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SITE INVESTIGATION REPORT

FOR

FOOTHILL BOULEVARD AND MATTOX ROAD PARCEL
6TH STREET AND CASTRO STREET PARCEL
HAYWARD AND OAKLAND, CALIFORNIA
EXCESS LAND

PREPARED FOR

CALTRANS DISTRICT 4
P.O. BOX 23600
OAKLAND, CALIFORNIA

PREPARED BY

GEOCON ENVIRONMENTAL CONSULTANTS
SACRAMENTO, CALIFORNIA

CALTRANS CONTRACT NO. 53W202
TASK ORDER NO. 04-952137-02

GEOCON PROJECT NO. S8100-06-31

OCTOBER 1995

GEOCON
Environmental Consultants Inc.
GEOTECHNICAL ENGINEERING AND ENVIRONMENTAL SCIENCES

Project No. S8100-06-31
October 9, 1995

California Department of Transportation
District 4
P.O. Box 23600
Oakland, California 94623-4454

Attention: Mr. Vince Bonner, Contract Manager

Subject: FOOTHILL BOULEVARD AND MATTOX ROAD PARCEL
6TH STREET AND CASTRO STREET PARCEL
HAYWARD AND OAKLAND, CALIFORNIA EXCESS LAND
CONTRACT NO. 53W202, TASK ORDER NO. 04-952137-02
SITE INVESTIGATION REPORT

Dear Mr. Bonner:

In accordance with Caltrans Contract No. 53W202 and Task Order No. 04-952137-02, Geocon Environmental Consultants has performed environmental engineering services at the subject project sites. The project sites include two parcels owned by Caltrans in the cities of Hayward and Oakland, California. The project site in Hayward is located at the south corner of the intersection of Foothill Boulevard and Mattox Road. The project site in Oakland is located at the north corner of 6th Street and Castro Street.

The purpose of the preliminary site investigation was to evaluate whether soil and groundwater at the Hayward and Oakland excess land sites are impacted with petroleum hydrocarbons or heavy metals (notably lead). The investigative results will be used by Caltrans to determine if further site characterization and/or remediation is necessary prior to potential sale of the sites.

The accompanying report summarizes the services performed including a geophysical survey, the advancement of twelve direct-push soil probes (Enviro-Core), and the collection and chemical analysis of soil and groundwater samples. If there are any questions concerning the contents of this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON ENVIRONMENTAL CONSULTANTS

Richard H. Walls

Richard H. Walls, PE
Project Manager

Jeremey Westmark
Environmental Scientist

RHW/JW:mc
(5) Addressee

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The contents of this report reflect the views of Geocon Environmental Consultants Incorporated, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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INVESTIGATIVE SUMMARY

The objective of this Site Investigation was to excavate shallow soil borings, collect soil samples, and perform laboratory analyses to evaluate the potential for petroleum hydrocarbon and heavy metal impacted soil and groundwater within the project site boundaries. It is understood that the results of the preliminary site investigation will be used by Caltrans to determine if further site characterization and/or remediation is necessary prior to potential sale of the sites.

The project sites are located in Hayward and Oakland, California and are depicted on the Vicinity Map, Figure 1. The Hayward site is located at the south corner of Foothill Boulevard and Mattox Road and the Oakland site is located at the north corner of 6th Street and Castro Street, as depicted on the Site Plans, Figures 2 and 3, respectively.

Five soil probes were advanced at the Hayward site and seven soil probes were advanced at the Oakland site on July 24 and 25, 1995. The soil probes extended to depths of 0.3 to 7.6 meters (one to 25 feet) below ground surface (bgs) utilizing a truck-mounted hydraulically-driven sampling system. Soil samples were obtained from the sampling unit at depths ranging from 0.3 to 7.6 meters (one to 25 feet) bgs at the boring locations depicted on Figures 2 and 3. Two groundwater samples were obtained from the Oakland site by advancing 25.4 mm (one inch) diameter polyvinyl chloride pipe with 1.47 meters (five feet) of 0.020 inch slotted casing into the borehole and extracting groundwater samples with a stainless-steel bailer.

The soil samples obtained from the soil probes were analyzed for oil & grease (O&G) following Standard Method 5520 and total lead following EPA Test Method 6010. Selected soil samples and each groundwater sample were submitted for the analyses of total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd) following EPA Test Method 8015 modified, and benzene, toluene, ethylbenzene and total xylenes (BTEX) following EPA Test Method 8020. Selected soil samples obtained from the Oakland site were further analyzed for Title 22 Total Threshold Limit Concentration (TTLC) 17 metals following EPA Test Method 6010.

The following information summarizes the activities performed, and conclusions and recommendations.

Hayward Site

O&G concentrations ranging from 50 to 7,200 milligrams per kilogram (mg/kg) were reported for 15 of 19 soil samples analyzed. Three soil samples collected at depths of 0.3, 0.6 and 5.2 meters (one, two and 17 feet) bgs had reported O&G concentrations in excess of 1,000 mg/kg.

Laboratory analyses indicate that the reported total lead concentrations do not exceed the Title 22 Total Threshold Limit Concentration (TTLC) of 1,000 mg/kg or ten times the Soluble Threshold Limit concentration (STLC) of 50 mg/kg with the exception of 100 mg/kg reported for sample HAY3-1 and 2,400 mg/kg reported for sample HAY5-3. TPHg, TPHd and BTEX were not reported

above the laboratory test method detection limit for each soil sample analyzed.

Oakland Site

O&G concentrations ranging from 65 to 8,000 mg/kg were reported for 10 of 16 soil samples analyzed. Two samples collected at depths of 0.6 and 0.9 meters (two and three feet) bgs had reported O&G concentrations in excess of 1,000 mg/kg.

The results of the total lead and Title 22 metals analyses indicate that the reported metal concentrations do not exceed their respective TTLC values or ten times the respective STLC values with the exception of 12 soil samples with reported total lead concentrations ranging from 67 to 410 mg/kg. TPHg, TPHd and BTEX were not reported above the laboratory test method detection limit for each soil and groundwater sample analyzed.

Elevated concentrations of O&G have been encountered at each of the project sites. In addition, hazardous and potentially hazardous lead concentrations have been reported for the Hayward and Oakland sites, respectively. The presence of O&G in soil at concentrations up to 7,200 mg/kg (Hayward site) and 8,000 mg/kg (Oakland site) does not confirm that the source of the O&G is from former USTs or hazardous material/waste releases.

Excavated soil with lead concentrations at or above the TTLC and STLC values of 1,000 mg/kg and 5.0 milligrams per liter (mg/ℓ), respectively, is considered a hazardous waste by the California Environmental Protection Agency (Cal-EPA). Therefore, excavated soil with total and soluble lead concentrations in excess of the TTLC and STLC values for lead will require management and disposal as a hazardous waste.

It is likely that the RWQCB would establish site clean-up levels based on groundwater protection policy, proposed site development and exposure potential. Typical clean-up levels for O&G impacted soil could range from background to 1,000 mg/kg depending on site specific factors.

It is recommended that the information presented herein be reviewed by Caltrans, the RWQCB and other appropriate regulatory agencies to determine if additional site characterization is required prior to potential sale and development of the sites. If additional soil investigations is requested by the RWQCB, Geocon recommends that EPA Test Method 8015 Modified be used to analyzed soil samples for the presence of oil range hydrocarbons.

It is further recommended that the temporary wells installed in borings B-1, B-5 and B-6 by ERM and the potential groundwater production well documented near boring B-5 (see Figure 4) at the Oakland site be properly abandoned.

1.0 PROJECT DESCRIPTION

This preliminary site investigation report was prepared for the Hayward and Oakland excess land sites under Caltrans Contract No. 53W202 and Task Order (TO) No. 04-952137-02. The project sites include two parcels owned by Caltrans in the cities of Hayward and Oakland, California. The project site in Hayward is located at the south corner of the intersection of Foothill Boulevard and Mattox Road. The project site in Oakland is located at the north corner of 6th Street and Castro Street. The approximate site locations are depicted on the Vicinity Map, Figure 1. The approximate project boundaries for the Hayward and Oakland parcels are depicted on the Site Plans, Figures 2 and 3, respectively.

The Hayward site is a gravel/asphalt covered vacant lot with the exception of a flower vendor located on the northern portion of the site. Information presented in the referenced TO indicates that the Hayward site was formerly occupied by an Exxon gasoline service station. The Exxon station reportedly ceased operations in the late-1970s and Caltrans records indicate that the underground storage tanks (USTs) were removed from the site in 1979. No soil samples or analytical testing was reported to have occurred in connection with the UST removal, nor has any previous environmental studies been performed at the Hayward site.

The Oakland parcel is currently vacant and unpaved. Two support columns for the Interstate 880 overhead structure are located in the northeast corner of the site. Caltrans reports that the Oakland site was formerly occupied by commercial businesses including a service station, auto repair and machine shop, dairy and laundry facilities, materials warehouse and retail stores prior to 1977. At least four USTs were reportedly associated with the former service station, dairy and warehouse operations.

2.0 INTRODUCTION

2.1 GENERAL OBJECTIVES

The purpose of this TO was to perform a preliminary site investigation to determine the potential for petroleum hydrocarbon and heavy metal impacted soil and groundwater within the project site boundaries. It is understood that the results of the preliminary site investigation will be used by Caltrans to determine if further site characterization and/or remediation is necessary prior to potential sale of the sites.

2.2 PREVIOUS INVESTIGATIONS

Information obtained from Caltrans indicates that no known previous environmental studies have been performed at the Hayward site. Previous environmental studies have been performed at the Oakland site including an *Initial Environmental Site Assessment* (ESA) performed by ERM-West in 1987 and a *Phase One ESA* performed by ENGEO Incorporated in 1993. The following information was obtained from a review of the referenced environmental reports.

ERM-West was retained by Greyhound Lines Inc. to perform an ESA of the Oakland site prior to potential purchase from Caltrans. ERM reported that the USTs associated with the former service station, dairy and warehouse were removed during site demolition in the 1970s. Seven borings (B-1 through B-7) were performed at the site to depths ranging from 4.6 to 5.2 meters (15 to 17 feet) below ground surface (bgs). In addition, temporary well casing was installed in three borings (B-1, B-5 and B-6) to facilitate groundwater sampling. The approximate ERM boring locations and previous facilities at the site are depicted on Figure 4.

Concentrations of toluene, ethylbenzene and xylenes ranging from 0.002 to 7.9 mg/kg were detected in soil samples collected from borings B-1, B-5, B-6 and B-7 at depths between 4.9 to 5.3 meters (16 and 17.5 feet) bgs. Toluene, ethylbenzene and xylenes concentrations ranging from 0.3 to 5.0 micrograms per liter ($\mu g/\ell$) were further reported by ERM in a groundwater sample obtained from boring B-1. Groundwater was reported at depths of approximately 4.3 and 4.9 meters (14 and 16 feet) bgs in borings B-1 and B-6, respectively. Groundwater was not reportedly encountered in B-5.

ENGEO was retained by Caltrans to perform an initial ESA of the Oakland site including a site survey, aerial photograph review, and historical and regulatory records review. The temporary well installed in boring B-1 by ERM was noted by ENGEO personnel during a January 1993 site survey. The Oakland Fire Department reportedly issued a permit to Caltrans in January 1971 for the removal of 10,000-, 7,500- and 5,000-gallon USTs at the former onsite service station. Records of the tank removal were not available. ENGEO further reported that the site was referenced on the San Francisco Bay Regional Water Quality Control Board (RWQCB) Fuel Leak List. Based on the results of the ERM site investigation, the RWQCB prepared a letter dated October 30, 1987 recommending that "no new uses or activities preclude clean-up of any soil and groundwater contamination discovered at the site." ENGEO recommended that additional soil and groundwater

investigation be performed and that the temporary wells installed by ERM and a groundwater production well possibly located near boring B-5 be properly abandoned.

2.3 SCOPE OF SERVICES

Outlined below is a summary of the scope of services performed by Geocon under Task Order 04-952137-02.

2.3.1 Pre-Field Activities

- A pre-work site visit was conducted on July 5, 1995, and attended by Mr. Dave Mohanty of Caltrans, and Mr. Jeremey Westmark of Geocon to perform a preliminary survey of the project sites and to review the TO. The Site Visit Checklist and Completion Schedule were discussed and signed by the Geocon project manager designee and the Caltrans contract manager. A Notice to Proceed was also reviewed and signed at the pre-work site visit.

- Obtained drilling permits from the Zone 7 Water Resources Management Agency. Copies of the drilling permits are included in Appendix A.

- Contacted Underground Service Alert (USA) on July 18, 1995 (USA Ticket Nos. 145970 and 145978), to advise subscribing utility companies of the soil boring activities.

- Prepared a *Workplan*, dated July 19, 1995, which describes the requested scope of services, quality assurance/quality control sampling and laboratory procedures and project schedule.

- Prepared a *Health and Safety Plan*, dated July 5, 1995, to provide guidelines on the use of personal protective equipment during the field activities.

2.3.2 Field Activities

- Performed weed abatement at the Oakland site on July 19, 1995, to provide access for subsequent field activities.

- Retained a subcontractor, Norcal Geophysical Consultants Incorporated (Norcal), to perform geophysical surveys at the Hayward and Oakland sites on July 20 and 21, 1995.

- Retained a subcontractor, Precision Sampling Incorporated, to perform five soil probes at the Hayward site and seven soil probes at the Oakland site, using Enviro-Core direct-push-technology, on July 24 and 25, 1995, respectively. The soil probes

were advanced to depths of 0.3 to 7.6 meters (one to 25 feet) bgs utilizing a truck-mounted hydraulically-driven sampling system.

- Discrete soil samples and grab groundwater samples were obtained and submitted to Sparger Technology Incorporated, a California certified laboratory, for chemical analysis following chain-of-custody protocol.

3.0 INVESTIGATIVE METHODS

3.1 GEOPHYSICAL SURVEY

3.1.1 Rationale

Geophysical surveys were performed at each project site to evaluate the potential presence of USTs in addition to potential buried utilities or structures in the vicinity of the proposed soil probes. A geophysical survey report prepared by Norcal, dated August 31, 1995 is presented in Appendix B.

3.1.2 Survey Methodology

Norcal performed the geophysical surveys on July 20 and 21, 1995. The surveys included the use of vertical magnetic gradient (VMG), ground penetrating radar (GPR) and electromagnetic line locating (EMLL) methods. Equipment methodology, data acquisition and analysis, and interpretive results are presented in the Norcal report (Appendix B).

3.2 SOIL PROBES

3.2.1 Rationale for Probe Placement

Five soil probes (HAY1 through HAY5) were advanced at the Hayward site and seven soil probes (OAK1 through OAK7) at the Oakland site. The soil probes were advanced to depths ranging from 0.3 to 7.6 meters (one to 25 feet) bgs to evaluate the potential for petroleum hydrocarbon and heavy metal impacted soil and groundwater. The probe locations were selected based on the historical facility operations and the results of the geophysical surveys. The soil probe locations at the Hayward and Oakland sites are depicted on the Site Plans, Figures 2 and 3, respectively.

3.2.2 Soil Sample Collection

The soil probe (Enviro-Core) system uses direct-push-technology consisting of a skid loader-mounted percussion hammer to drive a sample barrel equipped with stainless-steel tubes into the subsurface soil. Once the desired sampling depth is achieved, the barrel tip is released by removing a pin from the sample barrel. The piston retracts while soil enters the sample tubes. The sample barrel is then pulled from the ground and the sample tubes are removed from the sample barrel.

Soil samples were collected from the 63.5-mm (two and one-half-inch) diameter soil probes at approximate depths of 0.9, 1.8 and 3.0 or 3.7 meters (three, six and ten or 12 feet) bgs utilizing a 50.8-mm (two-inch) diameter sample barrel equipped with 152.4-mm-long by 44.45-mm (six-inch-long by one and three-quarter-inch) diameter stainless-steel sample tubes to facilitate sample handling and storage. The sample tubes were capped, labeled and chilled pending transport to the laboratory following chain-of-custody procedures.

The soil probe borings were logged under the supervision of a California-Certified Engineering Geologist utilizing the Unified Soil Classification System. Soil samples were field screened with a flame-ionization detector (FID) to assess possible qualitative indicators of volatile organic compounds. The soil sample locations are recorded on the boring logs presented in Appendix C.

Quality assurance/quality control (QA/QC) procedures provided during the field exploration activities included cleansing/rinsing of the soil probe and sampling equipment prior to and between borings. Cleansing/rinsing of the sampling equipment was performed prior to the collection of each soil sample by washing the equipment with a trisodium phosphate solution followed by subsequent tap water and deionized water rinses.

3.2.3 Groundwater Sample Collection

Groundwater samples were obtained from two soil probes (OAK2 and OAK6) at the Oakland site. The groundwater samples were collected from 25.4-mm (one-inch) diameter polyvinyl chloride (PVC) casing with a 1.5 meter (five foot) section of 0.25-mm (0.020-inch) slotted screen section. The groundwater samples were placed in laboratory-provided volatile organics analysis (VOA) vials, one-liter amber glass bottles and one-liter clear glass jars, labeled, chilled, and delivered to Sparger Technology Analytical Laboratory (Sparger) following chain-of-custody procedures.

3.2.4 Laboratory Analytical Methods

The soil samples obtained from the soil probes were analyzed for oil & grease (O&G) following Standard Method 5520 and total lead following EPA Test Method 6010. Selected soil samples and each groundwater sample were submitted for the analyses of total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd) following EPA Test Method 8015 modified, and benzene, toluene, ethylbenzene and total xylenes (BTEX) following EPA Test Method 8020. Selected soil samples obtained from the Oakland site were further analyzed for Title 22 Threshold Limit Concentration (TTLC) 17 metals following EPA Test Method 6010.

3.2.5 Disposition of Decontamination Water

Wastewater generated during the soil probe decontamination operations was placed in two DOT 17-H 55-gallon drums and stored on the subject sites (one drum per site) pending the receipt of analytical data and subsequent disposal following regulatory protocol.

4.0 INVESTIGATIVE RESULTS

4.1 SITE GEOLOGY AND HYDROGEOLOGY

4.1.1 Hayward Site

The soil and geologic conditions encountered during the advancement of the soil probes at the Hayward site generally consisted of alluvial soils overlying serpentine bedrock. The alluvial deposits generally consisted of stiff sandy clay with interbeds of silty sands. Refusal conditions on serpentine rock was encountered at depths ranging from 1.5 to 6.7 meters (5 to 22 feet) bgs. Groundwater conditions were not encountered to the maximum depth explored of 7.0 meters (23 feet) bgs.

4.1.2 Oakland Site

The soil and geologic conditions encountered during the advancement of the soil probes at the Oakland site generally consisted of fill materials overlying alluvial deposits. Fill soils, primarily comprised of sand and gravel, were encountered to depths between 0.3 to 0.9 meters (1 to 3 feet) bgs. Alluvial deposits generally consisting of dense sand was encountered beneath the fill soils to the maximum depth explored of 7.6 meters (25 feet) bgs. Groundwater was encountered in borings OAK2 and OAK6 at a depth of approximately 6.1 meters (20 feet) bgs.

4.2 GEOPHYSICAL SURVEY RESULTS

4.2.1 Hayward Site

The VMG and GPR data obtained by Norcal during the geophysical survey indicates the presence of three anomalies, depicted as A through C on Plate 3 in the Norcal report, which may represent small USTs or large isolated metallic objects such as buried utility structures. Norcal further defined the probable location of the former pump islands and several underground utility locations.

4.2.2 Oakland Site

The VMG and GPR data obtained by Norcal during the geophysical survey indicates the presence of five anomalies, depicted as A through E on Plate 4 in the Norcal report. The anomalies may represent small USTs, large isolated metallic objects such as buried utility structures, and/or zones of isolated debris or disturbed soil. Norcal further defined the location of a storm drain and a potential non-ferrous pipe near boring OAK6.

4.3 ANALYTICAL RESULTS

Analytical results for the soil and groundwater samples analyzed during the site investigations are summarized on Tables I through IV. Analytical reports and chain-of-custody records for the Hayward and Oakland sites are presented in Appendices D and E, respectively.

5.0 REGULATORY CONTACTS

The Zone 7 Water Management Agency was contacted to obtain drilling permit applications for each site. There were no other regulatory contacts made as part of this TO.

6.0 DATA EVALUATION AND DISCUSSION

6.1 HAYWARD SITE

O&G concentrations ranging from 50 to 7,200 mg/kg were reported for 15 of 19 soil samples analyzed. Three samples collected at depths of 0.3, 0.6 and 5.2 meters (one, two and 17 feet) bgs had reported O&G concentrations in excess of 1,000 mg/kg.

The results of the total lead analyses indicates that the reported lead concentrations do not exceed the TTLC (1,000 mg/kg) or ten times the soluble threshold limit concentration (STLC) value (50 mg/kg) with the exception of 100 mg/kg reported for sample HAY3-1 and 2,400 mg/kg reported for sample HAY5-3. TPHg, TPHd and BTEX were not reported above the laboratory test method detection limit for each soil sample analyzed.

6.2 OAKLAND SITE

O&G concentrations ranging from 65 to 8,000 mg/kg were reported for 10 of 16 soil samples analyzed. Two samples collected at depths of 0.6 and 0.9 meters (two and three feet) bgs had reported O&G concentrations in excess of 1,000 mg/kg.

The results of the total lead and Title 22 metals analyses indicates that the reported metal concentrations do not exceed their respective TTLC values or ten times the respective STLC values with the exception of 12 soil samples with reported total lead concentrations ranging from 67 to 410 mg/kg. TPHg, TPHd and BTEX were not reported above the laboratory test method detection limit for each soil and groundwater sample analyzed.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

Elevated concentrations of O&G have been encountered at each of the project sites. In addition, hazardous and potentially hazardous lead concentrations have been reported for the Hayward and Oakland sites, respectively. The presence of O&G in soil at concentrations up to 7,200 mg/kg (Hayward site) and 8,000 mg/kg (Oakland site) does not confirm that the source of the O&G is from former USTs or hazardous material/waste releases.

Excavated soil with lead concentrations at or above the TTLC and STLC values of 1,000 mg/kg and 5.0 mg/ℓ, respectively, is considered a hazardous waste by the California Environmental Protection Agency (Cal-EPA). Therefore, excavated soil with total and soluble lead concentrations in excess of the TTLC and STLC values for lead will require management and disposal as a hazardous waste.

It is likely that the RWQCB would establish site clean-up levels based on groundwater protection policy, proposed site development and exposure potential. Typical clean-up levels for O&G impacted soil could range from background to 1,000 mg/kg depending on site specific factors.

7.2 REMEDIAL OPTIONS

Analytical data indicates the presence of elevated total lead and oil and grease concentrations in shallow soil beneath the Hayward site. Additional investigation would be required to evaluate whether the impacts are limited in lateral extent and to estimate the volume of impacted soil. The presence of total lead in soil in excess of the TTLC maximum of 1,000 mg/kg would likely necessitate the excavation and offsite disposal of the impacted soil. The presence of O&G at concentrations up to 7,200 mg/kg would require further evaluation to determine whether the reported O&G is of a petroleum origin. The costs for remediation of the lead impacted soil cannot be calculated until the lateral extent of the impacts are better established.

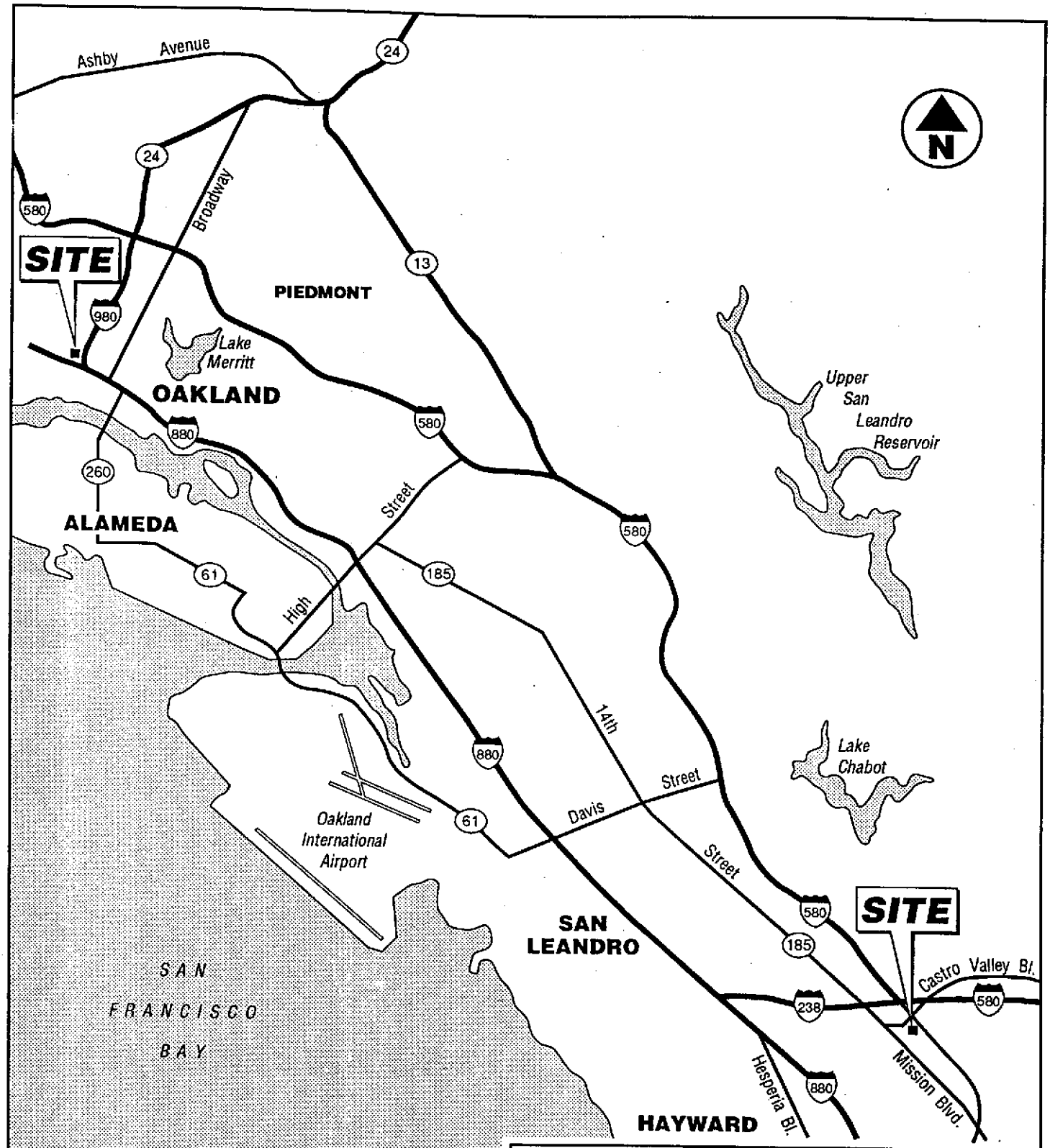
Analytical data indicates the presence of total lead above background and elevated concentrations of oil and grease (8,000 mg/kg) in shallow soil beneath the Oakland site. Additional investigation would be required to evaluate the hazardous characteristics of the total lead and evaluate whether the reported O&G is of a petroleum origin. The costs for remediation of the lead and O&G impacted soil (if required) cannot be calculated until the nature of the impacts are further evaluated.

7.3 RECOMMENDATIONS

It is recommended that the information presented herein be reviewed by Caltrans, the RWQCB and other appropriate regulatory agencies to determine if additional site characterization is required prior to potential sale and development of the sites. If additional soil investigation is requested by the RWQCB, Geocon recommends that EPA Test Method 8015 Modified be used to analyze soil samples for the presence of petroleum oil range hydrocarbons. Further soil analyses for lead should include

soluble lead using deionized water for an extract.

It is further recommended that the temporary wells installed in borings B-1, B-5 and B-6 by ERM and the potential groundwater production well documented near boring B-5 (see Figure 4) at the Hayward site be properly abandoned.



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Caltrans District 4 Excess Land

Oakland and Hayward, California

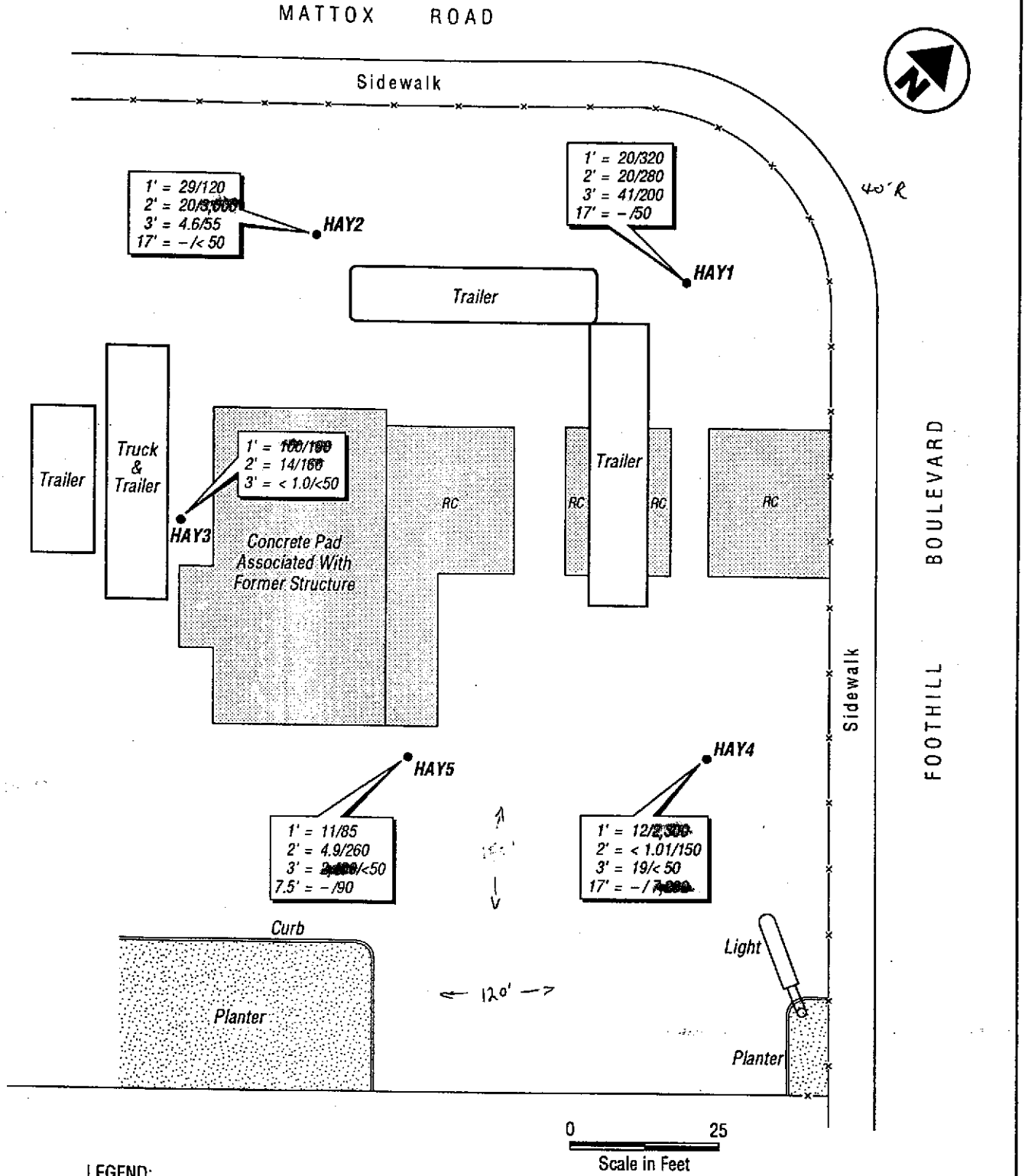
VICINITY MAP

GEOCON Proj. No. S8100-06-31

Task Order No. 04-952137-01

October 1995

Figure 1



LEGEND:

HAY5 ● Approximate Boring Location

RC Reinforced Concrete

1' = 20/320 (Soil Sample Depth BGS; Oil & Grease Concentration (mg/kg); Total Lead Concentration (mg/kg))

BGS = Below Ground Surface

– = Not Tested

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Caltrans District 4 Excess Land

Oakland and Hayward, California

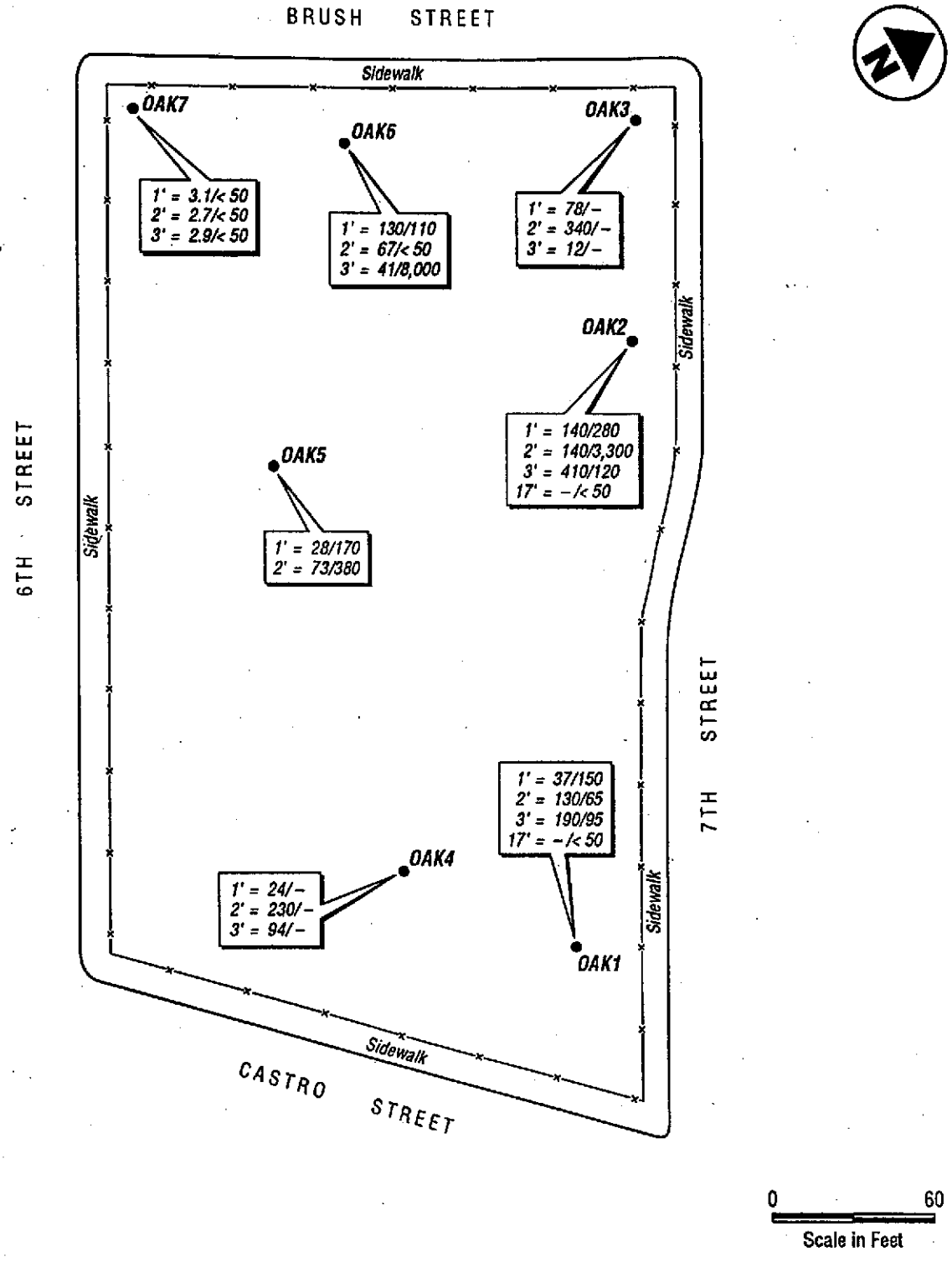
GEOCON Proj. No. S8100-06-31

Task Order No. 04-952137-02

SITE PLAN
Hayward Excess Land

October 1995

Figure 2



LEGEND:

OAK7 ● Approximate Boring Location

1' = 20/320
- Oil & Grease Concentration (mg/kg)
- Soil Sample Depth BGS
- Total Lead Concentration (mg/kg)

BGS = Below Ground Surface
– = Not Tested

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Caltrans District 4 Excess Land

Oakland and Hayward, California

GEOCON Proj. No. S8100-06-31

Task Order No. 04-952137-02

SITE PLAN
Oakland
Excess Land

October 1995

Figure 3

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE IA
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
HAYWARD SITE
TOTAL LEAD/OIL AND GREASE
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 1

SAMPLE I.D.	SAMPLE DEPTH (feet)	SAMPLE DATE	TOTAL LEAD (mg/kg)	OIL AND GREASE (mg/kg)
HAY1-1	1	7/24/95	20	320
HAY1-2	2	7/24/95	20	280
HAY1-3	3	7/24/95	41	200
HAY1-4	17	7/24/95	---	50
HAY2-1	1	7/24/95	29	120
HAY2-2	2	7/24/95	20	3,000
HAY2-3	3	7/24/95	4.6	55
HAY2-4	17	7/24/95	---	<50
HAY3-1	1	7/24/95	100	190
HAY3-2	2	7/24/95	14	160
HAY3-3	3	7/24/95	<1.0	<50
HAY4-1	1	7/24/95	12	2,300
HAY4-2	2	7/24/95	<1.0	150
HAY4-3	3	7/24/95	19	<50
HAY4-4	17	7/24/95	---	7,200
HAY5-1	1	7/24/95	11	85
HAY5-2	2	7/24/95	4.9	260
HAY5-3	3	7/24/95	2,400	<50
HAY5-4	7.5	7/24/95	---	90

Notes: mg/kg = milligrams per kilogram
< = less than laboratory method detection limit
--- = Not tested

Task Order No. 04-952137-02
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TABLE IB
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
OAKLAND SITE
TOTAL LEAD/OIL AND GREASE
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 1

SAMPLE I.D.	SAMPLE DEPTH (feet)	SAMPLE DATE	TOTAL LEAD (mg/kg)	OIL AND GREASE (mg/kg)
OAK1-1	1	7/25/95	37	150
OAK1-2	2	7/25/95	130	65
OAK1-3	3	7/25/95	190	95
OAK1-4	17	7/25/95	---	<50
OAK2-1	1	7/25/95	140	280
OAK2-2	2	7/25/95	140	3,300
OAK2-3	3	7/25/95	410	120
OAK2-4	17	7/25/95	---	<50
OAK3-1	1	7/25/95	78	---
OAK3-2	2	7/25/95	340	---
OAK3-3	3	7/25/95	12	---
OAK4-1	1	7/25/95	24	---
OAK4-2	2	7/25/95	230	---
OAK4-3	3	7/25/95	94	---
OAK5-1	1	7/25/95	28	170
OAK5-2	2	7/25/95	73	380
OAK6-1	1	7/25/95	130	110
OAK6-2	2	7/25/95	67	<50
OAK6-3	3	7/25/95	41	8,000
OAK7-1	1	7/25/95	3.1	<50
OAK7-2	2	7/25/95	2.7	<50
OAK7-3	3	7/25/95	2.9	<50

Notes: mg/kg = milligrams per kilogram
< = less than laboratory method detection limit
--- = Not tested

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE II
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
OAKLAND SITE
TITLE 22 METALS
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 2

TTLCs

SAMPLE I.D.	OAK4-1	OAK4-2	OAK4-3	OAK6-1	OAK6-2
SAMPLE DATE	7/25/95	7/25/95	7/25/95	7/25/95	7/25/95
SAMPLE DEPTH (feet)	1	2	3	1	2
ANALYTE					
Antimony	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	<10	<10	<10	<10	<10
Barium	58	120	64	210	120
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	<0.50	0.55	<0.50	<0.50	<0.50
Chromium	28	42	29	49	45
Cobalt	6.1	7.7	<5.0	14	7.8
Copper	15	35	11	19	19
Lead	24	230	94	130	67
Mercury	0.12	0.11	0.34	0.11	0.096
Molybdenum	<4.0	<4.0	<4.0	<4.0	<4.0
Nickel	24	40	21	54	46
Selenium	<10	<10	<10	<10	<10
Silver	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<10	<10	<10	<10	<10
Vanadium	23	29	18	40	31
Zinc	40	150	78	110	68

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE II
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
OAKLAND SITE
TITLE 22 METALS
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 2 OF 2

SAMPLE I.D.	OAK6-3	OAK7-1	OAK7-2	OAK7-3
SAMPLE DATE	7/25/95	7/25/95	7/25/95	7/25/95
SAMPLE DEPTH (feet)	3	1	2	3
ANALYTE				
Antimony	<6.0	<6.0	<6.0	<6.0
Arsenic	<10	<10	<10	<10
Barium	96	48	44	37
Beryllium	<0.50	<0.50	<0.50	<0.50
Cadmium	<0.50	<0.50	<0.50	<0.50
Chromium	38	32	32	36
Cobalt	8.5	<5.0	<5.0	<5.0
Copper	19	130	240	5.2
Lead	41	3.1	2.7	2.9
Mercury	0.020	0.052	0.023	0.012
Molybdenum	<4.0	<4.0	<4.0	<4.0
Nickel	41	21	19	20
Selenium	<10	<10	<10	<10
Silver	<1.0	<1.0	<1.0	<1.0
Thallium	<10	<10	<10	<10
Vanadium	33	21	20	23
Zinc	45	54	40	16

Notes: < = less than laboratory method detection limit

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE IIIA
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
HAYWARD SITE
TPHg/TPHd/BTEX
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 1

SAMPLE I.D.	SAMPLE DATE	SAMPLE DEPTH	TPHg (mg/kg)	TPHd (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	XYLENES (mg/kg)
HAY1-4	7/24/95	17	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005
HAY2-4	7/24/95	17	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005
HAY4-4	7/24/95	17	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005
HAY5-4	7/24/95	7.5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005

Notes: TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel fuel
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
mg/kg = milligrams per kilogram
< = less than laboratory method detection limit
--- = Not tested

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE IIIB
SUMMARY OF SOIL ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
OAKLAND SITE
TPHg/TPHd/BTEX
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 1

SAMPLE I.D.	SAMPLE DATE	SAMPLE DEPTH	TPHg (mg/kg)	TPHd (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	XYLENES (mg/kg)
OAK1-4	7/25/95	17	<1.0	---	<0.005	<0.005	<0.005	<0.005
OAK2-4	7/25/95	17	<1.0	---	<0.005	<0.005	<0.005	<0.005

Notes: TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel fuel
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
mg/kg = milligrams per kilogram
< = less than laboratory method detection limit
--- = Not tested

Task Order No. 04-952137-02
Project No. S8100-06-31
October 9, 1995

TABLE IV
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DISTRICT 4 EXCESS LAND
OAKLAND SITE
TPHg/TPHd/BTEX
CALTRANS TASK ORDER NO. 04-952137-02
PAGE 1 OF 1

SAMPLE I.D.	SAMPLE DATE	TPHg ($\mu g/\ell$)	TPHd ($\mu g/\ell$)	BTEX ($\mu g/\ell$)
OAK2	7/25/95	<50	<50	<0.3
OAK6	7/25/95	<50	<50	<0.3

Notes: TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel fuel
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
$\mu g/\ell$ = micrograms per liter (parts per billion)
< = less than laboratory test method detection limit

APPENDIX A

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914
Attn: Wyman Hong

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

PERMIT NUMBER 95440
LOCATION NUMBER

LOCATION OF PROJECT Property Bounded By 6th St Castro St 7th St and Brush Streets Oakland, CA

LIENT
ame Caltrans District 4
Address PO Box 23660 Voice Dave Mohanty - 510-286-5642
City Oakland CA Zip 94623-0660

APPLICANT
Name Geocon Environmental
Richard Walls Fax 916-852-9132
ddress 3235 Sunrise Blvd Voice 916-852-9118
City Rancho Cordova CA Zip 95742

YPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring ___
Geotechnical Investigation
General ___
Contamination ✓
Well Destruction ___

ROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

RILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other ✓ (Direct push technique)

DRILLER'S LICENSE NO. 636387

/ELL PROJECTS
Drill Hole Diameter 2 in. Maximum
Casing Diameter ___ in. Depth 17 ft.
Surface Seal Depth ___ ft. Number 1

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 7/26/95
STIMATED COMPLETION DATE 7/28/95

I hereby agree to comply with all requirements of this permit and Alameda nty Ordinance No. 73-68.

APPLICANT'S SIGNATURE Richard Walls Date 7/17/95

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 18 Jul 95
Wyman Hong

91992

APPENDIX B

NORCAL GEOPHYSICAL CONSULTANTS INC.

NORCAL

September 1, 1995

Mr. Jeremey Westmark
GEOCON, Environmental Consultants Inc.
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Dear Mr. Westmark:

This report presents the findings of a geophysical investigation performed by NORCAL Geophysical Consultants, Inc. at two sites located in Hayward and Oakland, California respectively. The Hayward field survey was conducted on July 20, 1995 by geophysicist Donald J. Kirker. The Oakland survey was conducted on July 21, 1995 by geophysicist Derrik Sandberg, and geophysical technician Ted Heinse.

SITE DESCRIPTION

Hayward Site

The area of investigation, as specified by GEOCON, represents a gravel/asphalt covered vacant lot, as shown on the Geophysical Survey Location Map, Plate 1. It measures approximately 120 ft by 160 ft and is bound by a chain link fence. The site is bordered by Mattox Road to the north, Foothill Boulevard to the east, residential property to the west, and a commercial building to the south. A reinforced concrete slab, representing a former structure, is located in the center of the survey area. Several large metal truck trailers are located in the northern half of the site. Five proposed borings are located in the survey area. This site was formerly occupied by a service station.

Oakland Site

The Oakland Site represents a soil covered vacant lot, as shown on the Geophysical Survey Location Map, Plate 2. It measures approximately 200 ft by 350 ft and is bound by a chain link fence. It is bordered by 7th Street to the north, Castro Street to the east, Brush Street to the west, and 6th Street to the south. Two support columns for Interstate 880 are located in the northeast corner of the survey area. Seven proposed borings are located within the survey area. This site was formerly occupied by various industrial facilities.

1350 INDUSTRIAL AVENUE SUITE A • PETALUMA, CA 94952
TELEPHONE (707) 763-1312 • FAX (707) 762-5587

PURPOSE

The purpose of the geophysical surveys is to investigate both sites for possible underground storage tanks (UST's) as well as investigate proposed boring locations for detectable utility alignments and other potential drilling obstructions.

METHODOLOGY

For the investigation at each site, we used the vertical magnetic gradient (VMG), ground penetrating radar (GPR), and electromagnetic line locating (EMLL) methods. The vertical magnetic gradient method was used to determine the presence of buried ferrous metal. The GPR method was used to characterize the source of detected magnetic anomalies. The EMLL method, as well as the GPR method, was used to investigate the boring locations for detectable utility alignments and drilling obstructions.

Vertical Magnetic Gradiometer

A magnetic gradiometer measures the vertical gradient of the earth's magnetic field. It consists of two total field magnetic sensors separated vertically by one-half meter. The magnetic field strength is measured simultaneously at both of these sensors. The difference in magnetic intensity between these measurements is proportional to the vertical gradient of the earth's magnetic field. Because the vertical gradient is constant with respect to time, the effect of diurnal variations is eliminated. Since a gradiometer is effected less by cultural features, it provides higher sensitivity and better resolution of near surface sources than total field magnetometers. Areas with significant amounts of buried metal typically produce anomalously steep magnetic gradients. Because it is sensitive to ferrous metal sources both above and below ground, site and vicinity surface conditions can affect survey results.

We used an EDA OMNI IV tie-line magnetometer to obtain the vertical magnetic gradient data. The instrument features a built-in memory that stores the vertical magnetic gradient and survey grid information. The information can be down loaded to a computer for further processing.

Ground Penetrating Radar

Ground penetrating radar is a method that provides a continuous, high resolution

cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The system operates by continuously radiating an electromagnetic pulse into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, only a portion of the radar signal is reflected back to the surface from interfaces representing variations in electrical properties. When the signal encounters a metal object, however, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Depending upon depth and/or thickness the resulting records can provide information regarding the location of UST's, underground utilities, and variations in the shallow site materials. Generally, electrically conductive materials, such as saturated clay and significant rebar can reduce the penetration capability and limit radar performance.

For this investigation, we used a Geophysical Survey Systems, Inc. SIR-3 Subsurface Interface Radar System equipped with a 500 megahertz (Mhz) antenna. This antenna is near the center of the available frequency range and is used to provide high resolution at shallow depths.

Electromagnetic Line Location

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

The detection of underground utilities is determined by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include

those made of nonelectrically conductive materials such as pvc, fiberglass, vitrified clay, and pipes with insulated connections.

Our instrumentation for this investigation consisted of a Radiodetection RD-400 line locator and a Fisher TW-6 inductive pipe and cable locator.

DATA ACQUISITION

Hayward Site

VMG data were collected at 10 foot intervals (stations) along south-north trending traverses where access allowed. The traverses were spaced 10 feet apart. VMG data could not be obtained within 20 feet of the truck trailers due to magnetic interference. Therefore, GPR was used to obtain subsurface information in the northeast portion of the survey area. GPR is better suited for investigations in close proximity to above ground metal objects. The GPR data were obtained along south-north and east-west trending traverses spaced 5 feet apart. GPR was also systematically used over each VMG anomaly.

The investigation at each of the five proposed boring locations included the use of both GPR and EMLL. GPR profiles were obtained along both north-south and east-west trending traverses with the boring location positioned at their intersection. Each of the traverses was approximately 20 feet long. The EMLL system was operated within the same ten foot radius of the boring as the GPR. Detected utilities within these areas were identified and marked with spray paint on the ground surface. The locations of the GPR traverses for the Hayward Site are shown on the Geophysical Survey Location Map, Plate 1.

Oakland Site

At the Oakland Site, VMG data were collected at 10 foot intervals (stations) along east-west trending traverses spaced 10 feet apart. GPR was systematically used over each detected VMG anomaly. The investigation at each of the seven proposed boring locations followed the same procedures as those at Hayward, as described above. The locations of the GPR traverses for the Oakland Site are indicated on the Geophysical Survey Location Map, Plate 2.

DATA ANALYSIS

VMG Data Computer Processing

The magnetic data were down loaded from the magnetometer to a computer. The computer processing included conversion of the data into a format that can be used in a contouring software routine. This contouring package was used to calculate an evenly spaced array of values (gridded) based on the observed field data. Finally, these gridded values were contoured to produce the vertical magnetic gradient contour map.

Contour Map Interpretation

Generally, magnetic values vary smoothly throughout a given region. Within culturally active areas, the ambient vertical magnetic gradient can be relatively large. In comparison, the anomalies produced by buried magnetic sources may be relatively small or subtle. Areas where variations are strong are defined by closely spaced contours and are typically considered anomalous. If the source of a particular anomaly is an isolated object or a group of closely spaced objects, the contours may form circular or elliptical closures. A large accumulation of buried objects may appear as a group of closely spaced anomalies or one large anomaly.

Actual anomaly magnitude and shape are dependent on the relative position and size of the buried objects with respect to the location of the data points. In general, anomaly magnitude will decrease and anomaly width will increase as distance (depth) to the source increases. Anomalies may or may not have paired high and low values creating what are known as magnetic dipoles.

GPR Data Analysis

For data analysis, we examined the GPR records for hyperbolic reflection patterns characteristic of UST's and underground utilities, as well as changes in reflection character that may indicate changes in fill material associated with a UST excavation.

RESULTS

The results of the geophysical investigation for the vacant lots in Hayward and

Oakland are presented on Plates 1 through 4. The results obtained at each site are presented in the following paragraphs.

Hayward Site

The results of the geophysical investigation in Hayward are presented on the Location Map and Vertical Magnetic Gradient Contour Map, as shown on Plates 1 and 3, respectively. The VMG contour map represents the variations of the vertical magnetic gradient throughout the site. These variations include several magnetic gradients along the north side of the survey area, as well as the southeast corner. We interpret the magnetic gradients along the northern boundary as representing effects caused by the truck trailers. The magnetic gradients in the southeast corner are probably due predominately to the close proximity of the overhead light to the survey area. Magnetic gradients that could not be associated with above ground cultural effects are considered anomalous. These anomalies are labeled A through C on Plate 3.

Anomalies A through C are characterized as low magnitude, mono-polar anomalies with values ranging from 200 to 250 gammas per meter (g/m). It has been our experience that anomalies of these magnitudes and areal extents typically represent small UST's, or large isolated metallic objects such as utility vaults or utility corridors. The GPR data obtained over these anomalies resolved continuous reflection patterns characteristic of homogenous subsurface conditions. Therefore, the source of these anomalies may be buried deeper than the detection limits of the GPR.

The GPR records obtained in the northeast corner of the survey area indicate reflection patterns characteristic of variable subsurface conditions. The most prominent are the near-surface continuous reflections that indicate shallow fill horizons associated with the asphalt and gravel surfaces. The data also indicates patterns indicative of a reinforced concrete (RC) pad. This pad, as shown on Plate 1, extends east from the former facility to Foothill Boulevard. The records show that the RC pad is continuous except for two small north-south trending zones. These zones, approximately 6 to 8 feet wide, are evidenced by the lack of reflections typical of RC. We also used the EMLL technique to confirm the RC pad and north-south trending zones. Generally, the location of these zones corresponds with the location of pump islands at a typical service station. The GPR data do not indicate hyperbolic signatures within the upper three feet that could represent a UST in the northeast corner of the survey area.

The location of the five proposed borings are shown on Plate 1. As described above, EMLL and GPR were systematically used over each location. During the course of this investigation, we identified several utility alignments. The surface trace of these utilities, as well as the proposed boring locations, were marked with spray paint on the ground surface and are shown on Plate 1.

Oakland Site

The results of the geophysical investigation in Oakland are presented on the Location Map and Vertical Magnetic Gradient Contour Map, Plates 2 and 4 respectively. The contour map indicates five anomalous areas that do not appear to be associated with above ground cultural features. These areas are labeled A through E on Plate 4.

Anomalies A through C are characterized as high magnitude anomalies with values ranging from 600 to 900 g/m. As mentioned above, anomalies of these magnitudes and areal extents typically represent small UST's, or large isolated metallic objects such as utility vaults. However, the GPR data obtained over these anomalies resolved numerous zones of isolated hyperbolic reflection patterns typical of disturbed soils. The GPR data do not indicate hyperbolic signatures within the upper one to three feet that could represent a UST. Therefore, the source of these anomalies may also be buried deeper than the detection limits of the GPR.

Anomalies D and E represent broad areas containing numerous magnetic gradients. Both anomalies comprise areas of approximately 5,000 to 10,000 square feet. The high magnitude values, from 900 to 3,100 g/m, indicate significant disturbance of the magnetic gradient. GPR profiles were obtained over these anomalies and are shown on the Geophysical Survey Location Map, Plate 2. The GPR data resolved numerous zones of isolated hyperbolic reflection patterns. These patterns are typical of isolated debris, as well as zones of disturbed soils. The data do not indicate hyperbolic signatures within the upper two to four feet that could represent a UST. Typically, isolated metal debris do not produce high magnitude anomalies as shown above. Therefore, we believe that the source of these anomalies are buried too deep to be further characterized by the GPR.

The location of the seven proposed borings are shown on Plate 2. During the course of the proposed boring investigation, we identified the location of a storm drain. It was detected approximately 7 feet south of Boring #7 in the southwest corner of the site. Near Boring #6 the GPR investigation resolved hyperbolic reflection patterns

typical of an isolated object. Since this object did not produce a magnetic anomaly, we interpret the reflection patterns as being due to a large nonmetallic pipe or possibly a nonferrous tank. We estimate the depth to be approximately 2 to 3 feet. It is located approximately 4 feet west of Boring #6. The surface trace of this object, as well as the storm drain and proposed boring locations, were marked with spray paint on the ground surface and are shown on Plate 2.

STANDARD CARE AND WARRANTY

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

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

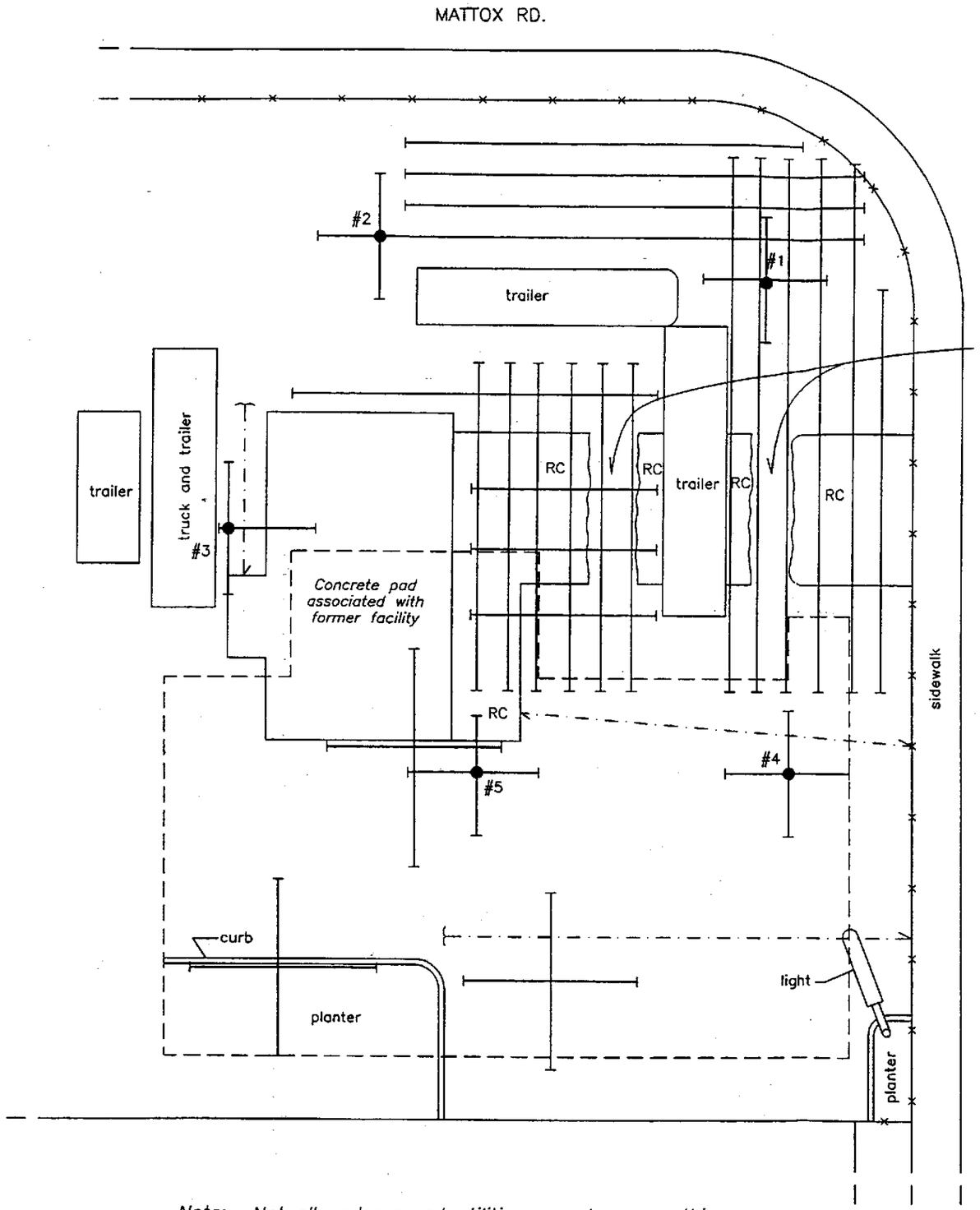
Respectfully,

NORCAL Geophysical Consultants, Inc.

Donald J. Kirker

Donald J. Kirker
Geophysicist, GP-997

DJK/jh
Enclosure: Plates 1 through 4



LEGEND

- GPR Traverse
- #1 Boring location
- Extent of VMG survey
- Utility line
- RC Reinforced concrete
- Fence

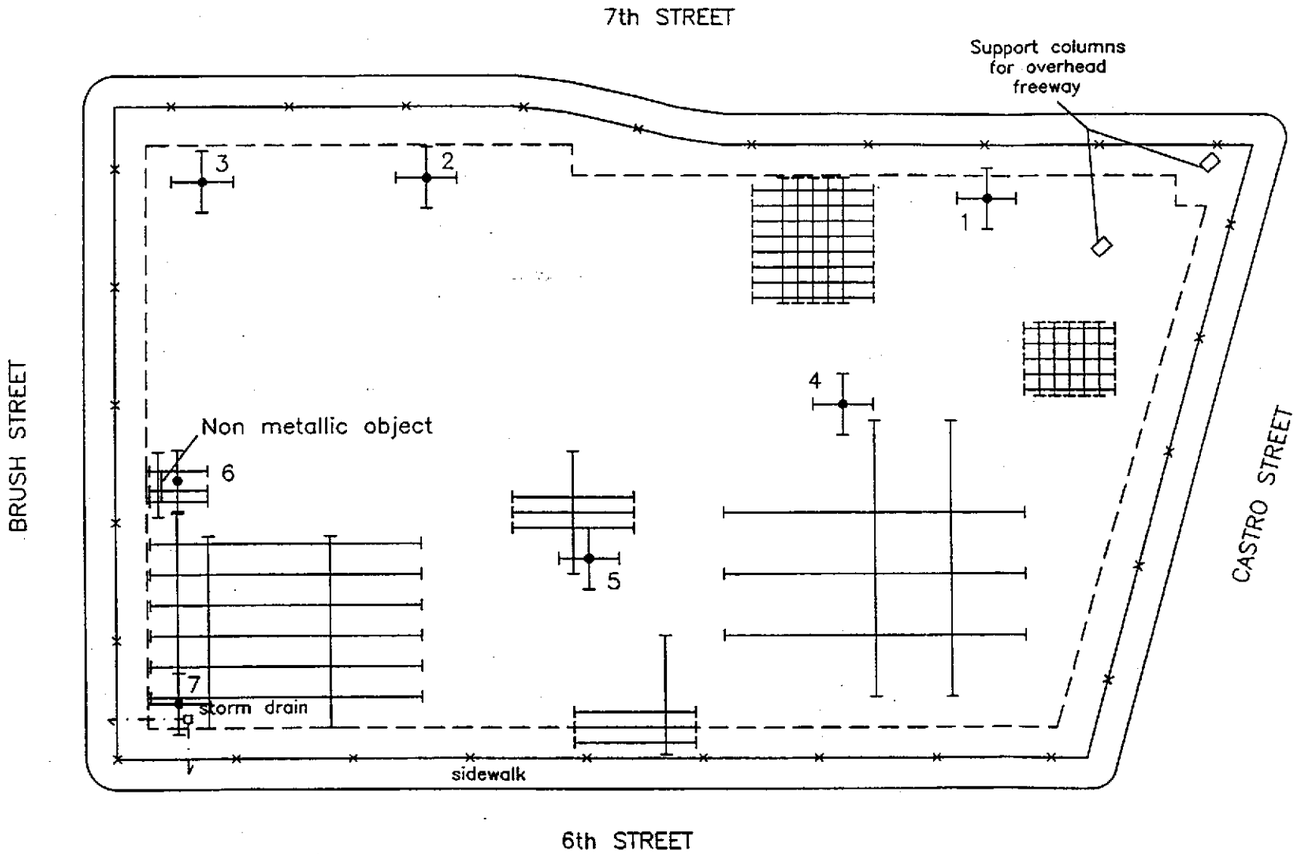
HAYWARD SITE LOCATION MAP

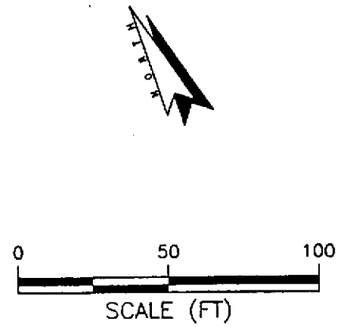
Geophysical Investigation
Intersection of Mattox Rd. and Foothill Blvd.
Hayward, California

NORCAL GEOPHYSICAL CONSULTANTS INC.

PLATE 1

JOB: 95-285.03 | APPR: DJK | DATE: 7/95





LEGEND

- GPR Traverse
- Extent of VMG survey
- Utility line
- Fence
- 1 — Approximate location of proposed borings based on GEOCON site map

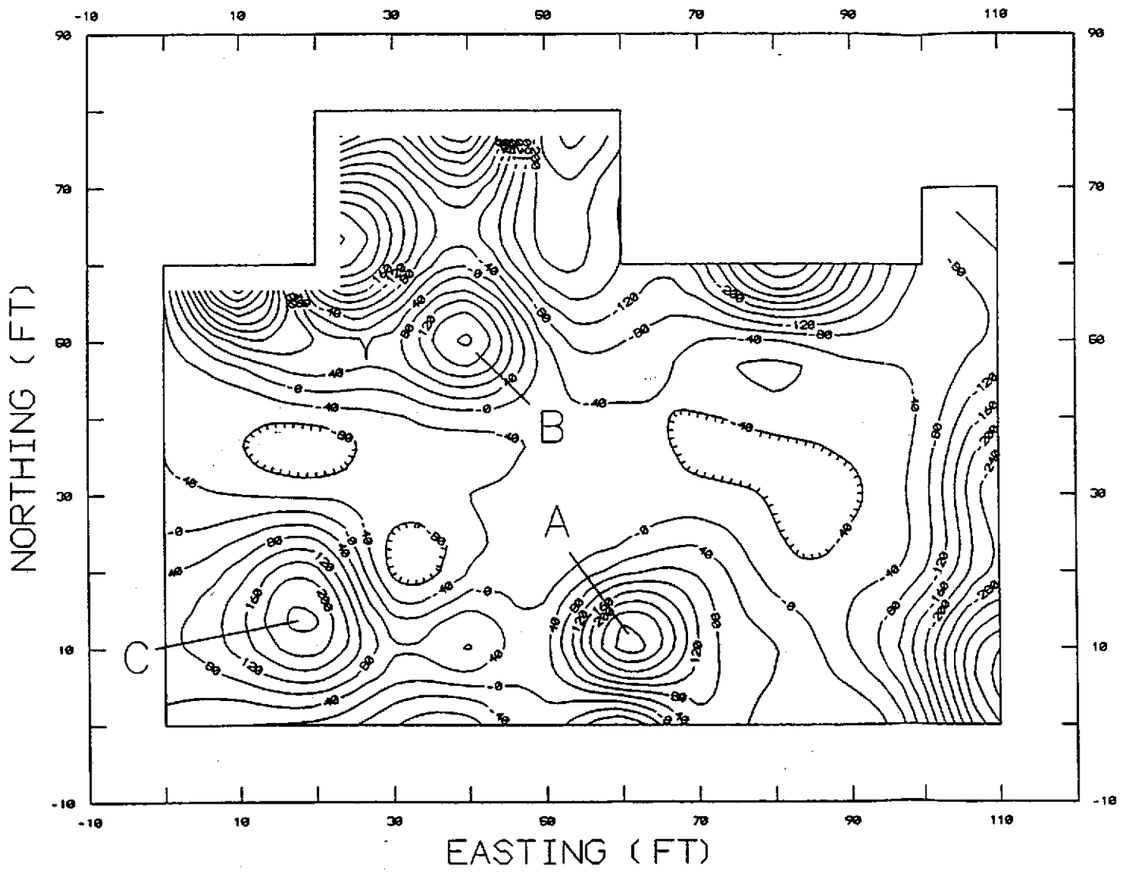
OAKLAND SITE LOCATION MAP

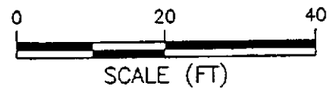
Geophysical Investigation
6th and Brush Streets
Oakland, California

NORCAL GEOPHYSICAL CONSULTANTS INC.

PLATE 2

JOB: 95-285.03 | APPR: DJK | DATE: 7/95





LEGEND

Vertical Magnetic Gradient Contour
Contour interval = 40 g/m

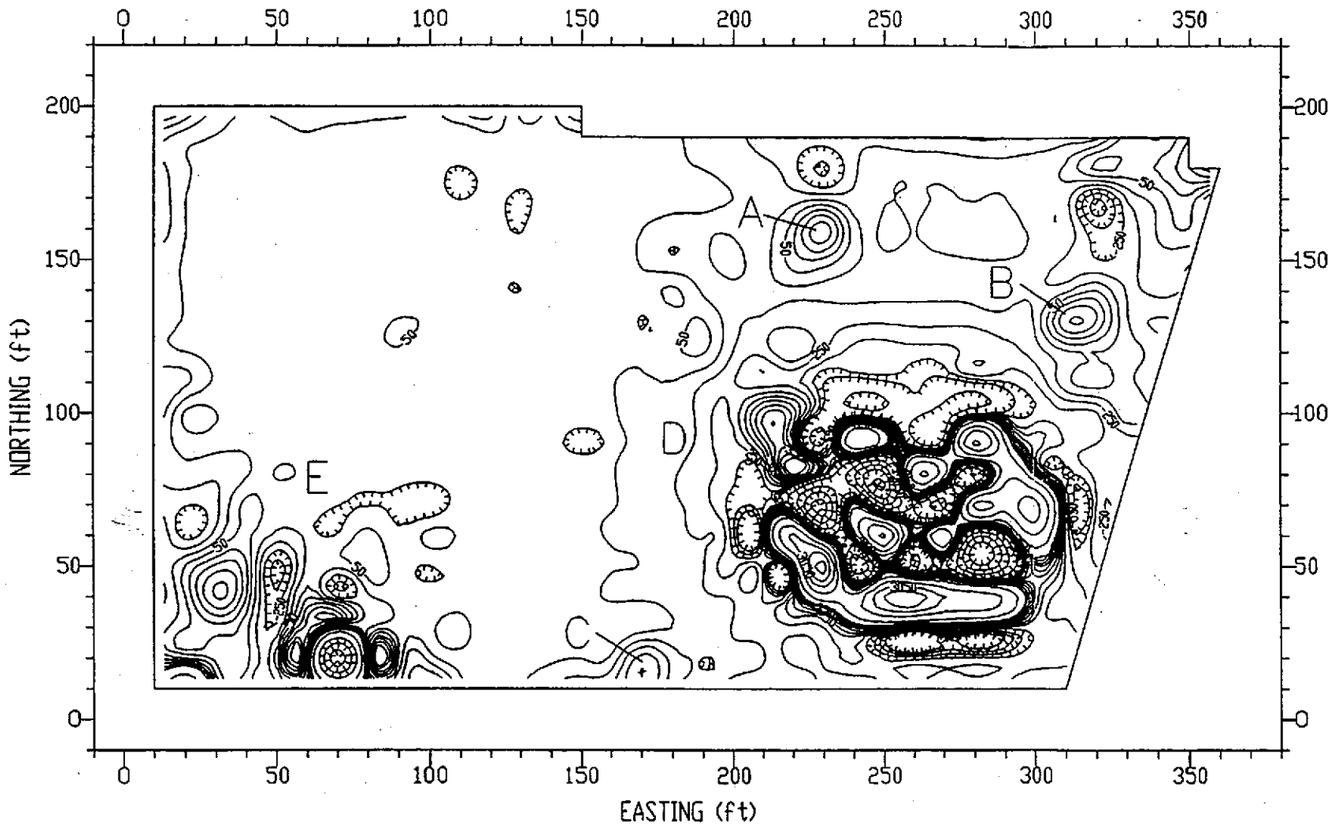
HAYWARD SITE
VERTICAL MAGNETIC GRADIENT CONTOUR MAP

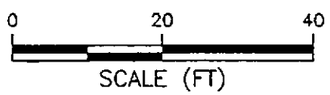
Geophysical Investigation
Intersection of Mattox Rd. and Foothill Blvd.
Hayward, California

NORCAL GEOPHYSICAL CONSULTANTS INC.

PLATE 3

JOB: 95-285.03 | APPR: DJV | DATE: 7/95





LEGEND

Vertical Magnetic Gradient Contour
Contour interval = 100 g/m

OAKLAND SITE
VERTICAL MAGNETIC GRADIENT CONTOUR MAP

Geophysical Investigation
6th and Brush Streets
Oakland, California

NORCAL GEOPHYSICAL CONSULTANTS INC.

PLATE 4

JOB: 95-285.03 | APPR: DJK | DATE: 8/95

APPENDIX C

PROJECT NO. S8100-06-31

BORING/WELL NO. HAY 1

DATE DRILLED 7/24/95 WATER LEVEL (ATD)

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		HAY1-1 1145		6 INCHES ASPHALT CONCRETE/AGGREGATE BASE		
2		HAY1-2 1145		ALLUVIUM		
3		HAY1-3 1145		Dense, moist, yellow-brown, Silty, fine to coarse SAND (SM)		
4				Very stiff, slightly moist, dark gray, CLAY (CL)		
5						
6						
7				Very stiff, slightly moist, brown, fine to coarse Sandy CLAY (CL)		
8						
9						
10						
11						
12						
13						
14						
15						
16						
17		HAY1-4 1215				
18						
19						
20				Dense, moist, brown-green, Silty, fine to coarse SAND (SM)		
21						
22						
23				BEDROCK (SERPENTINE)		
24				BORING TERMINATED AT 23 FEET GROUNDWATER NOT ENCOUNTERED		
25						
26						
27						
28						
29						

Figure A-8, log of Boring HAY 1

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. HAY 2

DATE DRILLED 7/24/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		HAY2-1 1015		ASPHALTIC CONCRETE/ AGGREGATE BASE		
2		HAY2-2 1015		**ALLUVIUM** Dense, slightly moist, yellow-brown, Silty, fine to coarse SAND, moderately cemented (SM)		
3		HAY2-3 1015		Stiff, moist, dark brown, Sandy SILT (ML)		
4				Stiff, moist, yellow-brown, fine to coarse, Sandy CLAY (CL)		
5						
6						
7						
8						
9						
10				Very stiff, moist, dark gray, CLAY (CL)		
11						
12						
13						
14						
15				Very stiff, moist, brown, CLAY with some medium sand (CL)		
16						
17		HAY2-4 1015				
18						
19				Very dense, slightly moist, yellow-brown, Silty, fine to coarse SAND (SM)		
20				BEDROCK (SERPENTINE) BORING TERMINATED AT 20 FEET GROUNDWATER NOT ENCOUNTERED		
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-9, log of Boring HAY 2

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. HAY 3

DATE DRILLED 7/24/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		HAY3-1 1350		6 INCHES ASPHALT CONCRETE/ AGGREGATE BASE		
2		HAY3-2 1350		ALLUVIUM Very stiff, slightly moist, gray, medium to coarse, Sandy CLAY (CL)		
3		HAY3-3 1350				
4						
5						
6				BEDROCK (SERPENTINE)		
7				BORING TERMINATED AT 6 FEET GROUNDWATER NOT ENCOUNTERED		
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-10, log of Boring HAY 3

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. HAY 4

DATE DRILLED 7/24/95 WATER LEVEL (ATD) ____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		HAY4-1 1445		6 INCHES ASPHALT CONCRETE/ AGGREGATE BASE		
2		HAY4-2 1445		ALLUVIUM Dense, slightly moist, yellow-brown, Silty, fine to coarse SAND (SM)		
3		HAY4-3 1445				
4						
5				Very stiff, slightly moist, dark brown, CLAY with some coarse sand (CL)		
6						
7						
8				Very stiff, slightly moist, brown, CLAY (CL)		
9						
10						
11						
12						
13						
14						
15						
16						
17		HAY4-4 1505		-Some fine to coarse SAND		
18						
19				BEDROCK (SERPENTINE)		
20				BORING TERMINATED AT 19 FEET GROUNDWATER NOT ENCOUNTERED		
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-11, log of Boring HAY 4

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. HAY 5

DATE DRILLED 7/24/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		HAY5-1 1530		6 INCHES ASPHALT CONCRETE/ AGGREGATE BASE		
2		HAY5-2 1530		ALLUVIUM		
3		HAY5-3 1530		Dense, slightly moist, yellow-brown, Silty, fine to coarse SAND (SM)		
4				Very stiff, slightly moist, dark gray, CLAY with some coarse SAND (CL)		
5				Very stiff, slightly moist, brown, CLAY (CL)		
6						
7						
8		HAY5-4 1600		BEDROCK		
9				BORING TERMINATED AT 7.5 FEET		
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-12, log of Boring HAY 5

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. OAK 1

DATE DRILLED 7/25/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		OAK1-1 1550		**FILL** Loose, dry, light brown, fine to medium SAND with fine to medium gravel (SP)		
2		OAK1-2 1550				
3		OAK1-3 1550		**ALLUVIUM** Dense, moist, rust-brown, fine to medium SAND (SP)		
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17		OAK1-4 1615				
18						
19						
20						
21				REFUSAL		
22				BORING TERMINATED AT 21 FEET		
23				GROUNDWATER NOT ENCOUNTERED		
24						
25						
26						
27						
28						
29						

Figure A-1, log of Boring OAK 1

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. OAK 2

DATE DRILLED 7/25/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		OAK2-1 1350		**FILL** Loose, dry, light brown, fine to medium SAND with fine to medium gravel (SP)		
2		OAK2-2 1350				
3		OAK2-3 1350		**ALLUVIUM** Dense, very moist, rust brown, fine to medium SAND with some clay (SP)		
4–16						
17		OAK2-4 1415				
18–25						
26				BORING TERMINATED AT 25 FEET		
27–29						

Figure A-2, log of Boring OAK 2

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	BORING/WELL NO. OAK 3 DATE DRILLED 7/25/95 WATER LEVEL (ATD) ____ EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN	WELL CONSTRUCTION	HEADSPACE (PPM)
				SOIL DESCRIPTION		
1		OAK3-1 1330		FILL Loose, dry, light brown, fine to medium SAND with fine to medium gravel(SP)		
2		OAK3-2 1330				
3		OAK3-3 1330		BORING TERMINATED AT 3 FEET GROUNDWATER NOT ENCOUNTERED		
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-3, log of Boring OAK 3

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	BORING/WELL NO. OAK 4 DATE DRILLED 7/25/95 WATER LEVEL (ATD) ____ EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN	WELL CONSTRUCTION	HEADSPACE (PPM)
				SOIL DESCRIPTION		
1		OAK4-1 1658		**FILL** Loose, dry, light brown, fine to medium SAND with fine to coarse gravel (SP)		
2		OAK4-2 1658				
3		OAK4-3 1658				
4				**ALLUVIUM** Dense, moist, rust brown, fine to medium SAND (SP)		
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20				REFUSAL AT 19 FEET GROUNDWATER NOT ENCOUNTERED		
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-4, log of Boring OAK 4

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. OAK 5

DATE DRILLED 7/25/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		OAK5-1 1800		**FILL** Loose, dry, light brown, Gravelly, fine to medium SAND (SG)		
2		OAK5-2 1800		CONCRETE RUBBLE AT 1 FOOT		
3				NO RECOVERY BEYOND 1 FOOT		
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-5, log of Boring OAK 5

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. OAK 6

DATE DRILLED 7/25/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		OAK6-1 1041		**FILL** Loose, dry, light brown, fine to medium SAND with some gravel (SP)		
2		OAK6-2 1041				
3		OAK6-3 1041		**ALLUVIUM** Dense, slightly moist, dark brown, Silty, fine to medium SAND with fine to medium gravel (SM)		
4						
5				Medium dense, moist, yellow-brown, fine to medium SAND (SP)		
6–19						
20				▽		
21–24						
25				BORING TERMINATED AT 25 FEET		
26–29						

Figure A-6, log of Boring OAK 6

04EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8100-06-31

BORING/WELL NO. OAK 7

DATE DRILLED 7/25/95 WATER LEVEL (ATD) _____

EQUIPMENT ENVIROCORE DRILLER MICHAEL/JUAN

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1		OAK7-1 0950		**FILL** Dense, slightly moist, light brown, Silty, fine to medium SAND (SM)		
2		OAK7-2 0950				
3		OAK7-3 0950		**ALLUVIUM** Dense, moist, dark brown, fine to medium SAND (SP)		
4						
5				Dense, moist, rust brown, Clayey, fine to medium SAND (SC)		
6				-Less Clay-		
7						
8						
9				Dense, very moist, rust brown, fine to medium SAND (SP)		
10						
11				Dense, wet, rust brown, Clayey, fine to medium SAND (SP)		
12						
13						
14						
15						
16				BORING TERMINATED AT 15 FEET GROUNDWATER NOT ENCOUNTERED		
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Figure A-7, log of Boring OAK 7

D4EL

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: JEREMY WESTMARK

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

APPENDIX D

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

August 16, 1995

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Dear Mr. Walls:

Enclosed is the report for the nineteen (19) soil samples. The samples were received at Sparger Technology Analytical Lab on July 26, 1995.

The samples were received in nineteen (19) stainless steel sleeves. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

I. Sample Description
II. Analysis Request
III. Quality Control Report
IV. Analysis Results

No problems were encountered with the analysis of your samples.

If you have questions, please feel free to call.

Sincerely,

R. L. James
Principal Chemist

3050 Fite Circle, Suite 112 • Sacramento, California 95827 • (916) 362-8947 • FAX (916) 362-0947

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

I Sample Description

See attached Samples Description Information.

The samples were received under chain-of-custody.

II Analysis Request

The following analytical tests were requested:

Lab ID	Your ID	Analysis Description
ST95-07-2027A	HAY1-1	Total Oil & Grease
ST95-07-2028A	HAY1-1	Total Lead
ST95-07-2029A	HAY1-2	Total Oil & Grease
ST95-07-2030A	HAY1-2	Total Lead
ST95-07-2031A	HAY1-3	Total Oil & Grease
ST95-07-2032A	HAY1-3	Total Lead
ST95-07-2033A	HAY1-4	TPHgas & BTEX
ST95-07-2034A	HAY1-4	TPHdiesel
ST95-07-2035A	HAY1-4	Total Oil & Grease
ST95-07-2036A	HAY2-1	Total Oil & Grease
ST95-07-2037A	HAY2-1	Total Lead
ST95-07-2038A	HAY2-2	Total Oil & Grease
ST95-07-2039A	HAY2-2	Total Lead
ST95-07-2040A	HAY2-3	Total Oil & Grease
ST95-07-2041A	HAY2-3	Total Lead
ST95-07-2042A	HAY2-4	TPHgas & BTEX
ST95-07-2043A	HAY2-4	TPHdiesel
ST95-07-2044A	HAY2-4	Total Oil & Grease
ST95-07-2045A	HAY3-1	Total Oil & Grease
ST95-07-2046A	HAY3-1	Total Lead
ST95-07-2047A	HAY3-2	Total Oil & Grease
ST95-07-2048A	HAY3-2	Total Lead
ST95-07-2049A	HAY3-3	Total Oil & Grease
ST95-07-2050A	HAY3-3	Total Lead
ST95-07-2051A	HAY4-1	Total Oil & Grease
ST95-07-2052A	HAY4-1	Total Lead

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Lab ID	Your ID	Analysis Description
ST95-07-2053A	HAY4-2	Total Oil & Grease
ST95-07-2054A	HAY4-2	Total Lead
ST95-07-2055A	HAY4-3	Total Oil & Grease
ST95-07-2056A	HAY4-3	Total Lead
ST95-07-2057A	HAY4-4	TPHgas & BTEX
ST95-07-2058A	HAY4-4	TPHdiesel
ST95-07-2059A	HAY4-4	Total Oil & Grease
ST95-07-2060A	HAY5-1	Total Oil & Grease
ST95-07-2061A	HAY5-1	Total Lead
ST95-07-2062A	HAY5-2	Total Oil & Grease
ST95-07-2063A	HAY5-2	Total Lead
ST95-07-2064A	HAY5-3	Total Oil & Grease
ST95-07-2065A	HAY5-3	Total Lead
ST95-07-2066A	HAY5-4	TPHgas & BTEX
ST95-07-2067A	HAY5-4	TPHdiesel
ST95-07-2068A	HAY5-4	Total Oil & Grease

3050 Fite Circle, Suite 112 • Sacramento, California 95827 • (916) 362-8947 • FAX (916) 362-0947

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

III Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.

D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

IV Analysis Results

Results are on the attached data sheets.

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

5520 F. Modified Analysis Report
Project: Dist. 4 Excess Land (S8100-06-31/CT 53W202)

Attention:

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 31, 1995
Invoice #: 5199

Matrix: Soil

Units: mg/kg

Lab ID	Client ID	Amount	Reporting Limit	Dilution 1:
ST95-07-2027A	HAY1-1	320	50	1
ST95-07-2029A	HAY1-2	280	50	1
ST95-07-2031A	HAY1-3	200	50	1
ST95-07-2035A	HAY1-4	50	50	1
ST95-07-2036A	HAY2-1	120	50	1
ST95-07-2038A	HAY2-2	3000	50	1
ST95-07-2040A	HAY2-3	55	50	1
ST95-07-2044A	HAY2-4	ND	50	1
ST95-07-2045A	HAY3-1	190	50	1
ST95-07-2047A	HAY3-2	160	50	1

ppb = parts per billion = ug/L = micrograms per Liter
ppm = parts per million = ug/g = micrograms per gram
ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 3, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

3050 Fite Circle, Suite 112 • Sacramento, California 95827 • (916) 362-8947 • FAX (916) 362-0947

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

5520 F. Modified Analysis Report
Project: Dist. 4 Excess Land (S8100-06-31/CT 53W202)

Attention: Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 31, 1995
Invoice #: 5199

Matrix: Soil

Units: mg/kg

Lab ID	Client ID	Amount	Reporting Limit	Dilution 1:
ST95-07-2049A	HAY3-3	ND	50	1
ST95-07-2051A	HAY4-1	2300	50	1
ST95-07-2053A	HAY4-2	150	50	1
ST95-07-2055A	HAY4-3	ND	50	1
ST95-07-2059A	HAY4-4	7200	50	1
ST95-07-2060A	HAY5-1	85	50	1
ST95-07-2062A	HAY5-2	260	50	1
ST95-07-2064A	HAY5-3	ND	50	1
ST95-07-2068A	HAY5-4	90	50	1

ppb = parts per billion = ug/L = micrograms per Liter
ppm = parts per million = ug/g = micrograms per gram
ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 3, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA.
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
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Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metal, EPA Method 6010
Project: Dist. 4 Excess Land (S8100-06-31/CT 53W202)

Attention:

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 29, 1995
Invoice #: 5199

Matrix : Soil

Units: mg/kg

Lab ID	Client ID	Lead (Pb) Result	Reporting Limit	Dilution 1:
ST95-07-2028A	HAY1-1	20	1.0	1
ST95-07-2030A	HAY1-2	20	1.0	1
ST95-07-2032A	HAY1-3	41	1.0	1
ST95-07-2037A	HAY2-1	29	1.0	1
ST95-07-2039A	HAY2-2	20	1.0	1
ST95-07-2041A	HAY2-3	4.6	1.0	1
ST95-07-2046A	HAY3-1	100	1.0	1
ST95-07-2048A	HAY3-2	14	1.0	1

ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Jul 31, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1814)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metal, EPA Method 6010
Project: Dist. 4 Excess Land (S8100-06-31/CT 53W202)

Attention: Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 29, 1995
Invoice #: 5199

Matrix : Soil

Units: mg/kg

Lab ID	Client ID	Lead (Pb) Result	Reporting Limit	Dilution 1:
ST95-07-2050A	HAY3-3	ND	1.0	1
ST95-07-2052A	HAY4-1	12	1.0	1
ST95-07-2054A	HAY4-2	ND	1.0	1
ST95-07-2056A	HAY4-3	19	1.0	1
ST95-07-2061A	HAY5-1	11	1.0	1
ST95-07-2063A	HAY5-2	4.9	1.0	1
ST95-07-2065A	HAY5-3	2400	1.0	1

ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Jul 31, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metal
LCS / LCSD Recoveries

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 24, 1995 Jul 26, 1995 Jul 29, 1995
Project #:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land
Client ID:	LCS/LCSD	LAB ID:	950728A
Matrix:	Soil	Dilution:	

Unit: (mg/Kg)

Element	Spike Conc.	LCS	LCS % Recovery	LCSD	LCSD % Recovery	% RSD
Lead (Pb)	1.0	1.0	100%	1.1	110%	10%

ppm= parts per million = mg/Kg = milligram per Kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Jul 31, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metal
MS / MSD Recoveries

Attention: Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Project ID: S8100-06-31 (CT 53W202)

Client ID: MS/MSD

Matrix: Soil

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 29, 1995

Project Name: Dist. 4 Excess Land

LAB ID: ST95-07-2028A MS
ST95-07-2028A MSD

Dilution:

Element	Sample Conc.	Spike Conc.	MS	MS % Recovery	MSD	MSD % Recovery	% RSD
Lead (Pb)	20	100	110	90%	110	90%	0%

ppm= parts per million = mg/Kg = milligram per Kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Jul 31, 1995
Date Reported

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Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls	Date Sampled:	Jul 24, 1995	
	Geocon Environmental	Date Received:	Jul 26, 1995	
	3235 Sunrise Blvd., Suite 6	Date Analyzed:	Jul 28, 1995	TPHgas & BTEX
	Rancho Cordova, CA 95742	Date Analyzed:	Aug 1, 1995	TPHdiesel
Project #:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land	
Client ID:	HAY1-4	LAB ID:	ST95-07-2033A	TPHgas & BTEX
			ST95-07-2034A	TPHdiesel
Matrix:	Soil	Dilution: 1:	1	

Name	Amount	Detection Limit	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
TPHdiesel	ND	1.0	mg/kg
Surrogate % Recovery of Trifluorotoluene =	78%		

ppb = parts per billion = ug/kg = micrograms per kilogram

ppm= parts per million = mg/kg = milligrams per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

Aug 4, 1995
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY

(Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed: Date Analyzed:	Jul 24, 1995 Jul 26, 1995 Jul 28, 1995 Aug 1, 1995	 TPHgas & BTEX TPHdiesel
Project #:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land	
Client ID:	HAY2-4	LAB ID:	ST95-07-2042A ST95-07-2043A	TPHgas & BTEX TPHdiesel
Matrix:	Soil	Dilution: 1:	1	

Name	Amount	Detection Limit	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
TPHdiesel	ND	1.0	mg/kg
Surrogate % Recovery of Trifluorotoluene =	68%		

ppb = parts per billion = ug/kg = micrograms per kilogram

ppm= parts per million = mg/kg = milligrams per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

Aug 4, 1995
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY

(Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls	Date Sampled:	Jul 24, 1995	
	Geocon Environmental	Date Received:	Jul 26, 1995	
	3235 Sunrise Blvd., Suite 6	Date Analyzed:	Jul 28, 1995	TPHgas & BTEX
	Rancho Cordova, CA 95742	Date Analyzed:	Aug 1, 1995	TPHdiesel
Project #:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land	
Client ID:	HAY4-4	LAB ID:	ST95-07-2057A	TPHgas & BTEX
			ST95-07-2058A	TPHdiesel
Matrix:	Soil	Dilution: 1:	1	

Name	Amount	Detection Limit	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
TPHdiesel	ND	1.0	mg/kg
Surrogate % Recovery of Trifluorotoluene =	69%		

ppb = parts per billion = ug/kg = micrograms per kilogram

ppm= parts per million = mg/kg = milligrams per kilogram

ND = Not Detected Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

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(Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed: Date Analyzed:	Jul 24, 1995 Jul 26, 1995 Jul 28, 1995 Aug 1, 1995	 TPHgas & BTEX TPHdiesel
Project #:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land	
Client ID:	HAY5-4	LAB ID:	ST95-07-2066A ST95-07-2067A	TPHgas & BTEX TPHdiesel
Matrix:	Soil	Dilution: 1:	1	

Name	Amount	Detection Limit	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
TPHdiesel	ND	1.0	mg/kg
Surrogate % Recovery of Trifluorotoluene =	77%		

ppb = parts per billion = ug/kg = micrograms per kilogram

ppm= parts per million = mg/kg = milligrams per kilogram

ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

Aug 4, 1995
Date

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(Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8015 Modified Matrix Spike (MS) & Matrix Spike Duplicate (MSD) TPHdiesel Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 24, 1995 Jul 26, 1995 Aug 1, 1995
Project ID:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land
Client ID:	MS/MSD	LAB ID:	ST95-07-2043A MS ST95-07-2043A MSD
Matrix:	Soil	Dilution:	

Name	Conc. Spike Added	Sample Result	MS Result	MSD Result	Units	MS % Recovery	MSD % Recovery	% RPD Recovery
TPHdiesel	15 ppm	ND	17	16	ug/g	113%	107%	6%

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug. 4, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certificabon No. 1514)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020 Modified Laboratory Control Spike (LCS) & Laboratory Control Spike Duplicate (LCSD) BTEX Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 24, 1995 Jul 26, 1995 Jul 28, 1995
Project ID:	S8100-06-31 (CT 53W202)	Project Name:	Dist. 4 Excess Land
Client ID:	LCS/LCSD	LAB ID:	ST95-07-028 LCS ST95-07-028 LCSD
Matrix:	Soil	Dilution:	

Name	Conc. Spike Added	Sample Result	LCS Result	LCSD Result	Units	LCS % Recovery	LCSD % Recovery	% RPD Recovery
Benzene	30 ppb	ND	25	30	ug/kg	83%	100%	18%
Toluene	30 ppb	ND	28	29	ug/kg	93%	97%	4%
Ethylbenzene	30 ppb	ND	26	29	ug/kg	87%	97%	11%
Xylenes	30 ppb	ND	25	29	ug/kg	83%	97%	15%

Surrogate % Recovery of Trifluorotoluene = 84% LCS 100% LCSD

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

8020 Modified Matrix Spike (MS) & Matrix Spike Duplicate (MSD)
BTEX Analysis Report

Attention: Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 24, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 28, 1995

Project ID: S8100-06-31 (CT 53W202)

Project Name: Dist. 4 Excess Land

Client ID: MS/MSD (Batch)

LAB ID: ST95-07-1922A MS
ST95-07-1922A MSD

Matrix: Soil

Dilution:

Name	Conc. Spike Added	Sample Result	MS Result	MSD Result	Units	MS % Recovery	MSD % Recovery	% RPD Recovery
Benzene	30 ppb	ND	30	31	ug/kg	100%	103%	3%
Toluene	30 ppb	ND	28	31	ug/kg	93%	103%	10%
Ethylbenzene	30 ppb	ND	27	30	ug/kg	90%	100%	11%
Xylenes	30 ppb	ND	27	30	ug/kg	90%	100%	11%

Surrogate % Recovery of Trifluorotoluene = 102% MS 103% MSD

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
DATE

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

SPARGE TECHNOLOGY, INC.
Analytical Laboratory
3050 Fite Circle, #112 Sacramento, CA 95827
Phone: (916) 362-8947
FAX: (916) 362-0947

CHAIN OF CUSTODY RECORD

C.O.C. No. 10458 (5199)
Page 1 of 2
STAL Invoice Number:

Company: GEOCON
Phone: (916) 852-9118
Project Manager:
FAX: (916) 852-9132
Report Address: 3235 SUNRISE BLVD #6, RANCHO CORDOVA, CA 95742
Billing Name & Address:

Project Name: DIST. 4 EXCESS LAND
Project/Job#: 58100-06-31
Project Location:
P.O.#:

ANALYSIS REQUEST

REMARKS: CT 53W202
HOMOGENIZE FOR Pb

Sampler's Name: JEREMEY WESTMARK

		All OK	None OK	Some OK
Cooler Temp.	°C			
Sample Condition				
pH				

WET(STLC)
TCLP

NO.	SAMPLE ID	Sampling: Date	Sampling: Time	Container: 40 mL VOA	Container: Brass Sleeve (S.S.)	Container: 1 L amber bottle	Container: 250 mL Plastic	Container: Other:	Preservative Used: HCl/HNO3/ICE	Preservative Used: None	Preservative Used: Other:	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Other:	TCLP: BTEX (602/8020)503.1	TCLP: BTEX/TPHgas (602/8020/8015)	TCLP: TPHdiesel/TPHmotor oil/kerosene(8015)	TCLP: EPA 601/8010/502.2/504	TCLP: EPA 602/8020	TCLP: EPA 608/8080 (Pesticides)/505/508	TCLP: EPA 608/8080 (PCB'S)	TCLP: EPA 624/8240/524.2	TCLP: EPA 625/8270/525	TCLP: Total Oil & Grease (5520)	TCLP: Non-Polar O & G/TRPH (418.1)	TCLP: Organic Lead	TCLP: RCI	Total: CAM-17 Metals	Total: CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Total: Lead	TAT: Standard	TAT: Rush Services (72hr / 48hr / 24hr / 12hr)	TAT: Holiday/Weekend Rush
1	HAY 1-1	7/24/95	1145		X				X				X												X						X	X		
2	HAY 1-2		1145																						X						X			
3	HAY1-3		1145																						X						X			
4	HAY1-4		1215														X	X							X									
5	HAY2-1		1015																						X						X			
6	HAY2-2		1015																						X						X			
7	HAY2-3		1015																						X						X			
8	HAY2-4		1110														X	X							X									
9	HAY3-1		1350																						X						X			
10	HAY3-2	↓	1350		↓				↓				↓												X						X	↓		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	7/26/95	0915		7/26/95	9:25
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS

SPARG TECHNOLOGY, INC.

Analytical Laboratory

3050 Fite Circle, #112 Sacramento, CA 95827

Phone: (916) 362-8947

FAX: (916) 362-0947

CHAIN OF CUSTODY RECORD

C.O.C. No. 10437 (5799)

Page 2 **of** 2

STAL Invoice Number:

Company: GEOCON

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#: 58100-06-31

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS: CT 53W202

HOMOGENIZE FOR Pb

Sampler's Name: JEREMEY WESTMARK

		All OK	None OK	Some OK
Cooler Temp.	°C			
Sample Condition				
pH				

WET(STLC)

TCLP

NO.	SAMPLE ID	Sampling: Date	Sampling: Time	Container: 40 mL VOA	Container: Brass Sleeve (S.S.)	Container: 1 L amber bottle	Container: 250 mL Plastic	Container: Other:	Preservative Used: HCl/HNO3 (ICE)	Preservative Used: None	Preservative Used: Other:	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Other:	TCLP: BTEX (602/8020)503.1	TCLP: BTEX/TPHgas (602/8020/8015)	TCLP: TPHdiesel/TPHmotor oil/kerosene(8015)	TCLP: EPA 601/8010/502.2/504	TCLP: EPA 602/8020	TCLP: EPA 608/8080 (Pesticides)/505/508	TCLP: EPA 608/8080 (PCB'S)	TCLP: EPA 624/8240/524.2	TCLP: EPA 625/8270/525	TCLP: Total Oil & Grease (5520)	TCLP: Non-Polar O & G/TRPH (418.1)	TCLP: Organic Lead	TCLP: RCI	Total: CAM-17 Metals	Total: CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Total: Lead	TAT: Standard	TAT: Rush Services (72hr / 48hr / 24hr / 12hr)	TAT: Holiday/Weekend Rush
1	HAY3-3	7/24/95	1350		X				X				X												X						X	X		
2	HAY4-1		1445																						X						X			
3	HAY4-2		1445																						X						X			
4	HAY4-3		1445																						X						X			
5	HAY4-4		1505														X	X							X									
6	HAY5-1		1530																						X						X			
7	HAY5-2		1530																						X						X			
8	HAY5-3		1530																						X						X			
9	HAY5-4		1600														X	X							X									
10																																		

Relinquished by:	Received by:	Relinquished by:	Received by:
Date: 7/26/95 Time: 0915	Date: 7/26/95 Time: 9:25	Date: Time:	Date: Time:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS

APPENDIX E

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

August 16, 1995

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Dear Mr. Walls:

Enclosed is the report for the twenty two (22) soil and two (2) water samples. The samples were received at Sparger Technology Analytical Lab on July 26, 1995.

The samples were received in twenty two (22) stainless steel sleeves, four (4) 40 mL VOA vials, and two (2) 1 L amber bottles. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

I. Sample Description
II. Analysis Request
III. Quality Control Report
IV. Analysis Results

No problems were encountered with the analysis of your samples.

If you have questions, please feel free to call.

Sincerely,

R. L. James
Principal Chemist

3050 Fite Circle, Suite 112 • Sacramento, California 95827 • (916) 362-8947 • FAX (916) 362-0947

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Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

I Sample Description

See attached Samples Description Information.

The samples were received under chain-of-custody.

II Analysis Request

The following analytical tests were requested:

Lab ID	Your ID	Analysis Description
ST95-07-1985A	OAK1-1	Total Oil & Grease
ST95-07-1986A	OAK1-1	Total Lead
ST95-07-1987A	OAK1-2	Total Oil & Grease
ST95-07-1988A	OAK1-2	Total Lead
ST95-07-1989A	OAK1-3	Total Oil & Grease
ST95-07-1990A	OAK1-3	Total Lead
ST95-07-1991A	OAK1-4	TPHgas & BTEX
ST95-07-1992A	OAK1-4	Total Oil & Grease
ST95-07-1993A	OAK2-1	Total Oil & Grease
ST95-07-1994A	OAK2-1	Total Lead
ST95-07-1995A	OAK2-2	Total Oil & Grease
ST95-07-1996A	OAK2-2	Total Lead
ST95-07-1997A	OAK2-3	Total Oil & Grease
ST95-07-1998A	OAK2-3	Total Lead
ST95-07-1999A	OAK2-4	TPHgas & BTEX
ST95-07-2000A	OAK2-4	Total Oil & Grease
ST95-07-2001A	OAK3-1	Total Lead
ST95-07-2002A	OAK3-2	Total Lead
ST95-07-2003A	OAK3-3	Total Lead
ST95-07-2004A	OAK4-1	CAM 17 Metals
ST95-07-2005A	OAK4-2	CAM 17 Metals
ST95-07-2006A	OAK4-3	CAM 17 Metals
ST95-07-2007A	OAK5-1	Total Oil & Grease
ST95-07-2008A	OAK5-1	Total Lead
ST95-07-2009A	OAK5-2	Total Oil & Grease
ST95-07-2010A	OAK5-2	Total Lead

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Scientific Division

Lab ID	Your ID	Analysis Description
ST95-07-2011A	OAK6-1	Total Oil & Grease
ST95-07-2012A	OAK6-1	CAM 17 Metals
ST95-07-2013A	OAK6-2	Total Oil & Grease
ST95-07-2014A	OAK6-2	CAM 17 Metals
ST95-07-2015A	OAK6-3	Total Oil & Grease
ST95-07-2016A	OAK6-3	CAM 17 Metals
ST95-07-2017A	OAK7-1	Total Oil & Grease
ST95-07-2018A	OAK7-1	CAM 17 Metals
ST95-07-2019A	OAK7-2	Total Oil & Grease
ST95-07-2020A	OAK7-2	CAM 17 Metals
ST95-07-2021A	OAK7-3	Total Oil & Grease
ST95-07-2022A	OAK7-3	CAM 17 Metals
ST95-07-2023A	OAK2	TPHgas & BTEX
ST95-07-2024A	OAK2	TPHdiesel
ST95-07-2025A	OAK6	TPHgas & BTEX
ST95-07-2026A	OAK6	TPHdiesel

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III Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.

D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

IV Analysis Results

Results are on the attached data sheets.

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metal, EPA Method 6010
Project: S8100-06-31 (CT 53W202)

Attention:

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 25, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 28, 1995
Invoice #: 5198

Matrix : Soil

Units: mg/kg

Lab ID	Client ID	Lead (Pb) Result	Reporting Limit	Dilution 1:
ST95-07-1986A	OAK1-1	37	1.0	1
ST95-07-1988A	OAK1-2	130	1.0	1
ST95-07-1990A	OAK1-3	190	1.0	1
ST95-07-1994A	OAK2-1	140	1.0	1
ST95-07-1996A	OAK2-2	140	1.0	1
ST95-07-1998A	OAK2-3	410	1.0	1
ST95-07-2001A	OAK3-1	78	1.0	1
ST95-07-2002A	OAK3-2	340	1.0	1
ST95-07-2003A	OAK3-3	12	1.0	1
ST95-07-2008A	OAK5-1	28	1.0	1
ST95-07-2010A	OAK5-2	73	1.0	1

ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY (Certification No. 1614)

Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK4-1	LAB ID:	ST95-07-2004A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	58	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	28	1.0	mg/Kg
Cobalt (Co)	6.1	5.0	mg/Kg
Copper (Cu)	15	2.5	mg/Kg
Lead (Pb)	24	1.0	mg/Kg
Mercury (Hg)	0.12	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	24	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	23	5.0	mg/Kg
Zinc (Zn)	40	1.5	mg/Kg

ppm= parts per million = mg/Kg = milligram per Kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

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Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK4-2	LAB ID:	ST95-07-2005A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	120	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	0.55	0.50	mg/Kg
Chromium (Cr)	42	1.0	mg/Kg
Cobalt (Co)	7.7	5.0	mg/Kg
Copper (Cu)	35	2.5	mg/Kg
Lead (Pb)	230	1.0	mg/Kg
Mercury (Hg)	0.11	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	40	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	29	5.0	mg/Kg
Zinc (Zn)	150	1.5	mg/Kg

ppm= parts per million = mg/Kg = milligram per Kilogram

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R. L. James, Principal Chemist

Aug 4, 1995
Date

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Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK4-3	LAB ID:	ST95-07-2006A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	64	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	29	1.0	mg/Kg
Cobalt (Co)	ND	5.0	mg/Kg
Copper (Cu)	11	2.5	mg/Kg
Lead (Pb)	94	1.0	mg/Kg
Mercury (Hg)	0.34	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	21	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	18	5.0	mg/Kg
Zinc (Zn)	78	1.5	mg/Kg

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R. L. James, Principal Chemist

Aug 4, 1995
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Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK6-1	LAB ID:	ST95-07-2012A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	210	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	49	1.0	mg/Kg
Cobalt (Co)	14	5.0	mg/Kg
Copper (Cu)	19	2.5	mg/Kg
Lead (Pb)	130	1.0	mg/Kg
Mercury (Hg)	0.11	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	54	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	40	5.0	mg/Kg
Zinc (Zn)	110	1.5	mg/Kg

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Aug 4, 1995
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Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK6-2	LAB ID:	ST95-07-2014A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	120	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	45	1.0	mg/Kg
Cobalt (Co)	7.8	5.0	mg/Kg
Copper (Cu)	19	2.5	mg/Kg
Lead (Pb)	67	1.0	mg/Kg
Mercury (Hg)	0.096	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	46	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	31	5.0	mg/Kg
Zinc (Zn)	68	1.5	mg/Kg

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Aug 4, 1995
Date

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Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK6-3	LAB ID:	ST95-07-2016A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	96	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	38	1.0	mg/Kg
Cobalt (Co)	8.5	5.0	mg/Kg
Copper (Cu)	19	2.5	mg/Kg
Lead (Pb)	41	1.0	mg/Kg
Mercury (Hg)	0.020	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	41	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	33	5.0	mg/Kg
Zinc (Zn)	45	1.5	mg/Kg

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R. L. James, Principal Chemist

Aug 4, 1995
Date

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Scientific Division

Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK7-1	LAB ID:	ST95-07-2018A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	48	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	32	1.0	mg/Kg
Cobalt (Co)	ND	5.0	mg/Kg
Copper (Cu)	130	2.5	mg/Kg
Lead (Pb)	3.1	1.0	mg/Kg
Mercury (Hg)	0.052	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	21	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	21	5.0	mg/Kg
Zinc (Zn)	54	1.5	mg/Kg

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R. L. James, Principal Chemist

Aug 4, 1995
Date

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Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK7-2	LAB ID:	ST95-07-2020A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	44	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	32	1.0	mg/Kg
Cobalt (Co)	ND	5.0	mg/Kg
Copper (Cu)	240	2.5	mg/Kg
Lead (Pb)	2.7	1.0	mg/Kg
Mercury (Hg)	0.023	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	19	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	20	5.0	mg/Kg
Zinc (Zn)	40	1.5	mg/Kg

ppm= parts per million = mg/Kg = milligram per Kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

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Metals, CAM 17
EPA Method 6010/7000 Modified

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK7-3	LAB ID:	ST95-07-2022A
Matrix:	Soil	Dilution:	

Name	Amount	Reporting Limit	Units
Antimony (Sb)	ND	6.0	mg/Kg
Arsenic (As)	ND	10	mg/Kg
Barium (Ba)	37	10	mg/Kg
Beryllium (Be)	ND	0.50	mg/Kg
Cadmium (Cd)	ND	0.50	mg/Kg
Chromium (Cr)	36	1.0	mg/Kg
Cobalt (Co)	ND	5.0	mg/Kg
Copper (Cu)	5.2	2.5	mg/Kg
Lead (Pb)	2.9	1.0	mg/Kg
Mercury (Hg)	0.012	0.010	mg/Kg
Molybdenum (Mo)	ND	4.0	mg/Kg
Nickel (Ni)	20	4.0	mg/Kg
Selenium (Se)	ND	10	mg/Kg
Silver (Ag)	ND	1.0	mg/Kg
Thallium (Tl)	ND	10	mg/Kg
Vanadium (V)	23	5.0	mg/Kg
Zinc (Zn)	16	1.5	mg/Kg

ppm= parts per million = mg/Kg = milligram per Kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

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Sparger Technology, Inc.
With Automation in Mind

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metals, CAM 17 Soil
LCS / LCSD Recoveries

Attention: Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 25, 1995
Date Received: Jul 26, 1995
Date Analyzed: Aug 2, 1995

Project #: S8100-06-31

Project Name: CT 53W202

Client ID: LCS/LCSD

LAB ID: 950727D

Matrix: Soil

Dilution:

Units: (mg/Kg)

Element	Spike Conc.	LCS	LCS % Recovery	LCSD	LCSD % Recovery	% RSD
Antimony (Sb)	50	52	104%	53	106%	2%
Arsenic (As)	50	54	108%	53	106%	2%
Barium (Ba)	50	50	100%	52	104%	4%
Beryllium (Be)	10	9.8	98%	10	100%	2%
Cadmium (Cd)	20	21	105%	22	110%	5%
Chromium (Cr)	50	52	104%	54	108%	4%
Cobalt (Co)	20	20	100%	21	105%	5%
Copper (Cu)	50	47	94%	49	98%	4%
Lead (Pb)	50	49	98%	50	100%	2%
Mercury (Hg)	0.050	0.049	98%	0.047	94%	4%
Molybdenum (Mo)	20	22	110%	23	115%	4%
Nickel (Ni)	50	54	108%	55	110%	2%
Selenium (Se)	50	57	114%	57	114%	0%
Silver (Ag)	5.0	4.8	96%	5.0	100%	4%
Thallium (Tl)	50	49	98%	51	102%	4%
Vanadium (V)	20	20	100%	20	100%	0%
Zinc (Zn)	50	52	104%	55	110%	6%

ppm= parts per million = mg/Kg = milligram per Kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.
NR = Not Requested

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

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Sparger Technology, Inc.
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Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Metals, CAM 17 Soil
MS / MSD Recoveries

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 2, 1995
Project #:	S8100-06-31	Project Name:	CT 53W202
Client ID:	MS/MSD	LAB ID:	ST95-07-1986A MS ST95-07-1986A MSD
Matrix:	Soil	Dilution:	

Element	Sample Conc.	Spike Conc.	MS	MS % Recovery	MSD	MSD % Recovery	% RSD
Antimony (Sb)	ND	50	31	62%	25	50%	21%
Arsenic (As)	ND	50	57	114%	51	102%	11%
Barium (Ba)	76	50	130	108%	130	108%	0%
Beryllium (Be)	ND	50	9.3	19%	8.5	17%	11%
Cadmium (Cd)	ND	20	21	105%	19	95%	10%
Chromium (Cr)	43	50	100	114%	97	108%	5%
Cobalt (Co)	9.2	20	28	94%	27	89%	5%
Copper (Cu)	14	50	60	92%	58	88%	4%
Lead (Pb)	28	50	78	100%	72	88%	13%
Mercury (Hg)	0.12	0.050	0.18	120%	0.16	80%	40%
Molybdenum (Mo)	ND	20	20	100%	17	85%	16%
Nickel (Ni)	50	50	100	100%	100	100%	0%
Selenium (Se)	ND	50	42	84%	38	76%	10%
Silver (Ag)	ND	5.0	4.5	90%	4.2	84%	7%
Thallium (Tl)	ND	50	43	86%	39	78%	10%
Vanadium (V)	31	20	54	115%	55	120%	4%
Zinc (Zn)	50	50	100	100%	100	100%	0%

ppm= parts per million = mg/Kg = milligram per Kilogram

ND = Not Detected Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

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Scientific Division

8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995
Project ID:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK1-4	LAB ID:	ST95-07-1991A
Matrix:	Soil	Dilution: 1:	1

Name	Amount	Detection Limits	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
Surrogate % Recovery of TFT=	54% *		

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = mg/kg = milligrams per kilogram
ND = Not Detected Compound(s) may be present at concentrations below the detection limit
NR = Not Requested.

*** Low surrogate recovery due to matrix effects.**

R. L. James, Principal Chemist

Aug 4, 1995
Date

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8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995
Project ID:	S8100-06-31	Project Name:	CT 53W202
Client ID:	OAK2-4	LAB ID:	ST95-07-1999A
Matrix:	Soil	Dilution: 1:	1

Name	Amount	Detection Limits	Units
Benzene	ND	0.005	mg/kg
Toluene	ND	0.005	mg/kg
Ethylbenzene	ND	0.005	mg/kg
Xylenes	ND	0.005	mg/kg
TPHgas	ND	1.0	mg/kg
Surrogate % Recovery of TFT=	80%		

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.
NR = Not Requested

R. L. James, Principal Chemist

Aug 4, 1995
Date

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8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995 Aug 1, 1995	 TPHgas & BTEX TPHdiesel
Project #:	S8100-06-31	Project Name:	CT 53W202	
Client ID:	OAK2	LAB ID:	ST95-07-2023A ST95-07-2024A	TPHgas & BTEX TPHdiesel
Matrix:	Water	Dilution:		

Name	Amount	Detection Limit	Units
Benzene	ND	0.3	ug/L
Toluene	ND	0.3	ug/L
Ethylbenzene	ND	0.3	ug/L
Xylenes	ND	0.3	ug/L
TPHgas	ND	50	ug/L
TPHdiesel	ND	50	ug/L
Surrogate % Recovery of Trifluorotoluene =	100%		

ppb = parts per billion = ug/L = micrograms per Liter
ppm= parts per million = ug/mL = micrograms per milliliter
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

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8020/8015 Modified Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995 Aug 1, 1995	 TPHgas & BTEX TPHdiesel
Project #:	S8100-06-31	Project Name:	CT 53W202	
Client ID:	OAK6	LAB ID:	ST95-07-2025A ST95-07-2026A	TPHgas & BTEX TPHdiesel
Matrix:	Water	Dilution:		

Name	Amount	Detection Limit	Units
Benzene	ND	0.3	ug/L
Toluene	ND	0.3	ug/L
Ethylbenzene	ND	0.3	ug/L
Xylenes	ND	0.3	ug/L
TPHgas	ND	50	ug/L
TPHdiesel	ND	50	ug/L
Surrogate % Recovery of Trifluorotoluene =	98%		

ppb = parts per billion = ug/L = micrograms per Liter
ppm= parts per million = ug/mL = micrograms per milliliter
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date

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Scientific Division

8020 Modified Matrix Spike (MS) & Matrix Spike Duplicate (MSD)
BTEX Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995
Project ID:	S8100-06-31	Project Name:	CT 53W202
Client ID:	MS/MSD (Batch)	LAB ID:	ST95-07-1922A MS ST95-07-1922A MSD
Matrix:	Soil	Dilution:	

Name	Conc. Spike Added	Sample Result	MS Result	MSD Result	Units	MS % Recovery	MSD % Recovery	% RPD Recovery
Benzene	30 ppb	ND	30	31	ug/kg	100%	103%	3%
Toluene	30 ppb	ND	28	31	ug/kg	93%	103%	10%
Ethylbenzene	30 ppb	ND	27	30	ug/kg	90%	100%	11%
Xylenes	30 ppb	ND	27	30	ug/kg	90%	100%	11%

Surrogate % Recovery of Trifluorotoluene = 102% MS 103% MSD

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
DATE

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
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Sparger Technology, Inc.
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8020 Modified Laboratory Control Spike (LCS) & Laboratory Control Spike Duplicate (LCSD) BTEX Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Jul 28, 1995
Project ID:	S8100-06-31	Project Name:	CT 53W202
Client ID:	LCS/LCSD	LAB ID:	ST95-07-028 LCS ST95-07-028 LCSD
Matrix:	Soil	Dilution:	

Name	Conc. Spike Added	Sample Result	LCS Result	LCSD Result	Units	LCS % Recovery	LCSD % Recovery	% RPD Recovery
Benzene	30 ppb	ND	25	30	ug/kg	83%	100%	18%
Toluene	30 ppb	ND	28	29	ug/kg	93%	97%	4%
Ethylbenzene	30 ppb	ND	26	29	ug/kg	87%	97%	11%
Xylenes	30 ppb	ND	25	28	ug/kg	83%	93%	11%

Surrogate % Recovery of Trifluorotoluene = 84% LCS 100% LCSD

ppb = parts per billion = ug/kg = micrograms per kilogram
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

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Sparger Technology, Inc.
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Scientific Division

8015 Modified Laboratory Control Spike (LCS) & Laboratory Control Spike Duplicate (LCSD) TPHdiesel Analysis Report

Attention:	Mr. Rick Walls Geocon Environmental 3235 Sunrise Blvd., Suite 6 Rancho Cordova, CA 95742	Date Sampled: Date Received: Date Analyzed:	Jul 25, 1995 Jul 26, 1995 Aug 1, 1995
Project ID:	S8100-06-31	Project Name:	CT 53W202
Client ID:	LCS/LCSD	LAB ID:	ST95-08-001 LCS ST95-08-001 LCSD
Matrix:	Water	Dilution:	

Name	Conc. Spike Added	Sample Result	LCS Result	LCSD Result	Units	LCS % Recovery	LCSD % Recovery	% RPD Recovery
TPHdiesel	600 ppb	ND	707	722	ug/L	118%	120%	2%

ppb = parts per billion = ug/L = micrograms per Liter
ppm= parts per million = ug/g = micrograms per gram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

Aug 4, 1995
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
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Sparger Technology, Inc.
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Analytical Laboratory Division
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Scientific Division

5520 F. Modified Analysis Report
Project: S8100-06-31 (CT 53W202)

Attention:

Mr. Rick Walls
Geocon Environmental
3235 Sunrise Blvd., Suite 6
Rancho Cordova, CA 95742

Date Sampled: Jul 25, 1995
Date Received: Jul 26, 1995
Date Analyzed: Jul 31, 1995
Invoice #: 5198

Matrix: Soil

Units: mg/kg

Lab ID	Client ID	Amount	Reporting Limit	Dilution 1:
ST95-07-1985A	OAK1-1	150	50	1
ST95-07-1987A	OAK1-2	65	50	1
ST95-07-1989A	OAK1-3	95	50	1
ST95-07-1992A	OAK1-4	ND	50	1
ST95-07-1993A	OAK2-1	280	50	1
ST95-07-1995A	OAK2-2	3300	50	1
ST95-07-1997A	OAK2-3	120	50	1
ST95-07-2000A	OAK2-4	ND	50	1
ST95-07-2007A	OAK5-1	170	50	1
ST95-07-2009A	OAK5-2	380	50	1
ST95-07-2011A	OAK6-1	110	50	1
ST95-07-2013A	OAK6-2	ND	50	1
ST95-07-2015A	OAK6-3	8000	50	1
ST95-07-2017A	OAK7-1	ND	50	1
ST95-07-2019A	OAK7-2	ND	50	1
ST95-07-2021A	OAK7-3	ND	50	1

ppb = parts per billion = ug/L = micrograms per Liter
ppm = parts per million = ug/g = micrograms per gram
ppm = parts per million = mg/kg = milligrams per kilogram
ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

R. L. James, Principal Chemist

Aug 3, 1995
Date Reported

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SHARGART TECHNOLOGY, INC.

Analytical Laboratory

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Phone: (916) 362-8947

FAX: (916) 362-0947

CHAIN OF CUSTODY RECORD

C.O.C. No. 10439 **Page** 1 of 3 **STAL Invoice Number:** 5198

Company: GEOCON Phone: (916) 852-9118

Project Manager: FAX: (916) 852-9132

Report Address: 3235 SUNRISE BLVD. #6, RANCHO CORDOVA, CA 95742

Billing Name & Address:

Project Name:

Project/Job#: 58100-06-31

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS: CT 53W202

HOMOGENIZE FOR METALS

Sampler's Name: JEREMEY WESTMARK

		All OK	None OK	Some OK
Cooler Temp.	°C			
Sample Condition				
pH				

WET(STLC)

TCLP

Total

NO.	SAMPLE ID	Sampling: Date	Sampling: Time	Container: 40 mL VOA	Container: Brass Sleeve (5)	Container: 1 L amber bottle	Container: 250 mL Plastic	Container: Other:	Preservative Used: HCl/HNO3/ICE	Preservative Used: None	Preservative Used: Other:	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Other:	TCLP: BTEX (602/8020)503.1	TCLP: BTEX/TPHgas (602/8020/8015)	TCLP: TPHdiesel/TPHmotor oil/kerosene(8015)	TCLP: EPA 601/8010/502.2/504	TCLP: EPA 602/8020	TCLP: EPA 608/8080 (Pesticides)/505/508	TCLP: EPA 608/8080 (PCB'S)	TCLP: EPA 624/8240/524.2	TCLP: EPA 625/8270/525	TCLP: Total Oil & Grease (5520)	TCLP: Non-Polar O & G/TRPH (418.1)	TCLP: Organic Lead	TCLP: RCI	Total: CAM-17 Metals	Total: CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Total: Lead	TAT: Standard	TAT: Rush Services (72hr / 48hr / 24hr / 12hr)	TAT: Holiday/Weekend Rush
1	OAK1-1	7/25/95	1550		X				X				X												X						X	X		
2	OAK1-2		1550																						X						X			
3	OAK1-3		1550																						X						X			
4	OAK1-4		1615														X								X						X			
5	OAK2-1		1350																						X						X			
6	OAK2-2		1350																						X						X			
7	OAK2-3		1350																						X						X			
8	OAK2-4		1415														X								X						X			
9	OAK3-1		1330																															
10	OAK3-2	↓	1330		↓				↓				↓																		X	X		

Relinquished by:	Received by:	Relinquished by:	Received by:
Date: 7/26/95 Time: 0915	Date: 7/26/95 Time: 9:25	Date: Time:	Date: Time:

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Analytical Laboratory

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CHAIN OF CUSTODY RECORD

C.O.C. No. 10440 (5198)

Page 2 **of** 3

STAL Invoice Number:

Company: GEOCON

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#: 58100-06-31

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS: CT 53W202

HOMOGENIZE FOR METALS

Sampler's Name: JEREMEY WESTMARK

		All OK	None OK	Some OK
Cooler Temp.	°C			
Sample Condition				
pH				

WET(STLC)

TCLP

Total

TAT

NO.	SAMPLE ID	Sampling: Date	Sampling: Time	Container: 40 mL VOA	Container: Brass Sleeve (SS)	Container: 1 L amber bottle	Container: 250 mL Plastic	Container: Other:	Preservative Used: HCl/HNO3(ICB)	Preservative Used: None	Preservative Used: Other:	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Other:	TCLP: BTEX (602/8020)503.1	TCLP: BTEX/TPHgas (602/8020/8015)	TCLP: TPHdiesel/TPHmotor oil/kerosene(8015)	TCLP: EPA 601/8010/502.2/504	TCLP: EPA 602/8020	TCLP: EPA 608/8080 (Pesticides)/505/508	TCLP: EPA 608/8080 (PCB'S)	TCLP: EPA 624/8240/524.2	TCLP: EPA 625/8270/525	TCLP: Total Oil & Grease (5520)	TCLP: Non-Polar O & G/TRPH (418.1)	TCLP: Organic Lead	TCLP: RCI	Total: CAM-17 Metals	Total: CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Total: Lead	TAT: Standard	TAT: Rush Services (72hr / 48hr / 24hr / 12hr)	TAT: Holiday/Weekend Rush
1	OAK3-3	7/25/95	1330		X				X				X																		X			
2	OAK4-1		1658																											X				
3	OAK4-2		1658																											X				
4	OAK4-3		1658																											X				
5	OAK5-1		1800																						X						X			
6	OAK5-2		1800																						X						X			
7	OAK6-1		1041																						X					X				
8	OAK6-2		1041																						X					X				
9	OAK6-3		1041																						X					X				
10	OAK7-1	↓	0950		↓				↓				↓												X					X		↓		

Relinquished by:	Received by:	Relinquished by:	Received by:
Date: 7/26/95 Time: 0915	Date: 7/26/95 Time: 9:25	Date: Time:	Date: Time:

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Analytical Laboratory

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CHAIN OF CUSTODY RECORD

C.O.C. No. 10422

5/98

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STAL Invoice Number:

Company: GEOCON

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#: S8100-06-31

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS: CT 534/202

HOMOGENIZE FOR METALS

Sampler's Name: JEREMEY WESTMARK

		All OK	None OK	Some OK
Cooler Temp.	°C			
Sample Condition				
pH				

WET(STLC)

TCLP

Total

TAT

NO.	SAMPLE ID	Sampling: Date	Sampling: Time	Container: 40 mL VOA	Container: Brass Sleeve SS	Container: 1 L amber bottle	Container: 250 mL Plastic	Container: Other:	Preservative Used: HCl/HNO3(ICE)	Preservative Used: None	Preservative Used: Other:	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Other:	TCLP: BTEX (602/8020)503.1	TCLP: BTEX/TPHgas (602/8020/8015)	TCLP: TPHdiesel/TPHmotor oil/kerosene(8015)	TCLP: EPA 601/8010/502.2/504	TCLP: EPA 602/8020	TCLP: EPA 608/8080 (Pesticides)/505/508	TCLP: EPA 608/8080 (PCB'S)	TCLP: EPA 624/8240/524.2	TCLP: EPA 625/8270/525	TCLP: Total Oil & Grease (5520)	TCLP: Non-Polar O & G/TRPH (418.1)	TCLP: Organic Lead	TCLP: RCI	Total: CAM-17 Metals	Total: CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Total: Lead	TAT: Services (72hr / 48hr / 24hr / 12hr)	TAT: Holiday/Weekend Rush
1	OAK7-2	7/25/95	0950		X				X				X												X				X				
2	OAK7-3		0950		X								X												X				X				
3	OAK2			X		X						X					X	X															
4	OAK6			X		X						X					X	X															
5	TRAVEL BLANK	7/25/95		X					X			X																					
6																																	
7																																	
8																																	
9																																	
10																																	

Relinquished by:	Received by:	Relinquished by:	Received by:
Date: 7/26/95 Time: 0915	Date: 7/26/95 Time: 9:25	Date: Time:	Date:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS