of releases of hazardous materials/waste or petroleum products were observed at the Site at the time of our Site reconnaissance.

On-Site Utilities

No Pacific Gas and Electric (PG&E) transformers were observed to be located at the Site. Storm drains were not observed to be located on the Site. No high-power transmission lines were observed above the Site. Since the Site was observed to be vacant with no structures, no heat or cooling systems were observed at the Site (e.g., air conditioner or heaters).

The potable water and the wastewater conveyance system for the Site is or would be supplied by the East Bay Municipal Utility District (EBMUD). No obvious indications of wells, cisterns, pits, sumps, dry wells, or bulk storage tanks were observed at the Site.

Site Research

Client-Provided Documents

A Limited Phase I Environmental Site Assessment by Gettler-Ryan (GR) for the Site (Gettler-Ryan, Inc. *Limited Phase I Environmental Site Assessment of 9755 Edes Avenue/593 98th Avenue, Oakland, California,* dated August 1997) and Phase I and Phase II report also by GR (Gettler-Ryan, Inc. *Well Installation and Soil Boring Report for 9755 Edes Avenue/593 98th Avenue, Oakland, California,* dated October 2006) were reviewed. These reports indicated that a gasoline service station was historically present at the Site. The reports are discussed in the Historical Site Land Use section below.

Building Department Records Review

The CEDA, Building Permits Division, records were reviewed for the current and historical Site addresses (525, 555, 591, 593, and 599 98th Avenue) and are summarized in the table below.

525/555 98th Avenue		
Permit Number	**Date Approved**	**Description**
40424	5/21/63	New construction – car wash building
8431BD	7/15/63	Auto Wash Building – Certificate of Occupancy
7827	12/14/68	Demolition permit – Car wash building
PMW04014	6/2/04	Lot line adjustment between existing parcels
591-599 98th Avenue		

525/555 98th Avenue		
Permit Number	**Date Approved**	**Description**
B1055	12/8/1950	Application for frame building, retail store
B73600	5/1/58	Permit to alter, repair, add to or wreck a building
B79155	5/21/59	Permit to alter, repair, add to or wreck a building
C47233	3/11/69	Permit for 3 stories, new front, panel walls, paint ceiling, repair plumbing
C81571	12/24/74	Permit to repair, remove/replace storage building, repair fire damage to interior of building
C85716	9/22/75	Permit to re-shingle wall and ceiling damaged by fire

City of Oakland Fire Department (COFD), Hazardous Material Division, (CUPA)

The COFD reported that there were no files for the current address 555 98th Avenue. However, during a phone interview with the individual overseeing the hazardous materials files (Vibhor Jain), a case closure letter for the Site LUST case (discussed in the Historical Site Land Use section below) from the County Department Environmental Health was reportedly included in their files.

Alameda County Department of Environmental Health (ACDEH)

There were no files for the current site address 555 98th Avenue. Files for the historical Site address of 525 98th Avenue are discussed in the GR reports (Historical Site Land Use section below). ACDEH files for 670 98th Avenue and 9755 Edes Avenue were reviewed and are discussed in the LUST section below.

Asbestos

No structures were observed at the Site; therefore, a visual survey for suspect asbestos-containing materials was not conducted.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by natural breakdown of radium, which is found in the earth's crust. A radon sampling program was not included within the scope of this Assessment. However, the State of California Department of Health Services (DHS) conducted a statewide radon survey during 1990 to 1991, which entailed testing of radon in homes in designated geographic areas. Radon detection devices were placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be

4 pico Curies per liter (pCi/l). According to the DHS radon survey, radon concentrations in residences in the geographic region of the Site average 0.0 pCi/l; therefore, radon is not anticipated to adversely impact the Site.

Lead-Based Paint

No structures were observed at the Site; therefore, a visual survey for suspect lead-based paint was not conducted.

Mold

No structures were observed at the Site; therefore, a visual survey for mold was not conducted.

Wetlands

EDR's query of the U.S. Department of the Interior, Fish and Wildlife Service Wetlands Survey, prepared by the National Wetlands Inventory, dated 2005, indicated that no wetlands are located at the Site.[iv]

Interviews

The above-referenced EPA and ASTM standards require that attempts be made to conduct interviews with past and present owners and occupants of the Site to obtain information indicating recognized environmental conditions in connection with the Site. As part of this Assessment, the following contacts were either interviewed or attempts were made to conduct interviews:

Contact	Affiliation to Site	Description
City of Oakland	Current owner	Discussed below
Mark Anthony Jones, Freedom Fund	Former Owner	Discussed below

iv Please note that this assessment is not intended to be a wetlands or critical habitat assessment/survey which should be conducted by a qualified professional. However the Site appeared to be completely paved or developed with buildings and anthropogenic landscaping. No obvious undeveloped areas which might be likely to containing wetlands habitat was observed .

Multiple attempts were made to contact the City of Oakland by telephone. A response from the City of Oakland was not received at the time of publication of this Report.

Multiple attempts were made to contact the Mr. Jones by telephone. A response from Mr. Jones was not received at the time of publication of this Report.

User Requirements

In order to qualify for one of the landowner liability protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (discussed in the Background section above), 40 CFR Part 312 requires that the user (or Client) must provide the following information to the environmental professional.

Environmental Cleanup Liens

The Client reported that no environmental cleanup liens are filed or recorded against the Site.

Activity and Land Use Limitations

The Client reported that no activity and land use limitations are in place on the Site or have been filed or recorded in the registry.

Specialized Knowledge or Experience

With the possible exception of stating that past use of the Site was as a shopping center, the Client reported that they do not have any specialized knowledge or experience related to the Site.

Purchase Price vs. Fair Market Value

The Client reported that the purchase price being paid for the Site is below the fair market value of the Site. However, the reason for the lower price is not because of known or potential contamination at the Site.

Commonly Known or Reasonably Ascertainable Information

The Client reported that they are not aware of commonly known or reasonably ascertainable information about the Site which would indicate releases or threatened releases.

Presence of Contamination

The Client reported that he was not aware of any specific chemical at the Site. However, he provided a copy of an Alameda County Department of Environmental Health (ACDEH) letter dated August 25, 1997, confirming the completion of the site investigation and remedial action for the releases from underground storage tanks (USTs) located at 525 98th Avenue (currently 555 98th Avenue). The ACDEH letter also confirms that no further action related the UST release was required. In the attached user questionnaire (Appendix D), The Client stated that based on his knowledge and experience with the subject Site, there were no obvious indications that indicate the presence of potential presence of contamination at the property.

Data Gaps in Connection with Current Site Land Use

Based on observations and research and with the possible exception of the lack of Site access at the time of the Site reconnaissance, there are no obvious indications of data gaps in connection with the current Site land use. Based on the Site terrain (flat) SCS had an unobstructed view of the Site from the Site perimeters. Therefore, our conclusions are unlikely to change as a result of this data gap.

Findings and Opinions - Current Site Land Use
Based on observations and research, there is a low likelihood that a recognized environmental condition exists at the Site as a result of the current Site land use.

Hydrogeology and Water Quality Survey

Topography

Based on a review of a United States Geological Survey (USGS) 7.5 Minute Tographic Map, San Leandro Quadrangle, Alameda County, California, 1993, the Site is interpreted to be at an elevation of approximately 20 feet above mean sea level (MSL). The Site vicinity is relatively flat with a slight downward slope to the east towards San Leandro Bay and the San Francisco Bay.

Soil Survey

The following information is based on the U.S. Department of Agriculture's Soil Conservation Service soil survey. The soil in the general Site vicinity is classified as clay and silty clay from the surface to approximately five feet below ground surface (bgs). These clayey/silty clay soils are characterized by very slow filtration rates. However, according to a Gettler-Ryan, Well Installation and Soil Boring Report, the

clayey soil is underlain by sandy zone consisting of sand and clayey sand at approximately 22 feet bgs (GR, 1997a).

Geology

Based on a review of a geologic map published by the California Geological Survey,[ii] the Site area is interpreted to be in the Coast Ranges province, that trend northwest subparallel to the San Andreas Fault. The Site is also interpreted to be in the San Francisco Bay Hydrologic Region, Santa Clara Valley Groundwater Basin and the East Bay Plain Subbasin, according to the Department of Resources (DWR), Groundwater Bulletin (DWR, 2004). The East Bay Subbasin is composed of unconsolidated sediments of Quarternary age, including deposits from the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation , the early Holocene Temescal Formation, and Artificial Fill. The Formations are described having lake, and flood plain deposits (DWR, 2004).

Water Quality Survey

The Site is interpreted to be located in the Santa Clara Valley Groundwater Basin and the East Bay Subbasin (DWR, 2004). According to the San Francisco Regional Water Quality Control Board (SFRWQCB), groundwater within this hydrologic subbasin has been designated as having potential or existing beneficial uses for municipal, agricultural, and industrial purposes. In addition, the SFRWQCB identified 13 locations of major groundwater pollution within the Basin none of which are in close proximity to the Site (DWR, 2004). Most contamination can be attributed to fuel and solvent releases. Lastly, most of the contamination appears to be in restricted to the upper 50 feet of the basin (SFRWCB, 1999)

Hydrogeology

GR, in their Phase I ESA dated 1997 (cited above), stated that the depth to groundwater at the Site was approximately 10 feet below ground surface (bgs) and the groundwater flow direction was northerly. Please note that many variables influence groundwater depth and flow direction, and the actual depth and flow direction at the Site may be different than historical data presented in this section.

Site Vicinity Reconnaissance and Off-Site Source Survey

Current Site Vicinity Conditions

The Site vicinity was observed, during the Site reconnaissance, to include commercial facilities, vacant land, and residential structures. The following table summarizes land use and observations in the immediate Site vicinity. For the purpose of this Report,

the immediate Site vicinity includes those properties judged to be adjacent[v] to the Site.

SITE VICINITY LAND USE

Direction	Land Use/Tenant	Comments
North	Silver Gas Station (9755 Edes Avenue) (Figure 3b)	Gasoline service station, including USTs containing petroleum hydrocarbons as gasoline.
East	98th Avenue, vacant lot and residences (Figure 3d)	No obvious indications of the use, storage, or generation of hazardous materials/wastes or petroleum products were observed.
South	Residences (Figure 3d)	
West	Residences, Ira Jenkins Recreation Center (a.k.a.Brookfield Center Oakland Headstart Program) (Figure 3b)	

Environmental Data Resources, Inc. (EDR®) Radius Map with Geocheck®

EDR prepared a Radius Map with Geocheck (site assessment report) for the Site. Local, state, and federal regulatory databases were reviewed for the Site and for those facilities within up to 1 mile of the Site. The EDR report was reported to have been prepared in general accordance with EPA's Standards and Practices for All Appropriate Inquiries (30 CFR Part 312) and the ASTM standard for the regulatory database review for Phase I Site Assessments. The locations of the referenced facilities relative to the Site are shown on EDR's overview and detail maps and are included in their report. A description of the various databases, as well as the date each database was most recently updated, is also included in the EDR report. The EDR report is attached as an Appendix to this Report. Readily available regulatory agency records reviewed by EDR are as follows:

- *United States Environmental Protection Agency (EPA)*
  - Federal Superfund Sites (National Priority List- NPL)
  - Comprehensive Environmental Response, Compensation Liability Act Information System (CERCLIS) and California CERCLIS Sites with

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v Adjacent is defined by ASTM E1527-00 as any real property the border of which is contiguous or partially contiguous with that of the Site or would be contiguous or partially contiguous with that of the Site but for a street, road, or other public thoroughfare separating them.

Regional Utility Description, and the database of facilities with "No Further Remedial Action Plan" (NFRAP) designation

- Resource Conservation and Recovery Information System-Treatment, Storage, and Disposal (RCRIS) Facilities listings
  - RCRA TSD - Sites that treat, store, dispose, or incinerate hazardous waste
  - CORRACTS Sites reporting corrective action
  - RCRA-LQG - Hazardous Waste Generators generating greater than 100 kilograms (kg) per month or meeting other RCRA requirements
  - RCRA-SQG- Hazardous Waste Generators generating less than 100 kilograms (kg) per month
- Emergency Response Notification System (ERNS) Database

- *California Department of Toxic Substances Control (DTSC) (State Sites)*
  - California Environmental Protection Agency/Office of Emergency Information (CORTESE)
  - DTSC involved in remediation in a lead or oversight capacity/confirmed release sites with high-priority and potential risk (RESPONSE)
  - DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) Envirostor database includes sites with know contamination or where further investigation is necessary (ENVIROSTOR)
    - Voluntary Cleanup Program (VCP)
    - Deed Restriction Listing (DEED)

- *California Integrated Waste Management Board - Solid Waste Information System (SWIS), referred to by EDR as solid waste information system (SWF/LF), includes the Waste Management Unit Database System (WMUDS) which also provides information regarding landfills in the Solid Waste Assessment Test (SWAT) program*

- *State Water Resources Control Board (SWRCB)*

- Leaking Underground Storage Tank Information System (LUSTIS)
- Aboveground Storage Tank Database (ASTs)
- Registered Underground Storage Tanks (USTs)
- Toxic Pits Cleanup Facilities

- *Alameda County Department of Environmental Health*
  - Listing of contaminated site overseen by the Toxic Release Program (oil and groundwater contamination from chemical release and spills) and Leaking Underground Storage Tank Program (soil and groundwater contamination from leaking petroleum USTs)

Based on a review of the EDR Report, the following table summarizes the facilities within the selected search circumferences, and whether the Site or a facility that was interpreted to be adjacent to the Site was listed on each database.

Federal or State Government Database	Search Radius	Number of Reported Facilities	On Site	Adjacent to the Site
National Priorities List (NPL)	1.00 mile	0	No	No
CERCLIS/NFRAP List	0.50 mile	8	No	No
RCRA TSD	0.50 mile	0	No	No
RCRA CORRACTS	1.00 mile	1	No	No
RCRA-LQG	0.25 mile	0	No	No
ERNS	0.125 mile	0	No	No
RESPONSE	1.00 mile	6	No	No
ENVIRONSTOR	1.00 mile	24	No	No
WMUDS/SWAT	0.50 mile	0	No	No
Alameda Contaminated Sites	0.50 mile	14	Yes	Yes
Registered Underground or Above-ground Storage Tanks (UST/AST)	0.250 mile	3	No	Yes
Leaking Underground Storage Tanks (LUST)	0.50 mile	14	Yes	Yes

Known, Reported, or Suspected Releases Within the Site Vicinity

State Sites – ENVIROSTOR Database

Twenty-four ENVIROSTOR facilities were reported within 1 mile of the Site according to the EDR. Three of the 24 ENVIROSTOR sites are discussed in the following table. The remaining 21 sites are at least 0.25 miles from the Site and, based on distance, there is a low likelihood that a recognized environmental condition exists at the Site as a result of these facilities on the ENVIROSTOR database.

Site Name and Address	Distance Reported from Site/Direction	Status
Garner Heat Treat, Inc.	975 feet/East-Northeast	Not reported
Auto Legend Repair	1,072 feet/East-Southeast	Active
HCB	1,181 feet/East	Not reported

Based on their reported distance from the Site (approximately 975 feet or greater), and their location with respect to the interpreted groundwater flow direction (cross-gradient), there is a low likelihood that a recognized environmental condition exists at the Site as a result of these facilities on the ENVIROSTOR database.

LUSTs

This database lists facilities where a release, usually from a UST, is known to have occurred. The following table summarizes the unauthorized release cases listed in the EDR report. Please note that a single facility can have multiple releases that result in separate cases. For the purposes of this Assessment, multiple cases for a single property are considered as a single release location with the worst case (e.g., an open groundwater case with free product) taking precedence.

Based on the project performance by the Lawrence Livermore National Laboratory (LLNL) for distribution and remediation of methyl tertiary butyl ether (MTBE) in groundwater,[iii] on the average, approximately 94 percent of the MTBE plumes studied in detail (as measured by MTBE in a concentration of 20 micrograms per liter [µg/L]) did not extend more than approximately 400 feet from the source, while approximately 89 percent of the benzene plumes (as measured by benzene in a concentration of 1 µg/L) extend less than 400 feet. Therefore, the detailed review radius for open groundwater cases has been conservatively established by SCS at 0.20 mile (approximately 1,000 feet).

LUST CASE SUMMARY

Number of Reported Facilities	14
Number of Reported Facilities Within 0.20 Mile	2
Actual Number of Facilities Within 0.20 Mile	2
Number of Facilities Within 0.20 Mile With Open LUST Cases	1

Base on its location (approximately 0.10 mile north of the Site) and case status (open), the Alameda County Department of Environmental Health (ACDEH) file for the City of Oakland LUST case was reviewed and is discussed below. In addition, please note that the Site was listed as having a closed LUST case which is discussed in the Historical Site Land Use section below.

City of Oakland (670 98th Avenue) LUST Case

The facility with an open LUST case (City of Oakland at 670 98th Avenue) was reported to be located approximately 0.10 mile northeast of the Site. Based on its proximity to the Site and status, SCS reviewed the ACDEH file for this facility. According to available information contained in the ACDEH file, six monitoring wells and 14 temporary well points were installed at the property to delineate subsurface conditions. Well Points WP-11 and WP-12 were located at the adjacent parcel (9755 Edes Avenue), to the north. In addition, monitoring wells MW-1 and MW-3 were located on Edes Avenue, and the 98th Avenue and Edes intersection, respectively, approximately 200 feet northeast from the Site.

Numerous investigations have occurred since the release was discovered during the widening of 98th Avenue in 1989, (GR, 1997). SCS reviewed a *Report on Soil Gas Sampling and Health Risk Assessment, June 1999, 670 98th Avenue, Oakland, California,* prepared by Baseline Environmental Consulting for additional investigation information. Laboratory data from 1996 and 1997 indicated that detectable concentrations of total petroleum hydrocarbons (TPH) as gasoline, benzene, toluene, ethyl-benzene, xylenes, and several chlorinated solvents (i.e. trichloroethene) had been detected in several monitoring wells and well points. The laboratory did not analyze the samples for MTBE. The groundwater flow direction is reported to be northwesterly.

To date no further information is available regarding the regulatory status of this release. SCS discussed the facility status with Barney Chan of the ACDEH, and he was unable to provide additional information regarding the site's regulatory status.

Based on its distance (0.10 mile), a review of laboratory data from the monitoring

wells and temporary well points closest to the Site, and its location with respect to reported groundwater flow direction (downgradient), there is a low likelihood that groundwater at the Site has been impacted from the release at 670 98th Avenue and has resulted in a recognized environmental condition at the Site.

Permitted Hazardous Materials/Waste Facilities Within the Site Vicinity

While there are facilities within the Site vicinity that are reported to be on the UST/AST database (hazardous materials users, hazardous waste generators, and violations), inclusion in these databases is only an indication of the use or storage of hazardous materials, or the generation of hazardous waste and related violations. Only those facilities that were judged to be immediately adjacent to the Site are discussed in this Report. Information regarding the other facilities can be found in the EDR report in the Appendix.

USTs and ASTs

According to the City of Oakland Fire Department, Hazardous Material Division, a UST permit was issued in February 2005 for Silver Gas, located adjacent (north) to the Site at 9755 Edes Avenue. Based on the absence of a reported release at this facility, the length of time in operation (1 to 2 years) and its location with respect to the interpreted groundwater flow direction (downgradient), there is a low likelihood that a recognized environmental condition exists at the Site as a result of the listing of this facility on the UST database. EDR identified no other facilities that have had USTs or ASTs within 0.125 mile of the Site.

Alameda Contaminated Sites (CS)

The EDR report listed fourteen facilities in the Alameda CS database, which is also known as the ACDEH, within 0.50 mile the Site. The database includes those facilities which use hazardous materials, generate hazardous waste, and have known unauthorized releases from a UST. Review of the EDR report revealed that one facility was located at the Site and is discussed in the Historical Site Land Use section below. The following table summarizes the information provided for adjacent listed facility:

COUNTY SITE INFORMATION FOR ADJACENT FACILITIES

Facility Name/ Address	Direction from Site	Hazardous Materials/Wastes	Violations
Chevron Products Company (#2080)/ 9755 Edes Avenue	Adjacent to North	Aqueous solution with less than 10% total organic residues	None listed

Based on the absence of reported releases and/or violation of regulatory regulations, the length of time in operation (1 to years) and its location with respect to the interpreted groundwater flow direction (downgradient), there is a low likelihood that a recognized environmental condition exists at the Site as a result of the listing of this facility on the CS database.

Orphan Sites

EDR listed 20 facilities as orphan sites. Orphan sites are facilities for which EDR does not have sufficient information to accurately locate them on a map. Based on a review of the orphan facilities, SCS interpreted that none of the facilities are within requisite search radii for their reported database listings.

Additional SCS Research

Manufactured Gas Plant

EDRs radius report did not list any manufactured gas plants or oil and gas pipelines within 1 mile of the Site. There were no wells interpreted to be located within a 1-mile radius of the Site.

Findings and Opinions - Off-Site Source Survey

There is a low likelihood that a recognized environmental condition exists at the Site as a result of known and reported releases of hazardous materials/wastes or petroleum products from an off-site source.

Historical Aerial Photograph and Land Use Review

Available aerial photographs, Sanborn Fire Insurance maps, historical directories, and historical USGS topographic records were reviewed to assess historical Site and Site vicinity land use and potential environmental concerns related to historical Site and

Site vicinity land use. Please note that a complete list of historical resources reviewed may be found in the endnotes to this Report.

In accordance with the EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) and ASTM E 1527-05, numerous reasonably ascertainable standard historical information sources were reviewed, and an attempt was made to interpret the historical Site and Site vicinity land use back to the obvious first developed use of the Site, or 1940, whichever came first.

The following table presents an outline of EDR's aerial photograph collection. EDR's Available coverage was based on a review of base maps and flight lines in relation to the Site. The years with readily available coverage are shown in the following table.

READILY AVAILABLE AERIAL PHOTOGRAPH COVERAGE

Year (s)	Flight Year	Scale	Source
1998	1998	1" = 666'	USGS
1993	1993	1" = 666'	USGS
1982	1982	1" = 690'	WSA
1965	1965	1" = 333'	Cartwright
1958	1958	1" = 555'	Cartwright
1946	1946	1" = 655'	Jack Ammann
1939	1939	1" = 555'	Fairchild

Historical Site Land Use

The following table provides a chronology of the apparent historical Site land uses as interpreted from a review of information from the sources referenced.

INTERPRETED HISTORICAL SITE LAND USE

Year(s)	Interpreted Site Tenants	Interpreted Site Use	Information Source
525/555 98th Avenue			
1899	Unknown	Agriculture or vacant land	Topographic map
1939	Unknown	The Site appears to consist of agricultural land	Aerial photograph
1946	Unknown	The Site appears to be vacant land.	Aerial photograph
1955 &	Ely S. John Flying A	The Site appears to be occupied by the service station and a	Aerial photograph, city directories, building

Year(s)	Interpreted Site Tenants	Interpreted Site Use	Information Source
1958	Service	parking lot.	department record
1962 & 1965	Hanks Flying A Service	The Site appears to be occupied by the service station, car wash and a parking lot.	Aerial photo, building department record
1970, 1976 & 1982	Phillips 66 Service/	The Site appears to be occupied by the service station and a parking lot.	Aerial photograph, city directory, building department record
1993	The Site appears to be vacant land.	The Site appears to be vacant land.	Aerial photograph, city directory
1998	The Site appears to be vacant land.	The Site appears to be vacant land.	Aerial photograph, city directory
2006	The Site appears to be vacant land.	The Site appears to be vacant land.	Site reconnaissance
591 98th Avenue (North)			
1950	Powell's Brookfield Bakery	Commercial	Aerial photograph, city directory
1955	Emro Bakery/White Catering Service	Commercial	Aerial photograph, city directory
1962-86	Big Ten Liquors	Commercial	Aerial photograph, city directory
1986-present	Unknown	Vacant	Aerial photograph, city directory, Site reconnaissance
593 98th Avenue (North)			
1950-55	Nifty Sport Shops	Commercial	Aerial photograph, city directory
1962	Nifty Doughnut Shop	Commercial	Aerial photograph, city directory
1967	Unknown	Commercial	Aerial photograph, city directory
1970	Burger Bar	Commercial	Aerial photograph, city directory
1970-present	No listed/Vacant	Vacant	Aerial photograph, city directory, Site reconnaissance
599 98th Avenue (North)			

Year(s)	Interpreted Site Tenants	Interpreted Site Use	Information Source
1950-55	Brookfield Hardware	Commercial	Aerial photograph, city directory
1955-Present	Not listed/vacant unknown	Vacant	Aerial photograph, city directory, Site reconnaissance

Historical Site Research Notes

Because many of the dates listed above are based on a limited selection of historical resources, they are considered to be approximations only; the actual beginning/ending dates for many of the Site uses listed above may have been earlier or later than indicated.

The Sanborn Maps did not cover the southeastern portion of the Site's parcel. SCS verified that there was no Sanborn Map coverage for this area available with the EDR The Site was interpreted to have possibly first been developed for agricultural use according to the aerial photo dated 1939. Aerial photos and city directories indicate that the Site was developed in approximately the mid-1950s as a service station.

With the possible exceptions described below, no obvious historical facilities, features of concern, or land uses indicative of the use, storage, or generation of hazardous materials/wastes or petroleum products were found in the historical resources reviewed.

Historical Gasoline Service Station and Car Wash

Based on historical aerial photographs, Sanborn maps, reverse directories, building/fire department records, regulatory records, and Client-provided documents, a gasoline service station was located at the Site (historical address of 525 98th Avenue) from the early 1950s to the late 1980s. While GR reported that the City of Oakland Public Works Department file included a permit to erect a service station was issued in 1935, aerial photos for 1939 and 1946, as well as the historical city directories reviewed for this report indicate that the service station was not constructed until the early 1950s.

The former service station reportedly included one 6,000-gallon fuel UST, one fuel 4,000-gallon, and a 550-gallon waste oil UST (GR, 1997). Two hydraulic hoists and an oil/water separator were also observed in the concrete floor pad of the former service station building. The USTs and associated piping were removed in December 1993. Holes were observed in the waste oil UST (GR, 1997). Analytical data for soil samples collected beneath the gasoline USTs contained up to 12,000 milligrams per

kilogram (mg/kg) of total petroleum hydrocarbons as gasoline (TPHg) and up to 11 mg/kg of benzene (GR, 1997). Three groundwater monitoring wells (STMW-1 through STMW-3) were installed and three exploratory borings were advanced (SB-4 through SB-6) in March 1995. Petroleum hydrocarbons were detected in wells STMW-1 through STMW-3 (GR, 1997).

The former gasoline UST pit was overexcavated in 1996 (GR, 1997). Regular groundwater monitoring began in April 1995 and groundwater flow was documented to be to the north/northeast. Although two monitoring (STMW-1 and STMW-2) wells still contained detectable levels of TPH-g, the ACDEH concluded that the TPHg levels did not pose a risk to human health. The ACDEH granted site closure in August 1997.

A subsurface investigation, conducted in September 1997, included installing 8 monitoring wells (MW-1 through MW-8) and drilling 5 exploratory borings (B-1 through B-5) (GR, 1997a). Up to 22 mg/kg of TPHg was detected in the soil samples analyzed. In addition, one soil sample contained 0.030 mg/kg methyl tertiary butyl ether (MTBE). Lead concentrations ranged from 5.2 to 8.3 mg/kg (GR, 1997a).

Detectable TPHg concentrations in groundwater ranged from 330 µg/L (MW-7) to 76 µg/L (MW5). Detectable benzene concentrations ranged 8.3 µg/L (MW-5) to 1.3 µg/L (MW-2). Detectable total petroleum hydrocarbons as diesel (TPHd) ranged 410 µg/L (MW-7) to 61 µg/L (MW-2) (GR, 1997a). MTBE was detected in MW-5 at 3.9 µg/L. Lastly, the laboratory report noted that the chromatogram pattern for samples containing detectable levels of TPHd indicated unidentified hydrocarbons (C9 to C24) (GR, 1997a).

Analytical data indicates that hydrocarbon impacted soil appears to be limited the vicinity of wells MW-2 and MW-7 and groundwater is impacted in 4 of the 8 monitoring wells; two wells near the former source area and two wells downgradient from the former source area. Maximum TPH concentration was reported to be 22 mg/kg.

Discussion

Based on the above information a gasoline service station and car wash were present at the Site from circa 1950 to 1995. Three USTs were reportedly removed from the Site in circa 1993. The majority of the petroleum hydrocarbon-impacted soil was reportedly removed. However TPH, benzene, toluene, ethylbenzene, xylene, and MTBE, collectively constituents of concern (CoCs) were reportedly present in groundwater samples collected from the vicinity of the USTs. Based on the fact that the ACDEH issued a "closure" to the Site after review of soil and groundwater data and assuming the current land use does not change, the former release would represent a historical recognized environmental condition, but not considered a current recognized environmental condition. However, based on conversation with

the Client, the Site will be redeveloped for residential use; therefore, the reported presence of CoCs in the groundwater beneath the Site may result in a recognized environmental condition for the proposed residential land use (i.e., vapor intrusion into proposed Site buildings from impacted groundwater).

Based on the reported depth to groundwater (approximately 10 feet bgs) and the reported presence of CoCs in the groundwater beneath the Site, we recommend the collection and analysis of soil vapor samples at select Site locations. If CoCs are detected in the soil vapor, we recommend that a limited health risk assessment be conducted. We also recommend a geophysical survey be perform at the Site to confirm that typical underground structures associated with the operation of a service station and car wash (e.g., lifts, clarifiers, additional USTs, dispenser piping/islands, etc.) are no longer present at the Site. If these features are found, additional investigation may be required.

Historic Agricultural Activities

Based on the aerial photographs reviewed, it is likely that some sort of agricultural activity occurred at the Site (based on a review of a 1939 aerial photograph). If the Site and Site vicinity were used for agricultural purposes, these agricultural activities were interpreted to have taken place at the time that organochlorine pesticides, such as dichlorodiphenyltrichloroethane (DDT) and chlordane, and metal-based pesticides, such as copper and arsenic, were in wide general use for pest control.

These classes of pesticides are known to have the potential to remain in detectable concentrations in the subsurface for extended periods of time. Based on the interpreted land use, our experience with agricultural properties, and a review of the available literature, it is our judgment that it is likely that trace concentrations of organochlorine or metallic pesticides are present in the soil at the Site and Site vicinity as a result of the interpreted agricultural land use. It is also our experience that trace concentrations are likely to be present even after mass grading and earth movement. However, it has generally been our experience that unless a pesticide mixing, storage, or disposal area was present, concentrations of organochlorine pesticides in the subsurface in general agricultural areas tend to be low. No such areas were reported or are known to have existed at the Site and Site vicinity.

While there are currently no regulations that stipulate cleanup levels for pesticides in soil, there is a level at which soil could be classified as a hazardous waste based on, for example, a DDT concentration. However, it has been our experience that in order for a pesticide-impacted soil at the Site and Site vicinity to be classified as a hazardous waste, the soil would first need to be classified as a "waste" (e.g., to be excavated and transported off-site). In addition, it would need to have concentrations of pesticides, such as DDT, in excess of regulatory values, such as the total threshold limit or soluble threshold limit concentrations (TTLC/STLC) values, for specific pesticides in soil samples.

There is a moderate likelihood that residual concentrations of organochlorine pesticides are present in the shallow surface soil beneath those sites used for agricultural purposes. Assuming the legal and permitted application of these pesticides, and assuming existing Site use remains the same, this common occurrence is, in our experience, unlikely to lead to an enforcement action and to a human health risk and is therefore likely to be considered *de minimis*, as defined by ASTM.

However, based on the information provided by the Client, we understand that the Site will be developed with single-family residences. We recommend that limited soil sampling be conducted as a precautionary measure to ensure that future occupants of Site buildings, construction workers, and others are not exposed to elevated concentrations of pesticides. In addition, if soil is to be transported off-site, soil sampling should be conducted to assess whether the soil contains pesticide concentrations that would cause the soil to be classified as a hazardous waste.

Historical Site Vicinity Land Use

The historical Site vicinity land use was also assessed for potential environmental concerns to the Site from historical off-site sources. Based on the historical aerial photograph review, the historical Site vicinity land use was interpreted to have been single family residences and commercial.

INTERPRETED HISTORICAL SITE VICINITY LAND USE

Year(s)	Interpreted Site Vicinity Tenants	Interpreted Site Vicinity Use
609 98th Avenue (North)		
1955	Eddys Meat Market/Lee Bros Inc.	Commercial
1967	Azars Market	Commercial
1992	First Western Building Services	Commercial
1996	First Universe Church	Commercial
619 98th Avenue (North)		
1955	Thrift Drug Company	Commercial
1980	Sadies and Zeiglers Delicatessen	Commercial
1991-96	I Greers Liquor and Grocery	Commercial
9755 Edes Avenue (North)		
1950-55	Eden Dry Goods	Commercial
1962	I & R Café/Ottovich II & R Café	Commercial
1967	Ottovhic Isadore/Zeigler Hollis/Zeigler's BBQ Pit Restaurant	Commercial

Year(s)	Interpreted Site Vicinity Tenants	Interpreted Site Vicinity Use
1970	Johnnie S. Bar-B-Q Pit	Commercial
1992	Brookfield Deli	Commercial
2000	Chevron Station	Commercial
9759 Edes Avenue (North)		
1950-55	Wanda S Brookfield Beauty Salon	Commercial
1962-86	Brookfield Village Beauty Salon	Commercial
1996	Never Worry Cigarette Shop	Commercial
9763 Edes Avenue (North)		
1955	Village Kiddie Shop	Commercial
1962	Watkins J R Products	Commercial
1967	Vacant	Vacant
9767 Edes Avenue (North)		
1950	Brookfield Cleaners and Tailors	Commercial
1970	Done Rite Cleaners and Shirt Laundry	Commercial
9771 Edes Avenue (North)		
1967-1980	Brookfield Barber Shop	Commercial
1986	Community Barber Shop	Commercial
1992	Nu Flava Barber and Beauty	Commercial

SCS reviewed the historical Site land uses for the adjacent properties to the east, south and west. These adjacent properties are interpreted to have residential historical land use.

Historical Site Vicinity Research Notes

The interpreted vicinity uses and associated dates obtained from the limited selection of historical resources, they are considered to be approximations only; the actual beginning/ending dates for many of the Site uses/development listed in the city directory may have been earlier or later than indicated.

With the possible exceptions described below, no obvious historical facilities, features of concern, or land uses indicative of the use, storage, or generation of hazardous materials/wastes or petroleum products were found in the historical resources reviewed.

Historical Dry Cleaners

Based on a review of city directories, cleaners and tailors and cleaners and laundry

were reportedly located adjacent (north) to the Site from 1950 to 1970. Based on our experience, dry cleaning facilities use and store tetrachloroethylene (PCE), generate waste (such as still bottoms and used filters), and often experience releases (to the soil, soil vapor, and/or groundwater). Although, based on available data, there are no known and reported releases in connection with this facility, in our experience, over time, PCE liquid and vapor have the ability to permeate flooring and building foundations, entering the subsurface soils and potentially impacting groundwater. It is not known what time frame is required for this to occur. Many property owners and lenders have established a Phase II sampling "trigger" of 5 to 7 years (i.e., dry cleaning facilities in operation over 5 years are subject to Phase II subsurface testing for the presence of PCE), and in some cases, as little as two years.

Based on its proximity to the Site (adjacent), the interpreted depth to groundwater (10 feet bgs), and the length of time this property has been occupied by a dry cleaning facility (at least 20 years), there is a potential that PCE-bearing soil, soil vapor, and/or groundwater has migrated beneath the Site. If impacts have migrated to the Site it is, in our opinion and based on our experience, unlikely that a regulatory agency would require remediation of an on-Site release caused by an off-site source (the Site did not cause, contribute to, or exacerbate possible PCE impacts to soil, soil vapor, and/or groundwater).

However, if redeveloped as described above, there is a potential for vapor intrusion (from possible impacts to soil, soil vapor, and groundwater) into the proposed Site buildings, which may be considered an

Data Gaps in Connection with the Historical Site Land Use

Readily available historical information was limited, and information was not available that would provide definitive 5-year data intervals throughout the Site's history. However, based on the corroborating data from the historical information reviewed, we judged it likely that the historical Site land use during this time period was not significantly different from our interpretation presented in the table above.

Findings and Opinions - Historical Site Land Use

Based on the review of the historical Site and Site vicinity land use, the following potential recognized environmental conditions were identified:

- Historical agricultural activities at the Site
- Groundwater impacts from a former gasoline service station at the Site
- Former dry cleaner operations at adjacent property to the north

Please note that detailed discussions, conclusions, and recommendations in connection with these potential recognized environmental conditions are provided on pages 23 through 28.

CONCLUSIONS

This Assessment has been conducted by an environmental professional whose qualifications were made known to the Client. The conclusions presented below are based on the review of readily available data obtained as part of this Assessment, current regulatory guidelines, the Site and Site vicinity reconnaissance, and our experience.

SCS has performed an Environmental Site Assessment of 555, 591, 594, and 599 98th Avenue Oakland, California , in general conformance with the American Society for Testing and Materials (ASTM) Standard Practice for Phase I Environmental Site Assessment Process E 1527-05 and the Environmental Protection Agency (EPA), 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule. Any exceptions to, or deletions from, the ASTM and AAI Scope of Work were previously described in this Report where applicable.

The following potential recognized environmental conditions were identified:

- Historical agricultural activities at the Site
- Groundwater impacts from a former gasoline service station at the Site
- Former dry cleaner operations at adjacent property to the north

Please note that detailed discussions, conclusions, and recommendations in connection with these potential recognized environmental conditions are provided on pages 23 through 28.

We enjoyed working with you on this project. Providing economic environmental solutions to meet your needs is more than our goal—it is our mission and the measure of our success. If we may assist you in any way, now or in the future, please do not hesitate to call our office at (858) 571-5500.

Respectfully,
SCS ENGINEERS

Leslie M. Bove
Project Professional

Ryan T. Marcos
Senior Project Professional

Harry K. Bishop, P.E.
Project Professional

Daniel E. Johnson
Vice President

Attachments

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REPORT USAGE AND FUTURE SITE CONDITIONS

This Report is intended for the sole usage of the Client and other parties designated by SCS. The methodology used during this Assessment was in general conformance with the requirements of the Client and the specifications and limitations presented in the Agreement between the Client and SCS. This Report contains information from a variety of public and other sources, and SCS makes no representation or warranty about the accuracy, reliability, suitability, or completeness of the information. Any use of this Report, whether by the Client or by a third party, shall be subject to the provisions of the Agreement between the Client and SCS. Any misuse of or reliance upon the Report shall be without risk or liability to SCS.

Phase I Environmental Site Assessments and/or All Appropriate Inquiries (40 CFR Part 312) are qualitative, not comprehensive, in nature and may not identify all environmental problems or eliminate all risk. For every property, but especially for properties in older downtown or urban areas, it is possible for there to be unknown, unreported recognized environmental conditions, underground storage tanks, or other features of concern that might become apparent through demolition, construction, or excavation activities, etc. In addition, the scope of services for this project was limited to those items specifically named in the scope of services for this Report. Environmental issues not specifically addressed in the scope of services for this project are not included in this Report.

Land use, condition of the properties within the Site, and other factors may change over time. The information and conclusions of this Report are judged to be relevant at the time the work described in this Report was conducted. This Report should not be relied upon to represent future Site conditions unless a qualified consultant familiar with the practice of Phase I environmental assessments and All Appropriate Inquiries in Alameda County is consulted to assess the necessity of updating this Report.

The property owners at the Site are solely responsible for notifying all governmental agencies and the public of the existence, release, or disposal of any hazardous materials/wastes or petroleum products at the Site, whether before, during, or after the performance of SCS services. SCS assumes no responsibility or liability for any claim, loss of property value, damage, or injury that results from hazardous materials/wastes or petroleum products being present or encountered within the Site.

Although this Assessment has attempted to assess the likelihood that the Site has been impacted by a hazardous material/waste release, potential sources of impact may have escaped detection for reasons that include, but are not limited to: 1) our reliance on inadequate or inaccurate information rightfully provided to us by third parties, such as public agencies and other outside sources; 2) the limited scope of this Assessment; and 3) the presence of undetected, unknown, or unreported environmental releases.

LIKELIHOOD STATEMENTS

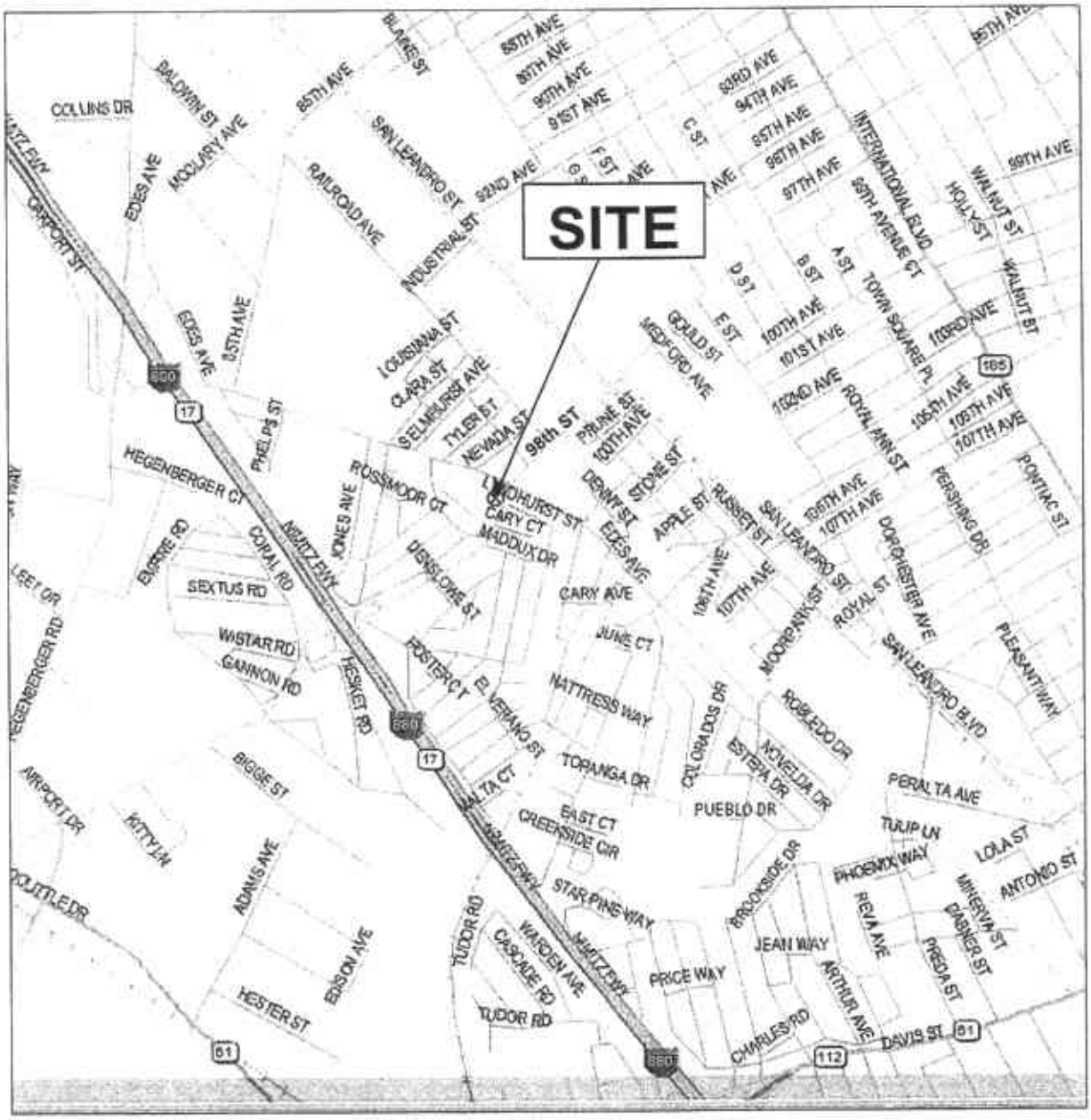
Statements of "likelihood" have been made in this report. Likelihood statements are based on professional judgments of SCS. The term "likelihood," as used herein, pertains to the probability of a match between the prediction for an event and its actual occurrence. The likelihood statement assigns a measure for a "degree of belief" for the match between the prediction for the event and the actual occurrence of the event.

The likelihood statements in this Report are made qualitatively (expressed in words). The qualitative terms can be approximately related to quantitative percentages. The term "low likelihood" is used by SCS to approximate a percentage range of 10 to 20 percent; the term "moderate likelihood" refers to an approximate percentage range of 40 to 60 percent; and the term "high likelihood" refers to an approximate percentage range of 80 to 90 percent.

SPECIAL CONTRACTUAL CONDITIONS BETWEEN USER AND ENVIRONMENTAL PROFESSIONAL

There were no special contractual conditions between the user of this Assessment and the environmental professional, SCS.

FIGURES



Source of Base Map: DELORME 2006®

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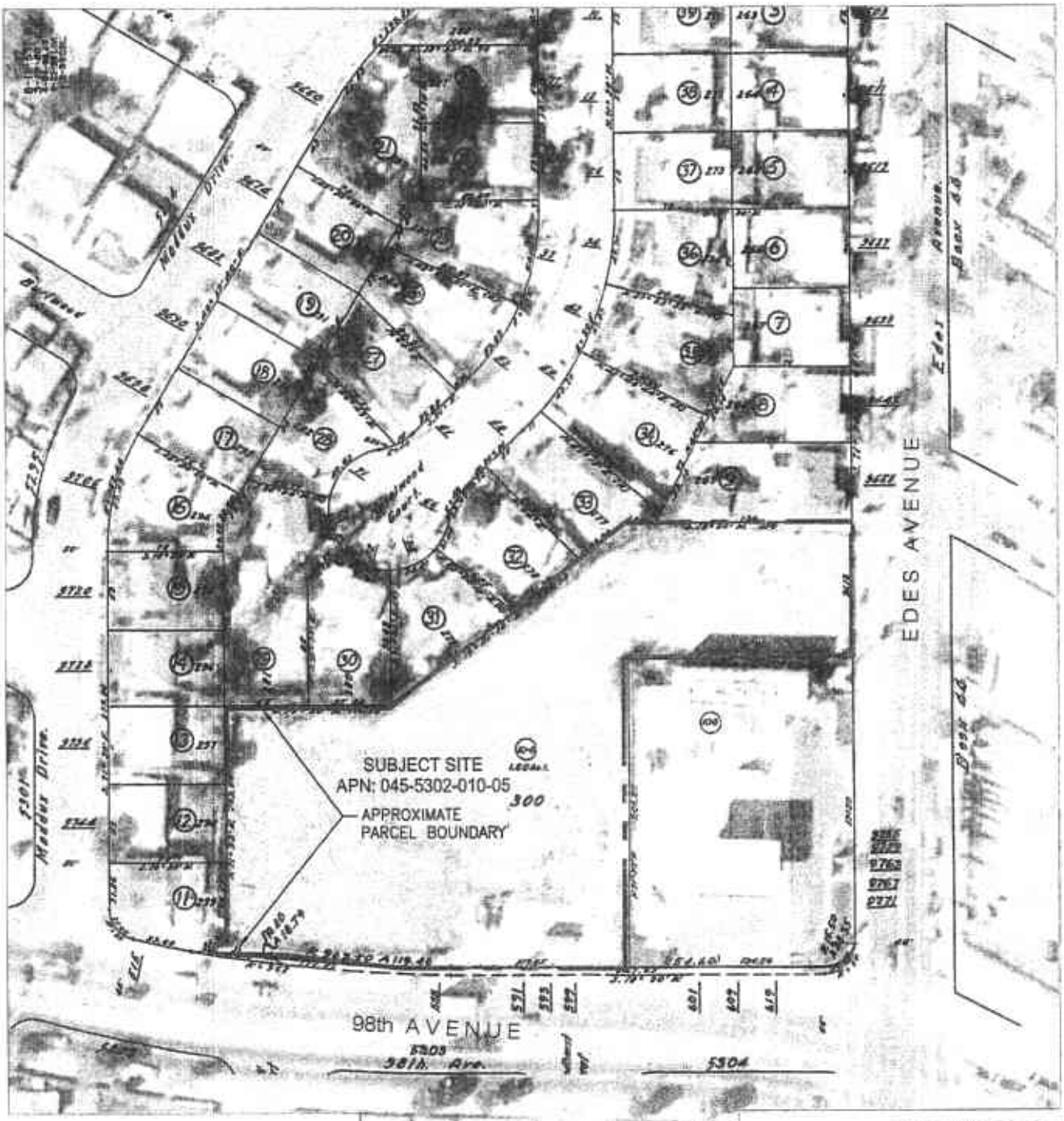
SCS ENGINEERS ENVIRONMENTAL CONSULTANTS 3645 WESTWIND BOULEVARD SANTA ROSA, CA 95403 PH. (707) 546-9461 FAX (707) 544-3769			SITE LOCATION MAP	APPROX. SCALE (MILES) 0 .25 .5
PROJ. NO: 01205501.10	SOURCE: DeLORME 2006	FILE: 5501.10 SiteLocMap	555 98th AVENUE OAKLAND, CALIFORNIA	FIGURE: 1
DATE: 10/25/06	CREATED BY: JJM	APP. BY: LMB		



APPROXIMATE PARCEL BOUNDARY

APPROXIMATE SCALE IN FEET

100 0 100

SOURCE OF BASE MAP: NAVTEQ 2006 AERIAL; ALAMEDA COUNTY ASSESSOR'S OFFICE, MAP 045.

SCS ENGINEERS

ENVIRONMENTAL CONSULTANTS

3645 WESTWIND BOULEVARD
SANTA ROSA, CALIFORNIA 94503
PH. (707) 546-5401 FAX (707) 544-5768

PROJ. NO.	DWN. BY:	ACAD FILE:
01205501.10	JJM	10/25/06
DATE: 10/25/06	CHK. BY: LMB	APP. BY: LMB

SHEET TITLE: SITE PLAN AND VICINITY

PROJECT TITLE: 555 98TH STREET, OAKLAND, CALIFORNIA

SCALE: 1" = 100'±

FIGURE NO. 2

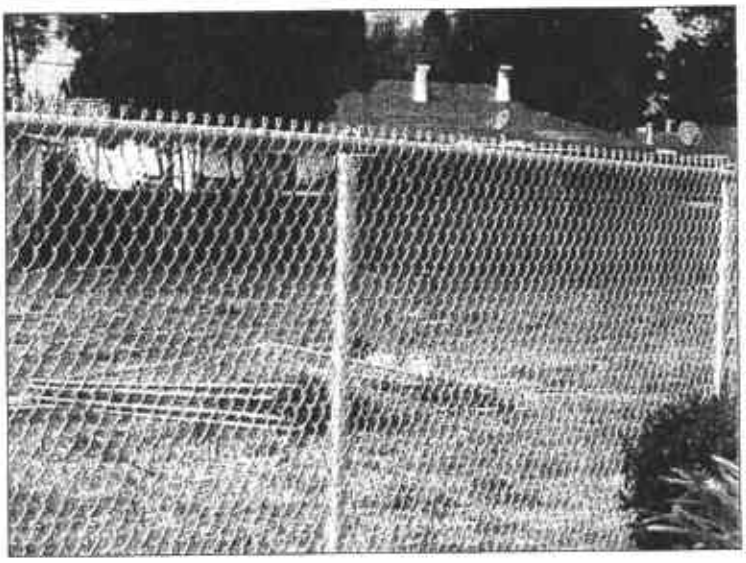


Figure 3a-1
Site, looking north. (at right)

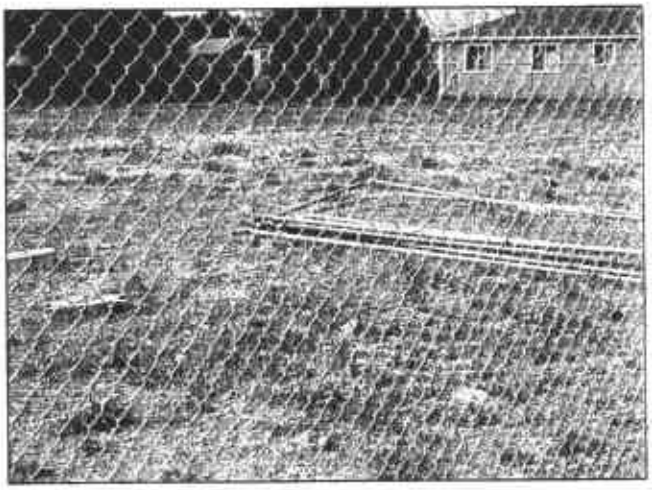


Figure 3a-2
Site, looking northwest. (at left)

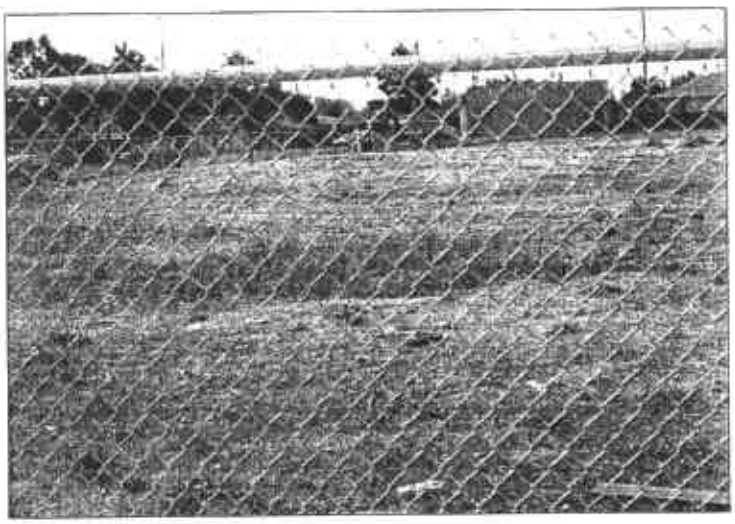


Figure 3a-3
Site, looking south, southwest. (at right)

SCS ENGINEERS ENVIRONMENTAL CONSULTANTS 3645 WESTWIND BOULEVARD SANTA ROSA, CA 95403 PH. (707) 546—9461 FAX (707) 544—5769	SITE PHOTOGRAPHS	APPROX. SCALE N/a
PROJ: 01205501.10 | TAKEN BY: LMB | FILE: 5510.PhotoPlates DATE: 10/25 /06 | CREATED BY: JJM | APP. BY: LMB	555 98th AVENUE OAKLAND, CALIFORNIA	PHOTOGRAPHS: 3a–1,2 & 3

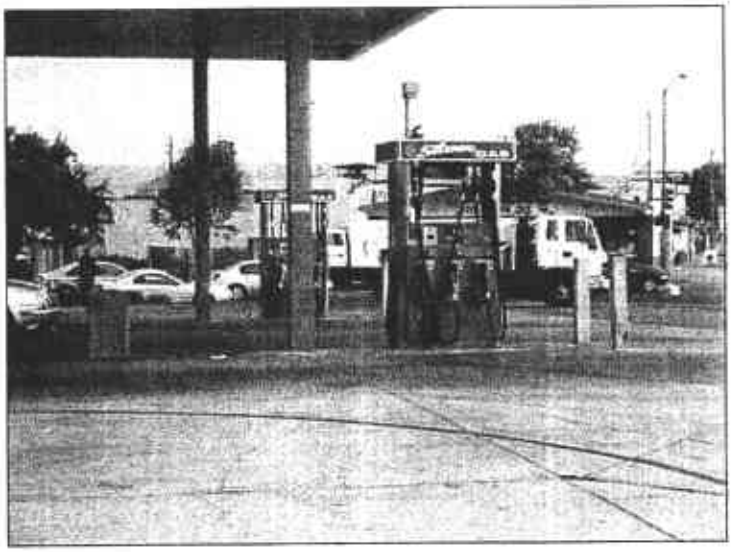


Figure 3b
Silver gas station, adjacent to subject site. (at right)

Figure 3c
Site, looking southeast towards 98th Avenue. (at left)

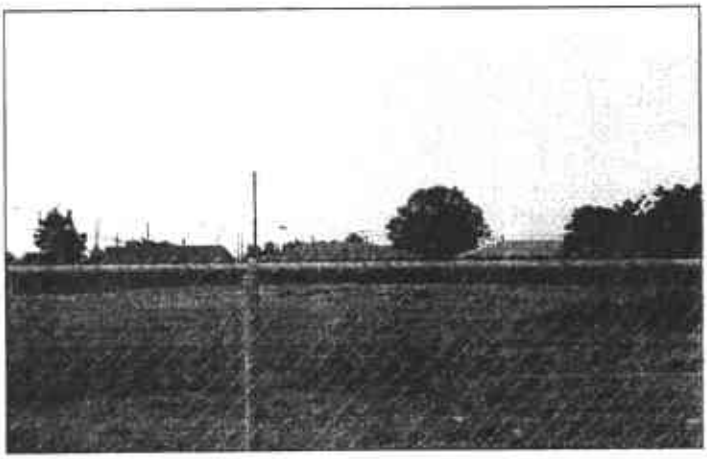


Figure 3d
Site, looking west. (at right)

SCS ENGINEERS ENVIRONMENTAL CONSULTANTS 3645 WESTWIND BOULEVARD SANTA ROSA, CA 95403 PH. (707) 546-9461 FAX (707) 544-5769			SITE PHOTOGRAPHS
PROJ: 01205501.10	TAKEN BY: LMB	FILE: 5510 PhotoPlates-	555 98th AVENUE OAKLAND, CALIFORNIA
DATE: 10/25 /06	CREATED BY: JJM	APP. BY: LMB	

APPROX. SCALE: n/a

PHOTOGRAPHS: 3b,c,& d

Additional Site Investigation Activities, 555 98th Avenue, Oakland, California

prepared by SCS Engineers

dated June 19, 2007

Environmental Consultants
and Contractors

6601 Koll Center Parkway
Suite 140
Pleasanton, CA 94566

925 426-0080
FAX 925 426-0707
www.scsengineers.com

SCS ENGINEERS

June 19, 2007
Project No. 01207042.00

Mr. Leo Puig
Director of Development
AMCAL Multi-Housing, Inc.
2082 Michelson Drive, Suite 100
Irvine, California 92612

Subject: **Summary Report**
Additional Site Investigation Activities
555 98th Avenue
Oakland, California

Dear Mr. Puig:

AMCAL retained SCS Engineers (SCS) to perform an Additional Site Investigation for the approximately 1.6-acre 98th Avenue property located at 555 98th Avenue, Oakland, California (the "Property"). The Property is located southwest of the intersection of 98th Avenue and Edes Avenue and, based on information supplied to SCS by AMCAL, is comprised of Alameda County *Assessor's Parcel Number (APN) 045-5302-010-05*. Information generated during the recent Phase I Environmental Assessment of the Property (SCS, November 8, 2006) indicates that the Property was occupied by a gasoline service station and car wash from the early 1950s to the late 1980s. Prior to the early 1950s the Property was either vacant or used for agricultural purposes. Leaking underground storage tanks (USTs) associated with the former service station/car wash were reportedly removed in 1993 and over-excavation of the UST pit reportedly occurred in 1996. The leaking USTs at the Property were granted "closure" by Alameda County in August 1997. However, residual impacted soil and groundwater reportedly remain beneath the Property. Figure 1 is a Site Location Map and Figure 2 is a Site Plan.

The purpose of the Additional Site Investigation was to address the following environmental issues:

1) Evaluate the potential for the presence of Underground Storage Tanks (USTs) on the Property by performing a geophysical survey using a magnetometer with selected use of a metal detector and ground penetrating radar (GPR).

2) Evaluate the potential for volatile organic compounds (VOCs) in the soil vapor beneath the Property by conducting a soil vapor survey.

3) Evaluate the potential for constituents of concern (i.e., organochlorine pesticides, arsenic, cadmium, chromium, copper, lead, mercury, silver, thallium, and zinc) in the shallow soils beneath the Property.

All investigation tasks were performed by SCS personnel on May 30 and 31, 2007 in accordance with the Additional Site Investigation Activities Proposal prepared by SCS on January 10, 2007.

ADDITIONAL SOIL SAMPLING AND ANALYSIS

Task 1 – Underground Service Alert (USA) was notified a minimum of 48 hours prior to boring activities to locate and demarcate underground utilities that enter the Property from adjacent public rights-of-way.

Subtronic Corp. (Subtronic) of Concord, California conducted the geophysical survey at the Property on May 30, 2007 under the direction of SCS personnel. Subtronic utilized an 858 Magmapper magnetometer to prepare a contour map of the Property and identify any anomalies present. Subtronic was unable to use the TW-6 M-Scope split box locator, the Schondstedt GA-72-CD magnetic gradiometer, and the GSSI SIR-3000 ground penetrating radar system due to the problems of high weeds and debris piles on the Property. A photo log detailing the obstacles present on the Property is included as Attachment A. The geophysical survey was also used to "clear" the proposed soil vapor sampling locations.

The geophysical survey did not reveal any large anomalies on the Property, but instead discovered two small anomalies. The geophysical survey did not find any evidence of USTs in the majority of the Property, but the presence of a UST cannot be ruled out in the areas of the construction and metallic debris piles. A copy of the geophysical report is included as Attachment B. In our experience, the only way to comprehensively evaluate the possible presence of USTs is to conduct extensive excavation, trenching, or grading operations.

Task 2 – Transglobal Environmental Geochemistry (TEG) of Rancho Cordova, California, conducted soil vapor sampling and analysis activities at the Property on May 31, 2007 under the direction of SCS personnel. The survey consisted of the collection of 12 soil vapor samples (*SV-1* through *SV-12*) across the Property. These soil vapor locations are shown on Figure 2. All soil vapor sampling and analysis was done using Department of Toxic Substance Control (DTSC) protocols.

Soil vapor samples were collected at depths of approximately 4 feet below ground surface (bgs). A state-certified, onsite mobile laboratory provided by TEG was used to analyze the soil vapor samples immediately in the field.

Soil vapor sampling equipment consisted of hollow steel drive rods, which were pushed directly into subsurface soils using an electric rotary hammer or TEG's Strataprobe truck mounted hydraulically powered direct push sampling rig. An expendable drive tip is placed on the drive rod before it is pushed into the ground. Soil vapor samples were recovered by slightly retracting the probe and exposing sampling ports on the drive point. Bentonite was then added to the gap between the drive rod and the cored hole and hydrated to prevent surface air entry into the probe. After hydration TEG let the bentonite set for twenty minutes prior to sampling. Vapor samples were extracted with a syringe via a Nylaflow tube attached to the drive tip. Prior to sampling, the tubing was purged to remove ambient air from the sampling system and to ensure that the collected soil vapor sample represented conditions in the soil. Clean Nylaflow tubing was utilized for each sample.

During sampling a can containing compressed 1,1-diflouroethane (Dust Off) was expelled over the sampling system. Analysis for 1,1-diflouroethane was conducted as a check for a compromise in the sampling system. 1,1-diflouroethane was not detected in any of the samples. Duplicate samples, calibration standards, and sample blanks were used to provide Quality Assurance/Quality Control (QA/QC). Following analysis all drive rods were removed and each borehole was sealed with Portland cement grout.

Soil vapor samples were analyzed on-site using TEG's state-certified mobile laboratory and were analyzed for VOCs using EPA Method 8260B. Soil vapor data is summarized on Table 1 and TEG's analytical report is supplied in Attachment C.

Task 3 – Soil samples from 10 locations on the Property were collected using a hand trowel from depths of approximately 6-inches to one-foot bgs. The soil samples were collected in 8-ounce glass jars. Following collection the jars were sealed with tight fitting screw-on lids and labeled. Immediately following labeling, samples were placed in a chilled cooler for later transport to McCampbell Analytical in Pittsburg, California. Samples were tracked from the point of collection through the laboratory using standard chain-of-custody procedures. Copies of the chain-of-custody forms are included with the analytical results in Attachment D. Standard three-stage decontamination procedures were used for all sampling equipment (e.g., hand trowel, pickaxe, etc.) prior to sampling and between each boring.

The shallow soil samples were analyzed for organochlorine pesticides using EPA Method 8081B and for arsenic, cadmium, chromium, copper, lead, mercury, silver, thallium, and zinc using EPA Method 6020A. Shallow soil sample data is summarized on Table 2.

ANALYTICAL RESULTS AND INTERPRETATION

Analytical results were compared to the Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) for residential soils. Chemicals detected at concentrations below ESLs are generally assumed to not pose a significant threat to human health or the environment. ESLs are used as decision making guidance and do not have the effect of law or regulations. Analytical results are summarized on Tables 1 and 2 and are described below. Copies of the laboratory reports and chain-of-custody documentation are included in Attachment B.

Task 2 – Methylene Chloride was detected in 1 of the 10 soil vapor samples at a concentration of 0.10 micrograms per liter (µg/L) of vapor. This concentration is below the 2.4 µg/L residential ESL established for methylene chloride in soil vapor. Toluene was detected in 1 of the 10 soil vapor samples at a concentration of 0.12 µg/L of vapor. This concentration is below the 63 µg/L residential ESL established for toluene in soil vapor. All other remaining EPA Method 8260B VOCs were not detected in soil vapor samples. In summary, VOCs were not detected in soil vapor samples at concentrations exceeding residential ESLs.

- **Task 3** – Organochlorine pesticides, silver, and thallium were not detected in the shallow soil samples collected from SS-*1* through *SS-10*. Cadmium, chromium, copper, lead, mercury, and zinc were not detected in the shallow soil samples collected from *SS-1* through *SS-10* at concentrations exceeding residential ESLs. Arsenic was detected in all ten soil samples at concentrations ranging from 6.5 milligrams per kilogram (mg/kg) to 14 mg/kg. These

concentrations exceed the 5.5 mg/kg ESL established for arsenic at residential sites. However, these concentrations are within the background range reported for Bay Area soils (City of Oakland, July 2000).

SUMMARY AND CONCLUSIONS

Results of the geophysical survey indicate that there is likely no presence of USTs in the majority of the Property. However, because of limitations due to debris piles and high weeds, the presence of USTs cannot be completely ruled out, particularly in the areas where the construction and debris piles are located. In our experience, the only way to comprehensively evaluate the possible presence of USTs is to conduct extensive excavation, trenching, or grading operations.

With the exception of arsenic (see below), constituents of concern (e.g., VOCs, organochlorine pesticides, cadmium, chromium, copper, lead, mercury, silver, thallium and zinc, etc.) were not detected in soil vapor or soil samples collected during this investigation at concentrations exceeding ESLs established by the SFBRWQCB for residential properties above groundwater that is a potential source of drinking water. Arsenic concentrations detected in soil during this investigation exceed residential ESLs. However, the detected arsenic concentrations are within the background range reported for Bay Area soils. Remediation of chemicals to below background levels is generally not required by regulatory agencies.

SCS recommends that this report be submitted to the City of Oakland and the ACDEH for their review and comment prior site redevelopment. In addition, SCS recommends that the ACDEH be contacted regarding the closed leaking UST case on the Property for their opinion on residential redevelopment of the Property.

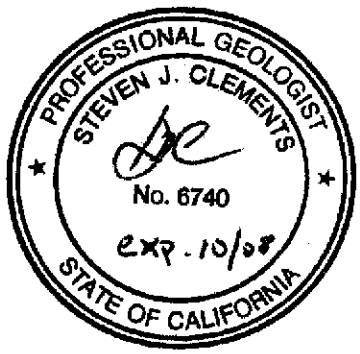
Please contact Steve Clements at (925) 240-5152 ext. 24 if you have any questions or comments regarding this submittal.

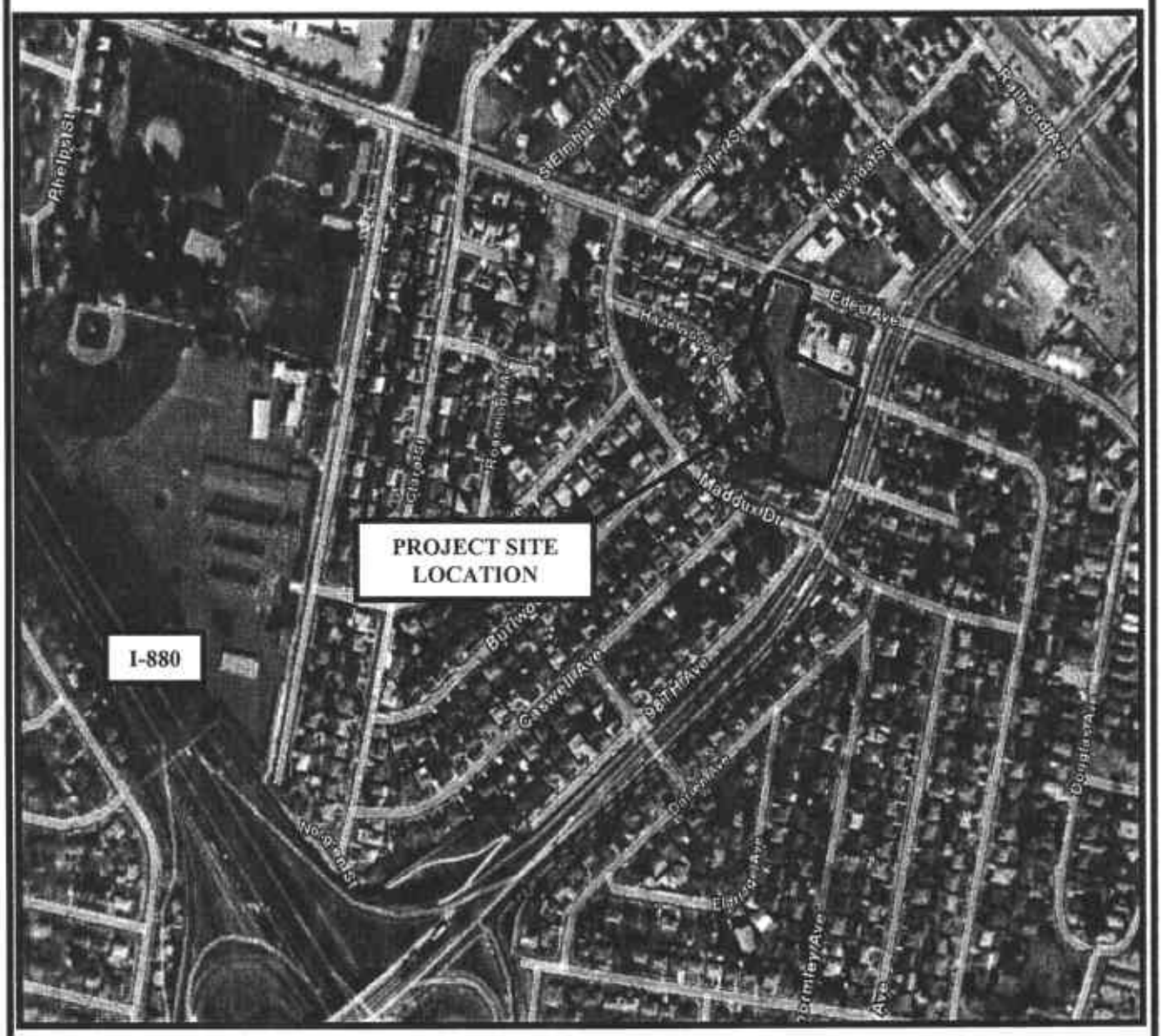
Sincerely,

Heather L. Grant, E.I.T.
Staff Engineer
SCS ENGINEERS

Steve Clements, P.G. 6740, R.E.A.
Project Manager
SCS ENGINEERS

Attachments:
Figure 1 - Site Location Map
Figure 2 - Site Plan
Tables 1 and 2 - Data Summary Tables
Attachment A - Photo Log
Attachment B - Geophysical Report
Attachment C – Soil Vapor Analytical Report
Attachment D – Soil Sample Analytical Report





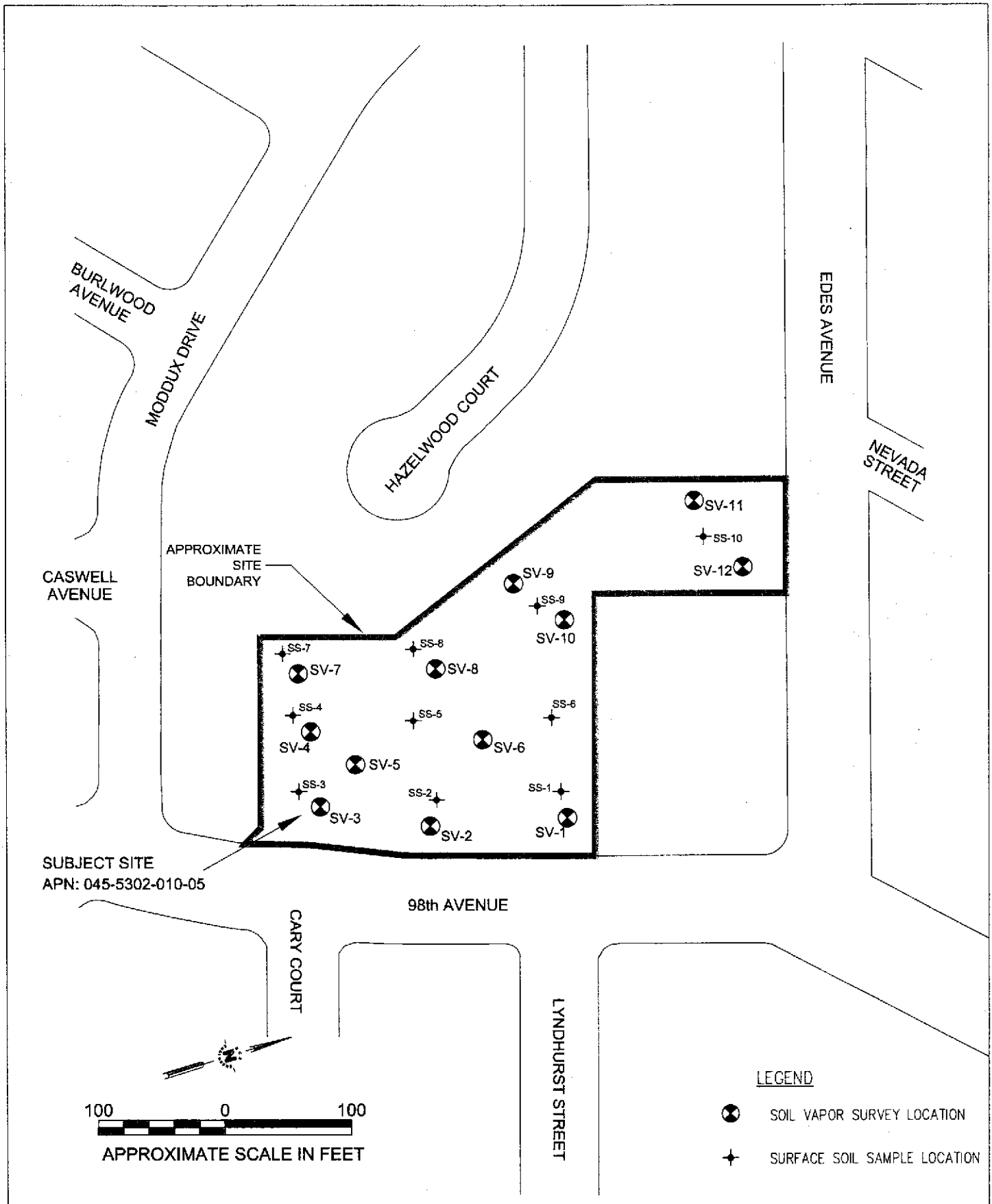
Adapted from Google Earth.

N

SCS ENGINEERS	6601 Koll Center Parkway, Suite 140 Pleasanton, CA 94566 Ph: (925) 426-0080 Fax: (925) 426-0707	
PROJECT NO: 0127042.00		CHECKED BY: SJC
DESIGNED BY: HLG	SCALE: NTS	APPROVED BY: SJC
DRAWN BY: HLG	DATE: 6/07	FILE:

FIGURE 1

SITE LOCATION MAP
AMCAL
555 98th AVENUE
OAKLAND, CALIFORNIA



SCS ENGINEERS ENVIRONMENTAL CONSULTANTS 9601 KOLL CENTER PARKWAY, SUITE 140 PLEASANTON, CALIFORNIA 94566 PHONE: (925) 426-0080 FAX: (925) 426-0707	SITE PLAN 555 98th STREET OAKLAND, CALIFORNIA	FIGURE 2	PROJECT NO. 01207042.00 DATE: 6-15-07

[redacted]

[redacted]

AMCAL

[redacted]

Sample ID	Sample Date	Methylene Chloride	Toluene
		µg/L-vapor	
SV-1	5/31/2007	ND	ND
SV-2	5/31/2007	[redacted]	ND
SV-3	5/31/2007	ND	ND
SV-4	5/31/2007	ND	ND
SV-5	5/31/2007	ND	ND
SV-6	5/31/2007	ND	ND
SV-7	5/31/2007	ND	[redacted]
SV-8	5/31/2007	ND	ND
SV-9	5/31/2007	ND	ND
SV-10	5/31/2007	ND	ND
SV-11	5/31/2007	ND	ND
SV-12	5/31/2007	ND	ND
Residential ESL		2.4	63

Notes:

VOCs = Volatile Organic Compounds; analyzed using EPA Method 8260B (compounds not listed were not detected)

µg/L = micrograms per liter

ND = Not Detected

ESL = Environmental Screening Level for shallow soil gas - San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

AMCAL

Sample ID	Sample Date	Organochlorine Pesticides	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Thallium	Zinc
		mg/kg									
SS-1, 1.0'	5/31/2007	ND	2	0.2	9	12			ND	ND	9
SS-2, 0.5'	5/31/2007	ND	5	ND	7	33	9		ND	ND	35
SS-3, 0.5'	5/31/2007	ND	0	0.3	8	6			ND	ND	7
SS-4, 0.5'	5/31/2007	ND	5	ND	6	12	8		ND	ND	5
SS-5, 0.5'	5/31/2007	ND	9	0.9	7	18			ND	ND	0
SS-6, 0.5'	5/31/2007	ND	3	0	3	3			ND	ND	8
SS-7, 0.5'	5/31/2007	ND	3	0.4	7	18			ND	ND	0
SS-8, 0.5'	5/31/2007	ND	9	0.2	3	18			ND	ND	0
SS-9, 0.5'	5/31/2007	ND	4	ND	8	53	0		ND	ND	0
SS-10, 0.5'	5/31/2007	ND	3	0.5	3	12			ND	ND	3
Residential ESL		--	5.5	1.7	58	230	150	3.7	20	1.0	600

Notes:

Organochlorine Pesticides analyzed using EPA Method 8081B.

Metals analyzed using EPA Method 6020A

mg/kg = milligrams per kilogram (or parts per million; ppm)

ND = Not Detected

ESL = Environmental Screening Level for shallow soil at site located above groundwater that is a current or potential source of drinking water - San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

Photo 1. Looking East

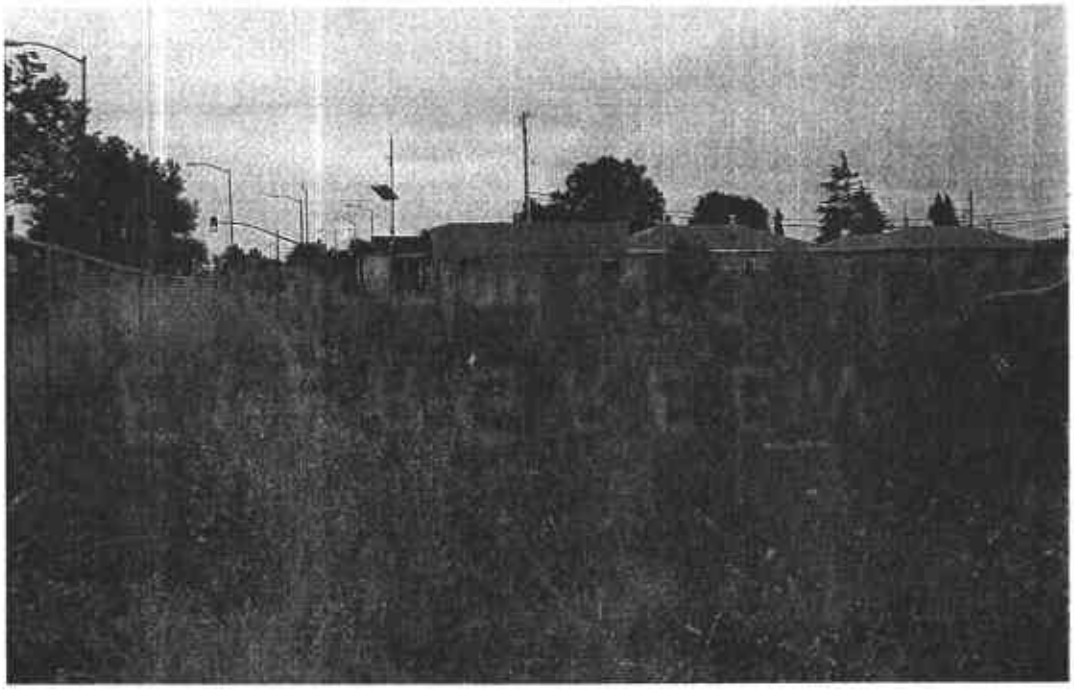


Photo 2. Looking South

Photo 3. Top view of debris pile.

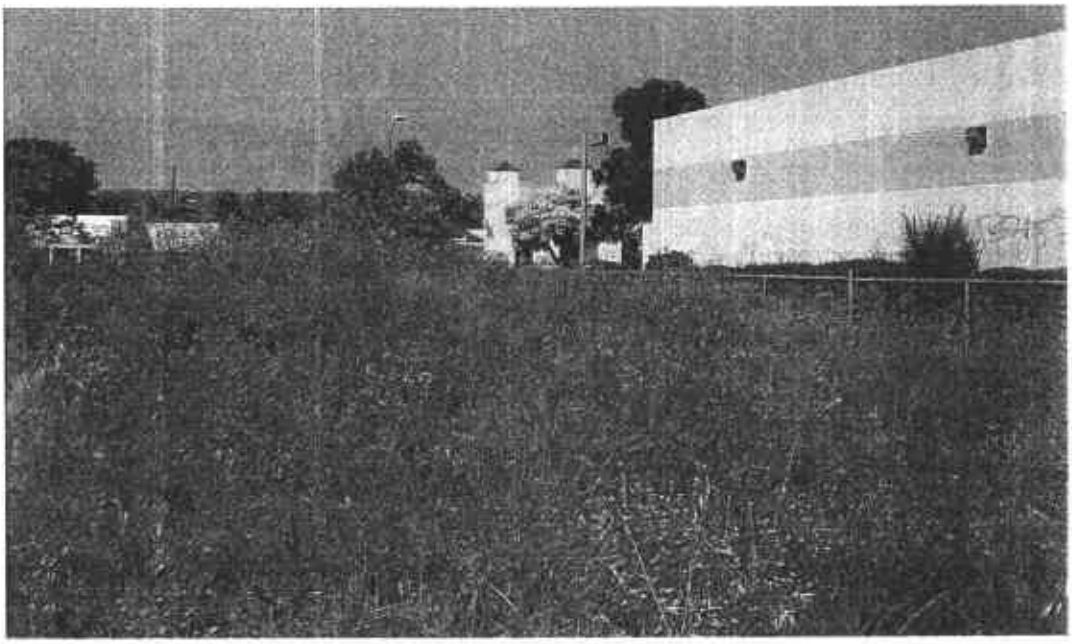


Photo 4. Debris pile, looking North.

Photo 5. Miscellaneous debris.

Photo 6. Miscellaneous debris.

ATTACHMENT B

GEOPHYSICAL REPORT

subtronic corp

National Utility Location
Contractors Association Member

2430 Sprig Court, Suite C
Concord, California 94520
Telephone (925) 686-3747
Fax No. (925) 686-5281
www.subtronic.com

GEOPHYSICAL SUBSURFACE INVESTIGATION

Vacant Lot at 555 98th Avenue, Oakland CA

For

SCS Corporation

5/30/2007

Project Location:
Vacant lot at 555 98th Avenue, Oakland, California. Surveyed May, 30, 2007.

Objective:
The objective of the investigation is to determine the possible presence and location of underground storage tanks.

Site Description:
The survey site, designated by Steve Clements of SCS Corporation, is currently a vacant field covered with waist high weeds, and is northwest of the corner of 98th and Edes Avenue. An active gas station borders the northeast portion of the vacant lot. The site is estimated to be approximately 1.6 acres. This site presented many surveying problems, these included fences lying on the ground, construction debris piles, and metallic debris scattered in various areas. In some areas the weeds were chest high and virtually impenetrable. Note the area west of the southwest corner of the existing active gas station was not surveyed due to large construction debris piles.

Site History:
According to Steve Clements of SCS Corp., the southern portion of the site was previously occupied by a gas station. The history for the remainder of the site is uncertain.

GEOPHYSICAL EQUIPMENT
The specialized equipment used at the site includes a TW-6 M-Scope, Schondstedt GA-72-CD, and the 858 Magmapper and GSSI system 3000 ground penetrating radar (GPR) with a 270 MHz antenna.

TW-6 M-Scope
The Fisher TW-6 M-Scope is a split box inductive locater and metal detector mounted on a four-foot rod. The split box locater can detect metal lines "inductively". The M-Scope is also used to detect buried metallic objects such as manhole covers and underground storage tanks.
The limits of detection for a TW-6 M-SCOPE are approximately five feet in depth.

Schondstedt GA-72-CD
The Schondstedt is a hand held magnetic gradiometer which detects the magnetic field caused by ferromagnetic objects. The schondstedt produces an audible signal when it can detect a variation in the magnetic field strength between the two sensors 14 in apart. In an area of little magnetic debris it can detect metallic objects up to 10 feet deep.

858 Magmapper (magnetometer)
The 858 Magmapper by Geometrics is a magnetometer that detects the earth's magnetic field. This magnetometer uses new technology to get precise readings at rates up to 10 times per second. This enables Subtronic to collect high resolution data over large areas. A GPS guidance system is connected to the 858 console to provide submeter accuracy, and to help maintain straight traverses. Both GPS locations and magnetometer are is stored on the console connected to the magnetometer. Following the data collection, the data is then downloaded to a computer for processing by a software contouring package. A contour map is produced and anomalies identified.

GSSI SIR-3000
A ground penetrating radar system graphically records subsurface structures. Both geological and man made structures are recorded by the introduction of a pulse of electromagnetic energy into the ground. Reflected pulses received by the antenna are then processed for measurable contrast in electrical properties. The result is a visual pseudo-cross-sectional profile.

Primary applications of the GPR are detecting UST's, foundations, buried drums, previously excavated areas and detecting metallic and non-metallic utilities.

The GPR depth penetration is severely limited by clay-rich soil. Radar waves penetrate deeper in sandy and gravelly soils.

Survey Methodology:
First, a visual inspection was conducted at the site. Underground utilities, vaults, boxes, exposed piping, topographic mounds and depressions are noted. Exposed piping or risers found on the site will be energized, traced out and the surface location was spray painted on the ground.

A magnetometer guided by GPS along transects spaced 5 foot apart was scanned over the site. The GPS location was automatically synchronized with the magnetometer data, and was stored on the 858 console. At the end of the survey the data was downloaded for analysis.

Survey Results:
A geophysical survey was conducted over an area indicated by Steve Clements on May 30, 2007. The site had metal debris over various parts of the vacant lot. Figure 1 is a contour plot of magnetic gradient data with locations of the some of the major metallic debris piles. The contour interval is 100 gammas, and only the top sensor is shown.

The site was not scanned with the split box locator, the Schonstedt or ground penetrating radar due to problems of high weeds and irregular topography caused by the debris dumped on site. Figure 1 shows two anomalies labeled with a **B**. They are labeled **B** because they are medium sized anomalies and just a few hundred gammas in strength. The source of these anomalies is not known. Most of the site appears free of magnetic anomalies except around the fenced border and debris piles. No significant magnetic anomalies, not associated with debris piles of fences, were identified.

Conclusion:

This geophysical survey revealed two small anomalies. However no large isolated anomalies were found on the site. Due to the current site conditions i.e. metallic and construction debris in some area of the site, the presence of an UST in these areas cannot be ruled out. This geophysical survey should be considered a best effort until the above problems are remedied. It is safe to conclude that there is no evidence of a UST in the majority of the survey area, but those areas with metallic debris cannot be considered clear.

Limitations

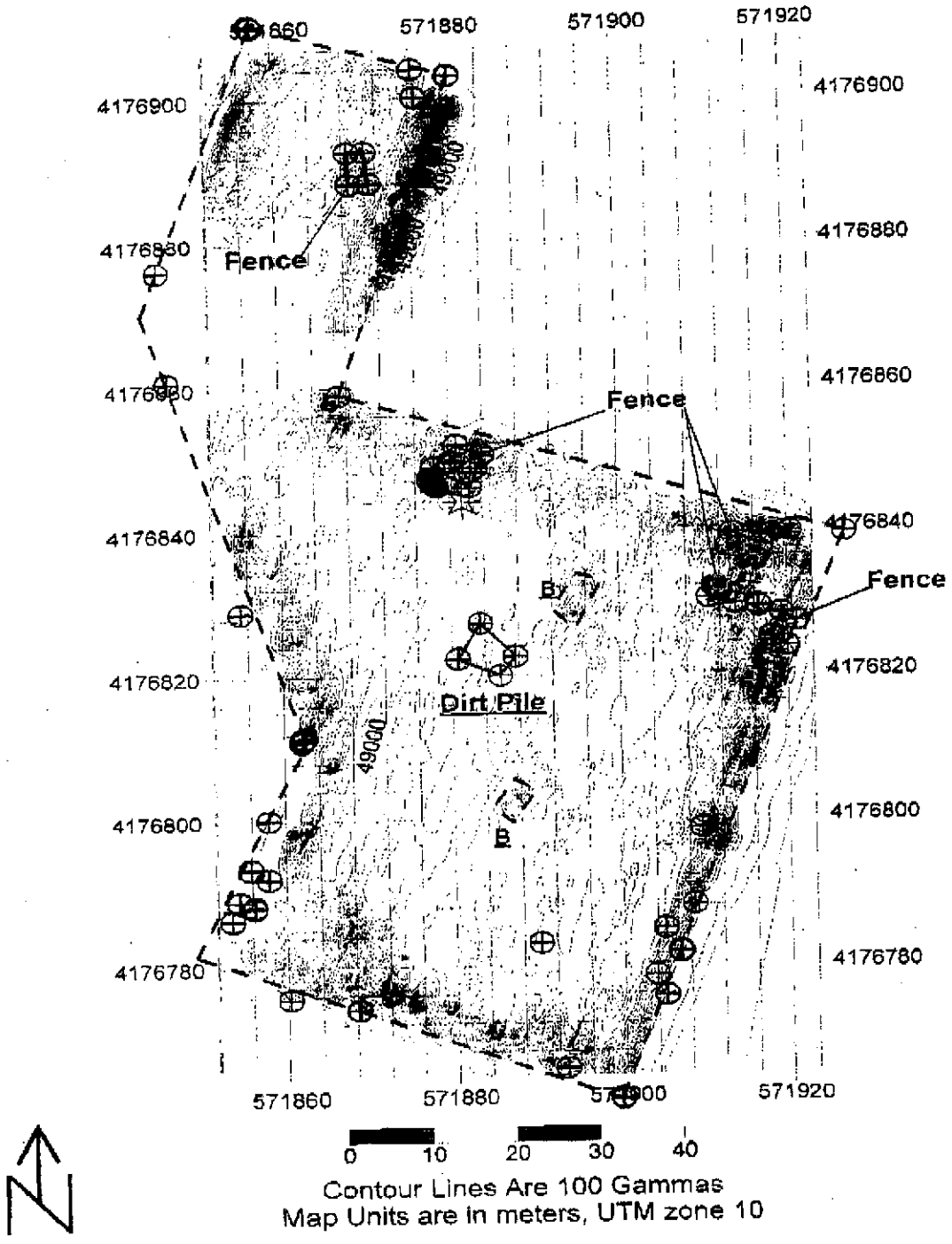
The subsurface geology, object size and composition, burial depth, affect the size and shape of geophysical anomalies, which may impede their detection. Geophysical anomalies may not represent unique solutions. Apparently similar anomalies may be created by different subsurface phenomena.

The limits of discernment of this magnetic survey are the detection of objects within five feet of metal fences, buildings, vehicles and other identified metal objects.

Report Prepared By:

Pierre Armand

Total Field Magnetic Data Surveyed at 555 98th Avenue, Oakland, California
Surveyed May 30, 2007



Contour Lines Are 100 Gammas
Map Units are in meters, UTM zone 10

ATTACHMENT C

SOIL VAPOR ANALYTICAL REPORT

teg

TRANSGLOBAL
ENVIRONMENTAL
GEOCHEMISTRY

19 June 2007

Mr. Steve Clements
SCS Engineers
6601 Koll Center Parkway, Suite 140
Pleasanton, CA 94566

SUBJECT: DATA REPORT - SCS Engineers Project # 01207042.00
555 98th Street, Oakland, California

TEG Project # 70531F

Mr. Clements:

Please find enclosed a data report for the samples analyzed from the above referenced project for SCS Engineers. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 15 analyses on 15 soil vapor samples.

-- 15 analyses on soil vapors for selected volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound around the probe rods during the soil vapor sampling. No 1,1 difluoroethane was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to SCS Engineers on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

SCS Engineers Project # 01207042.00
555 98th Street
Oakland, California

TEG Project #70531F

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		Probe Blank	SV-1	SV-2	SV-2	SV-2	SV-3
SAMPLE DEPTH (feet):			5.0	5.0	5.0	5.0	5.0
PURGE VOLUME:			3	1	3	7	3
COLLECTION DATE:		5/31/07	5/31/07	5/31/07	5/31/07	5/31/07	5/31/07
COLLECTION TIME:		10:20	15:22	10:33	10:47	11:10	11:33
DILUTION FACTOR (VOCs):		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	0.10	nd	nd	nd	nd	nd	nd
Vinyl Chloride	0.10	nd	nd	nd	nd	nd	nd
Chloroethane	0.10	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.10	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	0.10	nd	nd	nd	nd	nd	nd
Methylene Chloride	0.10	nd	nd	0.10	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.10	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
Chloroform	0.10	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.10	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.10	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.10	nd	nd	nd	nd	nd	nd
Benzene	0.10	nd	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd	nd
Toluene	0.10	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.10	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.10	nd	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		91%	98%	93%	92%	94%	92%
Surrogate Recovery (1,2-DCA-d4)		92%	98%	89%	87%	82%	84%
Surrogate Recovery (Toluene-d8)		89%	95%	96%	95%	96%	95%

'nd' Indicates not detected at listed reporting limits
'RL' Indicates reporting limit at a dilution factor of 1

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Meghan Powers

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

SCS Engineers Project # 01207042.00
555 98th Street
Oakland, California

TEG Project #70531F

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		SV-4	SV-5	SV-6	SV-7	SV-7 dup	SV-8
SAMPLE DEPTH (feet):		5.0	5.0	5.0	5.0	5.0	5.0
PURGE VOLUME:		3	3	3	3	3	3
COLLECTION DATE:		5/31/07	5/31/07	5/31/07	5/31/07	5/31/07	5/31/07
COLLECTION TIME:		11:48	13:00	13:17	12:14	12:39	12:24
DILUTION FACTOR (VOCs):		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	0.10	nd	nd	nd	nd	nd	nd
Vinyl Chloride	0.10	nd	nd	nd	nd	nd	nd
Chloroethane	0.10	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.10	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	0.10	nd	nd	nd	nd	nd	nd
Methylene Chloride	0.10	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.10	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd	nd
Chloroform	0.10	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.10	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.10	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.10	nd	nd	nd	nd	nd	nd
Benzene	0.10	nd	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd	nd
Toluene	0.10	nd	nd	nd	0.12	0.12	nd
1,1,2-Trichloroethane	0.10	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.10	nd	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		94%	91%	92%	93%	91%	93%
Surrogate Recovery (1,2-DCA-d4)		82%	84%	82%	88%	82%	88%
Surrogate Recovery (Toluene-d8)		94%	93%	93%	95%	94%	96%

'nd' Indicates not detected at listed reporting limits
'RL' Indicates reporting limit at a dilution factor of 1

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Meghan Powers

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

SCS Engineers Project # 01207042.00
555 98th Street
Oakland, California

TEG Project #70531F

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		SV-9	SV-10	SV-11	SV-12
SAMPLE DEPTH (feet):		5.0	5.0	5.0	5.0
PURGE VOLUME:		3	3	3	3
COLLECTION DATE:		5/31/07	5/31/07	5/31/07	5/31/07
COLLECTION TIME:		13:45	15:00	14:33	14:10
DILUTION FACTOR (VOCs):		1	1	1	1
	RL				
Dichlorodifluoromethane	0.10	nd	nd	nd	nd
Vinyl Chloride	0.10	nd	nd	nd	nd
Chloroethane	0.10	nd	nd	nd	nd
Trichlorofluoromethane	0.10	nd	nd	nd	nd
1,1-Dichloroethene	0.10	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	0.10	nd	nd	nd	nd
Methylene Chloride	0.10	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd
1,1-Dichloroethane	0.10	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd
Chloroform	0.10	nd	nd	nd	nd
1,1,1-Trichloroethane	0.10	nd	nd	nd	nd
Carbon Tetrachloride	0.10	nd	nd	nd	nd
1,2-Dichloroethane	0.10	nd	nd	nd	nd
Benzene	0.10	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd
Toluene	0.10	nd	nd	nd	nd
1,1,2-Trichloroethane	0.10	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.10	nd	nd	nd	nd
m,p-Xylene	0.10	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.10	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd
Surrogate Recovery (DBFM)		97%	95%	96%	94%
Surrogate Recovery (1,2-DCA-d4)		92%	92%	95%	91%
Surrogate Recovery (Toluene-d8)		96%	85%	93%	94%

'nd' Indicates not detected at listed reporting limits
'RL' Indicates reporting limit at a dilution factor of 1

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Meghan Powers

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

SCS Engineers Project # 01207042.00
555 98th Street
Oakland, California

TEG Project #70531F

CALIBRATION STANDARDS - Initial Calibration / LCS

Instrument: Agilent 5973N MSD

	INITIAL CALIBRATION		LCS	
COMPOUND	RF	%RSD	RF	%DIFF
Dichlorodifluoromethane*	1.967	7.2%	1.610	18.1%
Vinyl Chloride*	2.219	8.6%	1.911	13.9%
Chloroethane*	1.074	10.6%	0.968	9.9%
Trichlorofluoromethane*	2.316	6.1%	2.428	4.8%
1,1-Dichloroethene	1.360	7.6%	1.273	6.4%
1,1,2-Trichloro-trifluoroethane*	1.268	8.2%	1.355	6.9%
Methylene Chloride	1.301	8.4%	1.286	1.2%
trans-1,2-Dichloroethene	1.489	10.2%	1.406	5.6%
1,1-Dichloroethane	3.155	9.9%	3.088	2.1%
cis-1,2-Dichloroethene	1.547	8.5%	1.562	1.0%
Chloroform	2.847	6.9%	2.790	2.0%
1,1,1-Trichloroethane	2.713	7.5%	2.621	3.4%
Carbon Tetrachloride	2.470	5.3%	2.475	0.2%
1,2-Dichloroethane	2.069	13.8%	2.112	2.1%
Benzene	5.875	10.7%	5.607	4.6%
Trichloroethene	1.603	10.3%	1.599	0.2%
Toluene	3.813	12.4%	3.564	6.5%
1,1,2-Trichloroethane	0.801	14.2%	0.864	7.9%
Tetrachloroethene	1.719	7.6%	1.683	2.1%
Ethylbenzene	2.806	8.8%	2.699	3.8%
1,1,1,2-Tetrachloroethane	2.101	10.3%	1.967	6.4%
m,p-Xylene	3.613	15.7%	3.257	9.9%
o-Xylene	3.436	11.3%	3.222	6.2%
1,1,2,2-Tetrachloroethane	2.638	17.2%	2.679	1.6%
ACCEPTABLE LIMITS:		20.0%		15.0%

'*' INDICATES RSD NOT TO EXCEED 30% & LCS NOT TO EXCEED 25%

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

ATTACHMENT D

SOIL SAMPLE ANALYTICAL REPORT

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
6601 Koll Center Pkwy, Ste 140		Date Received: 06/01/07
Pleasanton, CA 94566	Client Contact: Steve Clements	Date Reported: 06/11/07
	Client P.O.:	Date Completed: 06/11/07

WorkOrder: 0706027

June 11, 2007

Dear Steve:

Enclosed are:

1). the results of **10** analyzed samples from your **#01207042.00; AMCAL project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

CHAIN OF CUSTODY RECORD 0706027 SCSD

SCS ENGINEERS Environmental Consultants

6601 Koll Center Parkway
Suite 140
Pleasanton, CA 94566

925 426-0080
FAX 925 426-0707
www.scsengineers.com

TOTAL NUMBER OF SAMPLES: 10
PAGE 1 OF 1
TURNAROUND TIME REQUIRED: 5-Day ___3-Day ___Immediate ___Other

PROJECT NUMBER: 01207042.00
PROJECT MANAGER: Steve Clements
PROJECT NAME: AMCAL
W.O. / S.O. #:
PROJECT LOCATION: 5555 98th St Oakland, CA
SAMPLER NAME AND SIGNATURE: Heather Grant

I.D. NUMBER	SAMPLE DESIGNATION	SAMPLE MATRIX	DATE/TIME COLLECTED	CONTAINER SIZE/TYPE	SAMPLE PRESERVATIVE	SPECIAL INSTRUCTIONS/COMMENTS	ANALYSES REQUESTED: Pesticides by 8081B	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Thallium, Zinc	LAB USE ONLY
06434	SS-1, 0.5'	Soil	5-31-07	8oz Glass Jar	None	N/A	X	X	X	X	X	X	X	X	X	
06435	SS-2, 0.5'						X	X	X	X	X	X	X	X	X	
06436	SS-3, 0.5'						X	X	X	X	X	X	X	X	X	
06437	SS-4, 0.5'						X	X	X	X	X	X	X	X	X	
06438	SS-5 0.5'						X	X	X	X	X	X	X	X	X	
06439	SS-6 0.5'						X	X	X	X	X	X	X	X	X	
06440	SS-7, 0.5'						X	X	X	X	X	X	X	X	X	
06441	SS-8, 0.5'						X	X	X	X	X	X	X	X	X	
06442	SS-9, 0.5'						X	X	X	X	X	X	X	X	X	
06443	SS-10, 0.5'						X	X	X	X	X	X	X	X	X	

ICE/T° 6.6
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___
VOAS | O & G | METALS | OTHER
PRESERVATION

NOTES:
Email Steve Clements at sclements@scsengineers.com w/ results

SAMPLE CONDITION UPON RECEIPT:

RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
Heather Grant	6/1/07	Scott Collins	6/1/07	Scott Collins	6/1/07	Kevin Campbell	6/4/07
COMPANY: SCS	TIME: 3:45	COMPANY: URS	TIME: 1545	COMPANY: URS	TIME: 1700	COMPANY: McCampbell	TIME: 6:50

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0706027 **ClientID: SCSD**

☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Steve Clements
SCS Engineers
6601 Koll Center Pkwy, Ste 140
Pleasanton, CA 94566

Email: sclements@scseng.com
TEL: (925) 426-008 FAX: (925) 426-070
ProjectNo: #01207042.00; AMCAL
PO:

Bill t
Accounts Payable
SCS Engineers
6601 Koll Center Pkwy, Ste 140
Pleasanton, CA 94566

Requested TAT: 5 days

Date Received **06/01/2007**
Date Printed: **06/01/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0706027-001	SS-1, 1.0'	Soil	5/31/2007	☐	A	A										
0706027-002	SS-2, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-003	SS-3, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-004	SS-4, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-005	SS-5, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-006	SS-6, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-007	SS-7, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-008	SS-8, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-009	SS-9, 0.5'	Soil	5/31/2007	☐	A	A										
0706027-010	SS-10, 0.5'	Soil	5/31/2007	☐	A	A										

Test Legend:

1	8081_S	2	METALSMS_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Sheli Cryderman

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.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **SCS Engineers**
Date and Time Received: **6/1/2007 6:46:34 PM**

Project Name: **#01207042.00; AMCAL**
Checklist completed and reviewed by: SC

WorkOrder N°: **0706027** Matrix Soil
Carrier: Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 6.6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑

Client contacted: Date contacted: Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
		Date Received: 06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted: 06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed: 06/02/07-06/05/07

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8081B Work Order: 0706027

Lab ID	0706027-001A	0706027-002A	0706027-003A	0706027-004A	Reporting Limit for DF =1	
Client ID	SS-1, 1.0'	SS-2, 0.5'	SS-3, 0.5'	SS-4, 0.5'		
Matrix	S	S	S	S	S	W
DF	10	50	20	2		
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
a-BHC	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
b-BHC	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
d-BHC	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
g-BHC	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Chlordane (Technical)	ND<0.25	ND<1.2	ND<0.50	ND<0.050	0.025	NA
a-Chlordane	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
g-Chlordane	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
p,p-DDD	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
p,p-DDE	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
p,p-DDT	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Dieldrin	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Endosulfan I	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Endosulfan II	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Endosulfan sulfate	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Endrin	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Endrin aldehyde	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Heptachlor	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Heptachlor epoxide	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Hexachlorobenzene	ND<0.10	ND<0.50	ND<0.20	ND<0.020	0.01	NA
Hexachlorocyclopentadiene	ND<0.20	ND<1.0	ND<0.40	ND<0.040	0.02	NA
Methoxychlor	ND<0.010	ND<0.050	ND<0.020	ND<0.0020	0.001	NA
Toxaphene	ND<0.50	ND<2.5	ND<1.0	ND<0.10	0.05	NA
Surrogate Recoveries (%)						
%SS:	99	117	108	112		
Comments	j	j	j	j		

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
		Date Received: 06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted: 06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed: 06/02/07-06/05/07

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8081B Work Order: 0706027

Lab ID	0706027-005A	0706027-006A	0706027-007A	0706027-008A	Reporting Limit for DF =1	
Client ID	SS-5, 0.5'	SS-6, 0.5'	SS-7, 0.5'	SS-8, 0.5'		
Matrix	S	S	S	S	S	W
DF	50	20	100	20		
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
a-BHC	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
b-BHC	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
d-BHC	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
g-BHC	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Chlordane (Technical)	ND<1.2	ND<0.50	ND<2.5	ND<0.50	0.025	NA
a-Chlordane	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
g-Chlordane	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
p,p-DDD	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
p,p-DDE	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
p,p-DDT	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Dieldrin	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Endosulfan I	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Endosulfan II	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Endosulfan sulfate	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Endrin	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Endrin aldehyde	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Heptachlor	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Heptachlor epoxide	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Hexachlorobenzene	ND<0.50	ND<0.20	ND<1.0	ND<0.20	0.01	NA
Hexachlorocyclopentadiene	ND<1.0	ND<0.40	ND<2.0	ND<0.40	0.02	NA
Methoxychlor	ND<0.050	ND<0.020	ND<0.10	ND<0.020	0.001	NA
Toxaphene	ND<2.5	ND<1.0	ND<5.0	ND<1.0	0.05	NA
Surrogate Recoveries (%)						
%SS:	129	121	---#	107		
Comments	j	j	j	j		

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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"When Quality Counts"

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Telephone: 877-252-9262 Fax: 925-252-9269

SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled:	05/31/07
		Date Received:	06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted:	06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed:	06/02/07-06/05/07

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8081B Work Order: 0706027

Lab ID	0706027-009A	0706027-010A			Reporting Limit for DF =1	
Client ID	SS-9, 0.5'	SS-10, 0.5'				
Matrix	S	S			S	W
DF	10	50				
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.010	ND<0.050			0.001	NA
a-BHC	ND<0.010	ND<0.050			0.001	NA
b-BHC	ND<0.010	ND<0.050			0.001	NA
d-BHC	ND<0.010	ND<0.050			0.001	NA
g-BHC	ND<0.010	ND<0.050			0.001	NA
Chlordane (Technical)	ND<0.25	ND<1.2			0.025	NA
a-Chlordane	ND<0.010	ND<0.050			0.001	NA
g-Chlordane	ND<0.010	ND<0.050			0.001	NA
p,p-DDD	ND<0.010	ND<0.050			0.001	NA
p,p-DDE	ND<0.010	ND<0.050			0.001	NA
p,p-DDT	ND<0.010	ND<0.050			0.001	NA
Dieldrin	ND<0.010	ND<0.050			0.001	NA
Endosulfan I	ND<0.010	ND<0.050			0.001	NA
Endosulfan II	ND<0.010	ND<0.050			0.001	NA
Endosulfan sulfate	ND<0.010	ND<0.050			0.001	NA
Endrin	ND<0.010	ND<0.050			0.001	NA
Endrin aldehyde	ND<0.010	ND<0.050			0.001	NA
Heptachlor	ND<0.010	ND<0.050			0.001	NA
Heptachlor epoxide	ND<0.010	ND<0.050			0.001	NA
Hexachlorobenzene	ND<0.10	ND<0.50			0.01	NA
Hexachlorocyclopentadiene	ND<0.20	ND<1.0			0.02	NA
Methoxychlor	ND<0.010	ND<0.050			0.001	NA
Toxaphene	ND<0.50	ND<2.5			0.05	NA
Surrogate Recoveries (%)						
%SS:	111	116				
Comments	j	j				

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
		Date Received: 06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted: 06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed 06/08/07

Metals*

Lab ID	0706027-001A	0706027-002A	0706027-003A	0706027-004A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS-1, 1.0'	SS-2, 0.5'	SS-3, 0.5'	SS-4, 0.5'		
Matrix	S	S	S	S	S	W
Extraction Type	TTLC	TTLC	TTLC	TTLC	mg/kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A Extraction Method: SW3050B Work Order: 0706027

Dilution Factor	1	1	1	1	1	1
Arsenic	7.2	6.5	7.0	6.5	0.5	NA
Cadmium	0.30	ND	0.26	ND	0.25	NA
Chromium	27	37	57	56	0.5	NA
Copper	29	35	28	21	0.5	NA
Lead	21	24	16	7.7	0.5	NA
Mercury	0.13	0.39	0.13	0.14	0.05	NA
Silver	ND	ND	ND	ND	0.5	NA
Thallium	ND	ND	ND	ND	0.5	NA
Zinc	90	76	71	51	5.0	NA
%SS:	92	102	96	99		

Comments					

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
		Date Received: 06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted: 06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed 06/08/07

Metals*

Lab ID	0706027-005A	0706027-006A	0706027-007A	0706027-008A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS-5, 0.5'	SS-6, 0.5'	SS-7, 0.5'	SS-8, 0.5'		
Matrix	S	S	S	S	S	W
Extraction Type	TTLC	TTLC	TTLC	TTLC	mg/kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A Extraction Method: SW3050B Work Order: 0706027

Dilution Factor	1	1	1	1	1	1
Arsenic	9.3	7.8	13	9.3	0.5	NA
Cadmium	0.29	0.37	0.49	0.31	0.25	NA
Chromium	49	33	44	52	0.5	NA
Copper	37	31	57	33	0.5	NA
Lead	28	76	62	28	0.5	NA
Mercury	0.34	0.11	0.27	0.13	0.05	NA
Silver	ND	ND	ND	ND	0.5	NA
Thallium	ND	ND	ND	ND	0.5	NA
Zinc	100	98	190	120	5.0	NA
%SS:	96	89	94	92		

Comments

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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SCS Engineers	Client Project ID: #01207042.00; AMCAL	Date Sampled: 05/31/07
		Date Received: 06/01/07
6601 Koll Center Pkwy, Ste 140	Client Contact: Steve Clements	Date Extracted: 06/01/07
Pleasanton, CA 94566	Client P.O.:	Date Analyzed 06/08/07

Metals*

Lab ID	0706027-009A	0706027-010A			Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS-9, 0.5'	SS-10, 0.5'				
Matrix	S	S			S	W
Extraction Type	TTLC	TTLC			mg/kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A Extraction Method: SW3050B Work Order: 0706027

Dilution Factor	1	1			1	1
Arsenic	14	7.8			0.5	NA
Cadmium	ND	0.32			0.25	NA
Chromium	26	51			0.5	NA
Copper	55	33			0.5	NA
Lead	35	24			0.5	NA
Mercury	0.36	0.12			0.05	NA
Silver	ND	ND			0.5	NA
Thallium	ND	ND			0.5	NA
Zinc	110	78			5.0	NA
%SS:	96	94				

Comments

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

J) analyte detected between reporting limits (RLs) and method detection limits (MDLs).

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder 0706027

EPA Method SW8081B	Extraction SW3550C	BatchID: 28464	Spiked Sample ID: 0706027-001A

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	RPD	LCS/LCSD	RPD
Aldrin	ND<0.010	0.010	105	113	7.02	116	113	2.08	70 - 130	30	70 - 130	30
g-BHC	ND<0.010	0.010	78.3	76.1	2.86	83.6	82.1	1.92	70 - 130	30	70 - 130	30
p,p-DDT	ND<0.010	0.025	102	109	6.55	91	90.3	0.793	70 - 130	30	70 - 130	30
Dieldrin	ND<0.010	0.025	99.6	102	2.24	105	103	1.71	70 - 130	30	70 - 130	30
Endrin	ND<0.010	0.025	95.8	101	4.87	106	105	0.889	70 - 130	30	70 - 130	30
Heptachlor	ND<0.010	0.010	116	128	10.1	96	94.8	1.31	70 - 130	30	70 - 130	30
%SS:	99	0.050	109	107	1.79	115	114	0.790	70 - 130	30	70 - 130	30

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

NONE

BATCH 28464 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706027-001A	05/31/07	06/01/07	06/02/07 12:50 PM	0706027-002A	05/31/07	06/01/07	06/04/07 9:48 PM
0706027-003A	05/31/07	06/01/07	06/02/07 3:39 PM	0706027-004A	05/31/07	06/01/07	06/02/07 4:35 PM
0706027-005A	05/31/07	06/01/07	06/04/07 10:43 PM	0706027-006A	05/31/07	06/01/07	06/05/07 3:19 AM
0706027-007A	05/31/07	06/01/07	06/05/07 4:14 AM	0706027-008A	05/31/07	06/01/07	06/02/07 9:12 PM
0706027-009A	05/31/07	06/01/07	06/02/07 10:06 PM	0706027-010A	05/31/07	06/01/07	06/05/07 5:09 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 ELAP Certification N° 1644

QA/QC Officer

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QC SUMMARY REPORT FOR 6020A

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder 0706027

EPA Method 6020A	Extraction SW3050B	BatchID: 28465	Spiked Sample ID 0706027-001A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Arsenic	7.2	50	103	104	0.660	10	90.1	92	2.09	75 - 125	20	80 - 120	20
Cadmium	0.30	50	101	102	0.804	10	91.7	93.4	1.84	75 - 125	20	80 - 120	20
Chromium	27	50	95.1	95.1	0	10	95.2	94.5	0.792	75 - 125	20	80 - 120	20
Copper	29	50	101	102	0.626	10	90.1	91.4	1.47	75 - 125	20	80 - 120	20
Lead	21	50	102	103	0.900	10	96.8	93	4.00	75 - 125	20	80 - 120	20
Mercury	0.13	1.25	92.3	93.6	1.24	0.25	102	101	1.50	75 - 125	20	80 - 120	20
Silver	ND	50	93.2	93.9	0.726	10	84.5	86.2	1.98	75 - 125	20	80 - 120	20
Thallium	ND	50	98.6	99.4	0.867	10	90.2	92	1.91	75 - 125	20	80 - 120	20
Zinc	90	500	96.7	97.5	0.678	100	88.8	89.5	0.864	75 - 125	20	80 - 120	20
%SS:	92	250	93	94	0.512	250	101	94	6.60	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 28465 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0706027-001A	05/31/07	06/01/07	06/08/07 2:21 PM	0706027-002A	05/31/07	06/01/07	06/08/07 5:45 PM
0706027-003A	05/31/07	06/01/07	06/08/07 5:52 PM	0706027-004A	05/31/07	06/01/07	06/08/07 6:00 PM
0706027-005A	05/31/07	06/01/07	06/08/07 6:07 PM	0706027-006A	05/31/07	06/01/07	06/08/07 6:45 PM
0706027-007A	05/31/07	06/01/07	06/08/07 7:18 PM	0706027-008A	05/31/07	06/01/07	06/08/07 7:25 PM
0706027-009A	05/31/07	06/01/07	06/08/07 7:37 PM	0706027-010A	05/31/07	06/01/07	06/08/07 7:45 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 applicable to this method.

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

DHS ELAP Certification N° 1644

QA/QC Officer

Oakland Urban Land Redevelopment Program: Guidance Document (City of Oakland, Survey of Background Metal Concentrations)

City of Oakland
Survey of Background Metal Concentration Studies

Some naturally-occurring concentrations of metals in Oakland soils are higher than the thresholds calculated by risk-based models. In such cases, there is unlikely to be any real reduction in risk realized from remediation to the risk-based threshold since the observed concentrations are likely to represent ambient conditions. In Oakland, this is especially true of arsenic. The following table contains the results from background metal concentration studies conducted in locations that are relevant to Oakland's geology.

Background Metal Concentrations
(ppm in soil)

Source	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Lawrence Berkeley National Laboratories[1]	5.5	19.1	1.0	2.7	99.6	69.4	16.1	0.4	119.8	5.6	1.8	27.1	106.1
-Colluvian &Fill	5.9	14.0	0.9	1.5	91.4	59.6	14.7	0.3	120.2	5.6	1.7	42.5	91.5
-Great Valley Group	6.3	31.0	1.0	3.2	59.0	99.7	21.5	0.6	69.7	4.8	2.2	8.7	135.9
-Moraga Formation	6.1	9.3	0.8	2.6	142.2	54.1	8.9	0.3	100.4	4.7	2.0	38.9	84.7
-Orinda Formation	5.2	17.8	1.1	3.3	95.2	66.9	14.8	0.3	144.3	7.0	1.9	19.8	98.3
-San Pablo Group	7.1	15.7	0.8	2.9	78.6	40.9	10.3	0.4	125.9	4.9	1.5	10.9	97.7
San Leandro, Ca[2]	<3-<15	1.8-5.9	<0.25-<1.30	<0.25-<1.30	24.8-43.0	11.8-68.0	3.3-10.4	<0.10	2.93-43.60	<0.25-<2.50	<0.50-<2.50	<0.50-<5.00	9.3-61.3
Union City, Ca[3]	5.0	6.92-9.34	0.5-0.81	0.5-1.30	46.5-112	28.2-60.1	19.8-148	0.1-0.36	32.4-60.6	0.5	0.5	5.0	97.1-474
Western U.S.[4]	--	1-50	--	0.1-0.7	1-1,000	2-100	20-100	0.01-0.3	5-500	--	--	--	10-300

Sources:

[1] Lawrence Berkeley National Laboratory Environmental Restoration Program, 1995. 500 samples were taken from 71 locations representing 5 geologic units at LBNL: Colluvian & Fill, Great Valley group, Moraga formation, Orinda formation and San Pablo group. Concentrations listed are Upper 95% Confidence Limits of data from 71 monitoring well borings.

[2] Chemical Testing on Background Soil Samples: Roberts Landing Development Site, San Leandro, CA, 1994.

[3] Site Wide Remedial Investigation: Pacific States Steel Corp. Union City, CA, 1992.

[4] USEPA (found in Remedial Investigation Report, Hercules Properties, Inc., 1991).

DTSC Indoor Air Guidance Unclassified Soil Screening Model for Methylene Chloride

DATA ENTRY SHEET

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	1.00E+02			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	122	24	C		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
C	1.43	0.459	0.215	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	1.0E-06	4.0E-01	84.93

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^v (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
107	0.244	0.324	2.32E-09	0.821	1.90E-09	4,000	1.00E+02	3.39E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	15	6,884	2.10E-03	8.62E-02	1.80E-04	4.38E-03	107

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.00E+02	1.25	3.35E+00	4.38E-03	5.00E+03	4.62E+00	1.14E-04	1.14E-02

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
1.0E-06	4.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
4.7E-09	2.7E-05

MESSAGE SUMMARY BELOW:

END

DTSC Indoor Air Guidance Unclassified Soil Screening Model for Toluene

DATA ENTRY SHEET

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.20E+02			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	122	24	C		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, $\rho_b{}^A$ (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, $\theta_w{}^V$ (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
C	1.43	0.459	0.215	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	0.0E+00	3.0E-01	92.14

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
107	0.244	0.324	2.32E-09	0.821	1.90E-09	4,000	1.20E+02	3.39E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_V (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	15	9,001	6.29E-03	2.58E-01	1.80E-04	3.77E-03	107

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.20E+02	1.25	3.35E+00	3.77E-03	5.00E+03	5.91E+00	1.07E-04	1.28E-02

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	3.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	4.1E-05

MESSAGE SUMMARY BELOW:

END