ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Acting Director

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

December 4, 2009

Mr. Cory Kauffmann
Cruise America, Inc.
11 West Hampton Avenue
Mesa, AZ 85210

McGuire and Hester
9009 Railroad Avenue
Oakland, CA 94603

Subject: Fuel Leak Case No. RO0002449 and Geotracker Global ID T06019713704, Cruise America, 796 66th Avenue, Oakland, CA 94621 – Case Closure

Dear Mr. Kauffman:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Total Petroleum Hydrocarbons as gasoline remain in soil at concentrations up to 270 ppm.
- Debris and black-stained soils have been encountered in excavations at the site. The debris and stained soil appears to have been emplaced with the fill material that was used to fill in low-lying wetlands areas at the site sometime prior to 1956. The source and content of the debris and black-stained soil has not been evaluated as part of this fuel leak case.
- Features related to the Repair Building including a vehicle wash pad, hydraulic hoists, RV pump-out area, and transformer pad were not evaluated as part of this fuel leak case and is not considered part of this fuel leak closure.
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to commercial land use only.

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

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:
1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

Leroy Griffin (w/enc)
Oakland Fire Department
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Peter McIntyre (w/o enc)
AEI Consultants
2500 Camino Diablo, Suite 100
Walnut Creek, CA 94597

Mr. Robert Flory (w/o enc)
AEI Consultants
2500 Camino Diablo, Suite 100
Walnut Creek, CA 94597

D. Drogos (w/enc)
Jerry Wickham (w/orig enc),
Geotracker (w/enc)
File (w/enc)

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REMEDIAL ACTION COMPLETION CERTIFICATION

December 4, 2009

Mr. Cory Kauffmann
Cruise America, Inc.
11 West Hampton Avenue
Mesa, AZ 85210

McGuire and Hester
9009 Railroad Avenue
Oakland, CA 94603

Subject: Fuel Leak Case No. RO0002449 and Geotracker Global ID T06019713704, Cruise America, 796 66th Avenue, Oakland, CA 94621 – Case Closure

Dear Mr. Kauffman:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi
Director
Alameda County Environmental Health

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: October 28, 2009

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Cruise America/McGuire Hester		
Site Facility Address: 796 66th Avenue, Oakland, CA 94621		
RB Case No.: 01-0953 ---	Local Case No.: ---	LOP Case No.: RO0002449
URF Filing Date: 05/29/2002	Geotracker ID: T0600100878	APN: 41-3901-4

Responsible Parties	Addresses	Phone Numbers
Cory Kauffmann, Cruise America Inc.	11 West Hampton Avenue Mesa, AZ 85210	---
McGuire Hester	9009 Railroad Avenue, Oakland, CA 94603	510-632-7676

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
T1	1,000 gallons	Unleaded Gasoline	Removed	1/16/1987
T2	5,000 gallons	Unleaded Gasoline	Removed	1/16/1987
T3	8,000 gallons	Diesel	Removed	1/16/1987
T4	10,000 gallons	Gasoline	Removed	11/30/2001
Piping			Removed	11/30/2001

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. T1 (gasoline) was rusted near fill port and the seams were pitted but did not have obvious holes or other signs of leakage. T2 (gasoline) was rusted and pitted and a petroleum-stained area on the bottom of the tank suggested that a hairline fracture was present. No rust, pitting, or other signs of failure were observed in T3 (diesel) or T4 (gasoline).	
Site characterization complete? Yes	Date Approved By Oversight Agency: -----

Monitoring wells installed? Yes	Number: 9	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 3.9 feet bgs	Lowest Depth: 8 feet bgs	Flow Direction: Southeast
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity:

No active water supply wells appear to be located within ½ mile of the site. The Fitchburg well group, which historically consisted of about 20 municipal supply wells, was located approximately 950 feet southeast of the site. The precise locations and the methods used for decommissioning the Fitchburg group are unknown. The nearest active water supply well appears to be an industrial well at American Brass & Iron Foundry, which is located approximately 3,325 feet southeast of the site. The American Brass & Iron Foundry, which is screened from 450 to 495 feet bgs, is not expected to be a receptor for the site based on the distance from the site and upgradient location. An EBMUD test well is located approximately 3,040 feet northwest of the site. The EBMUD test well is not expected to be a receptor for the site based on the distance from the site and upgradient location. Several observation wells are located at the Coliseum, approximately 1,100 to 2,300 feet south to southeast of the site. Based on the distance from the site, the Coliseum observation wells are not expected to be receptors for the site.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Damon Slough borders the site to the southeast.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health, City of Oakland Fire Department, and the State Water Resources Control Board GeoTracker website.

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	4 tanks	Treatment and disposal of tanks T1 through T3 not reported. T4 disposed off-site at Ecology Control Industries in Richmond, CA	11/29/2001
Piping	Not reported	Disposed off-site at Ecology Control Industries in Richmond, CA	11/29/2001
Free Product	----	----	----
Soil	1,000 cubic yards	Spread on site for aeration and then disposed off-site; off-site destination not reported.	1989
	60 cubic yards	Soil was transported off-site to Keller Canyon Landfill in Pittsburg, CA for disposal.	2/18/2009
Groundwater	3,400 gallons	Disposed off-site at Waste Management in Altamont, CA	11/2001
	930 gallons	Disposed off-site at Riverbank Oil Transfer, River Bank, CA	2/12/2009

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	15,000	270	60,000(1)	<50(1)
TPH (Diesel)	3,400	180	3,400	990
TPH (Motor Oil)	3,400	110	360	360
Oil and Grease	32,000	32,000	Not analyzed	Not analyzed
Benzene	21	0.79	590(2)	<0.5(2)
Toluene	840	0.31	5,100(3)	<0.5(3)
Ethylbenzene	300	0.2	640(4)	<0.5(4)
Xylenes	1,700	1.6	3,500(5)	<0.5(5)
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	1,300(6)	1,300(6)	0.021(7)	0.021(7)
MTBE	53(8)	6.5(9)	49,000(10)	22(11)
Other (8240/8270)	Not detected at various reporting limits	Not detected at various reporting limits	Not analyzed	Not analyzed

(1) The maximum concentration of TPHg before cleanup was 44,000 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; TPHg was not detected in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008.
(2) The maximum concentration of benzene before cleanup was 590 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; benzene was not detected in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008.
(3) The maximum concentration of toluene before cleanup was 5,100 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; toluene was not detected in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008..
(4) The maximum concentration of ethylbenzene before cleanup was 640 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; ethylbenzene was not detected in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008..
(5) The maximum concentration of xylenes before cleanup was 3,500 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; xylenes were not detected in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008..
(6) Lead = 1,300 ppm; cadmium = 7 ppm; chromium = 57 ppm; nickel = 130 ppm; and zinc = 100 pm.
(7) Lead was the only metal analyzed in groundwater.
(8) MTBE = 53 pm; no analyses for other fuel oxygenates, EDB, or EDC in soil.
(9) MTBE = 6.5 pm; no analyses for other fuel oxygenates, EDB, or EDC in soil.
(10) The maximum concentration of MTBE before cleanup was 42,000 ppb in a grab groundwater sample collected from the open tank pit 11/30/2001; TBA = 6,800 ppb; DIPE = <0.5 ppb; TAME <0.5 ppb; ETBE <0.5 ppb; EDB <0.5 ppb; and EDC <0.5 ppb.
(11) The maximum concentration of MTBE after cleanup was 22 ppb in groundwater samples collected during the most recent groundwater monitoring on 3/13/2008; TBA = 780 ppb.

Site History and Description of Corrective Actions:

The site is occupied by Cruise America, which is a recreational vehicle rental facility. Two buildings exist on site and are surrounded by paved parking areas. Nearby properties are also commercial properties. Prior to Cruise America acquiring the site in August 1988, the site was occupied from 1957 to 1988 by McGuire Hester, a construction company. The site was reportedly was used as a slaughter and meat packing facility prior to 1956.

Three underground storage tanks were removed from three separate tank pits in January 1987. T1 was a 1,000-gallon gasoline tank; T2 was a 5,000-gallon gasoline tank, and T3 was an 8,000-gallon diesel tank. Petroleum hydrocarbons as gasoline (TPHg) were detected in soil samples collected beneath T1 and T2 at concentrations up to 758 ppm. TPH as diesel (TPHd) was detected in soil samples collected beneath T3 at concentrations up to 492 ppm. Standing water in the tank pits had a visible hydrocarbon sheen and product odor.

One monitoring well was installed adjacent to each former tank in January 1987 (AGS-MW-1, AGS-MW-2, and AGS-MW-3). TPHd was detected in soil samples from AGS-MW-3, which was adjacent to the diesel tank, at concentrations up to 1,750 ppm. Soil samples collected from borings AGS-MW-1 and AGS-MW0-2 near the gasoline tanks contained minor concentrations of TPHg and BTEX.

On February 17, 1988, Purcell, Rhoades, & Associates advanced three shallow borings and installed three temporary monitoring wells (B-4 through B-6 and PRA-MW-1 through PRA-MW-3). TPHg and TPHd were detected in soil at concentrations up to 270 and 74, ppm, respectively. Oil & Grease was detected in a soil sample from boring B-4 at a concentration of 32,000 ppm.

Between May 25, 1988 and July 27, 1988, a total of 15 soil borings were advanced as part of a geotechnical investigation for construction of the Cruise America facility. A petroleum odor was noticed in several of the geotechnical borings. During the construction activities in 1988, contamination was observed in the area of the gasoline UST (presumed to be T4) and the existing waste oil tank currently located adjacent to the Repair Building. Remediation of these areas was recommended by Kaldveer Associates, the environmental consultant for the site in 1989; however, there is no documentation to indicate that remediation of these areas took place during the construction activities. Cleanup of the T4 area took place between 2002 and 2009. Although no cleanup has been conducted adjacent to the existing waste oil tank, one soil boring (SB-21) was advanced adjacent to the waste oil tank in 2009. TPHd and TPHmo were detected in soil from SB-21 at concentrations up to 180 ppm and 110 ppm, respectively. Based on the results from boring SB-21, the extent of contamination appears to be limited in the area of the waste oil tank.

On July 11, 1988, eleven soil borings (B20 through B30) were advanced in the area surrounding the diesel tank pit. High boiling point hydrocarbons were detected in soil samples from the shallow borings at concentrations up to 42 ppm. As part of the July 1988 investigation, groundwater samples were collected from wells PRA-MW-1, PRA-M-2, and AGS-MW-3. High boiling point hydrocarbons were detected in groundwater at concentrations ranging from 720 to 60,000 ppb.

Between July 28, 1988 and August 1, 1988, the former diesel tank (T3) pit area was excavated to a depth of 15 feet bgs. Soil with visible staining or odor outside the diesel tank pit was reportedly excavated to a depth of 5 feet bgs. Seven soil samples were collected from the base and sidewalls of the excavation (S-1 through S-7) following the initial excavation. Based on sample analytical results from samples, S-2 and S-4, the excavation was continued and three additional soil samples were collected on August 1, 1988 (S-8 through S-10). During the excavation, buried timbers with creosote were observed. The area of the diesel tank was backfilled with clean, imported fill. Following the exploratory excavation, an additional monitoring well, PRA-MW-4, was installed adjacent to the excavation area. Groundwater from PRA-MW-4 contained TPHd at a concentration of 2,300 ppb.

On October 17, 1988, composite soil samples were collected from the stockpiled soil from the excavation. The stockpiled soil remained on site awaiting treatment or disposal. On November 1, 1998, a Notice of Violation was issued as a result of a site inspection by ACEH. Additional soil samples were collected from the soil stockpile on November 21, 1998 prior to off-site disposal.

In July 2001, six soil borings (SB-1 through SB-6) were advanced in the area of the former gasoline tanks (T1 and T2) and the former diesel tank (T3) to assess whether residual soil or groundwater contamination remained from the former USTs that were removed in 1988. TPHg and TPHd were detected at low concentrations in groundwater but MTBE was detected at an elevated concentration of 650 ppb in a grab groundwater sample from boring SB-1.

In September 2001, an additional five soil borings were advanced (SB-7 through SB11) in order to find the source of high levels of MTBE found in SB-1. A groundwater sample collected from SB-7 did not contain MTBE at concentrations above reporting limits. MTBE concentrations varied from 630 ppb in SB-9 to 13,000 ppb in SB-10. Based on these data, a leak

in the remaining 10,000-gallon UST on the southern portion of the property (T4) was interpreted to be the most likely source of MTBE.

On November 30, 2001, the 10,000-gallon gasoline tank (T4) was removed. Soil samples collected from the tank pit and dispenser area contained TPHg at concentrations up to 280 ppm. Benzene and MTBE were detected at concentrations up to 53 and 13 ppm, respectively along the southern and eastern sidewalls of the excavation at a depth of approximately 6.5 feet bgs. TPHg and MTBE were detected in a groundwater sample from the tank pit excavation at 44,000 ppb and 42,000 ppb, respectively.

In response to the contamination observed during removal of the gasoline tank (T4), a fuel leak case was opened by ACEH on May 21, 2002 and an Unauthorized Release Form was submitted on May 29, 2002. No case closure or other documentation was located for the investigation and excavation conducted prior to 2001. Therefore, this case closure also evaluates the results from the investigation and excavation conducted in 1987 and 1988 for the tanks T1 through T3.

On September 6, 2002, six soil borings (SB-12 through SB-17) were advanced at the site. Data from the soil borings were used to locate five monitoring wells (MW-1 through MW-5), which were installed on September 19, 2002. Groundwater monitoring was conducted at the site from 2002 to 2008.

A twelve-point ozone sparging system was installed around the area of the 10,000-gallon gasoline tank (T4) between May and July 2004. The sparging system operated through July 2006. The ozone sparging system remained off for several months to monitor possible rebound. In July 2008, five soil borings (SB-18 through SB-22) were advanced to confirm the effectiveness of the ozone sparging in reducing contaminant mass in the area of the former gasoline tank (T4). Significant concentrations of TPHg, MTBE, and TBA were detected in a groundwater sample from boring B-18. Based on the elevated concentrations of chemicals of concern detected in soil and groundwater from SB-18, excavation was recommended in the localized area of boring SB-18.

On February 12, 2009, the soil around borings SB-13 and SB-18 were excavated to a depth of 6.5 feet bgs. Following receipt of analytical results, which showed TPHg in soil at a concentration of 160 ppm, the excavation was extended several feet northwest. During the excavation, a debris layer consisting of trash, wood, cardboard, and black-stained soil was observed in the lower part of the excavation. The debris and stained soil appears to have been emplaced with the fill material that was used to fill in low-lying wetlands areas at the site sometime prior to 1956. The source and content of the debris and black-stained fill material has not been evaluated as part of this fuel leak case.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for the fuel leak site is granted for the current commercial land use only. This closure applies only to the former UST fuel systems circa 1987 and 2001. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in areas not part of this case closure including: the debris and black-stained fill material, wash pad, hoists, pump-out area, or transformer pad require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities. This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.		
Should corrective action be reviewed if land use changes? Yes. If land use or building configuration is to change to other commercial development or more conservative land use scenarios such as residential, Alameda County Environmental Health must be notified. The case will be re-evaluated upon receipt by Alameda County Environmental Health of approved development/construction plans.		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: Yes	Number Decommissioned: 4	Number Retained: 5
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

During construction activities in 1989, soil contamination was observed in the area of the former gasoline USTs (presumed to be T1 and T2) and a waste oil tank excavation; however, available documentation of the construction activities is poor. No maps or other documentation was found to confirm the locations of the observed soil contamination. The waste oil tank excavation was presumed to be an excavation for a new 500-gallon waste oil tank that was installed in 1989 adjacent to the Repair Building. The source of contamination in the excavation is unknown since no UST was known to exist at this location prior to 1989. Remediation of the former gasoline UST and waste oil UST excavation areas was recommended by Kaldveer Associates, the environmental consultant for the site in1989. There is no documentation to indicate that remediation of these areas took place during the construction activities or prior to 2002. Soil and groundwater samples were collected in the area of the former gasoline tanks (T1 and T2) in 2001. The concentrations of TPH in The maximum concentrations of TPHg detected in soil and groundwater in the area of the former gasoline tanks was 16 ppm and 120 ppb, respectively. One soil boring (SB-21) was advanced adjacent to the waste oil tank on July 1, 2008. TPHd and TPHmo were detected in soil at concentrations up to 180 ppm and 110 ppm, respectively. Based on these results the extent of residual contamination in these areas appears to be limited.

No soil vapor sampling was conducted at the site. Prior to remediation by ozone sparging and excavation, benzene was detected at elevated concentrations in two soil samples (East 61/2 and SB-13 4') collected in the immediate area of the former T4 tank. Benzene has not been detected at elevated concentrations in groundwater samples collected from soil borings or monitoring wells in this area. During the most recent groundwater sampling event in 2008, benzene was not detected in groundwater samples collected from the five monitoring wells. Based on these results, soil vapor sampling does not appear to be warranted for the site.

Debris and black-stained soils have been encountered in excavations at the site. The debris and stained soil appears to have been emplaced with the fill material that was used to fill in low-lying wetlands areas at the site sometime prior to 1956. The source and content of the debris and black-stained soil has not been evaluated as part of this fuel leak case.

Features related to the Repair Building including a vehicle wash pad, hydraulic hoists, RV pump-out area, and transformer pad were not evaluated as part of this fuel leak case and is not considered part of this fuel leak closure.

EDB and EDC were not analyzed in soil.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary. ACEH staff recommend case closure for this fuel leak case.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 11/03/09
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature:	Date: 11/3/09

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: Cherie McCaulou	Date: 11/4/09

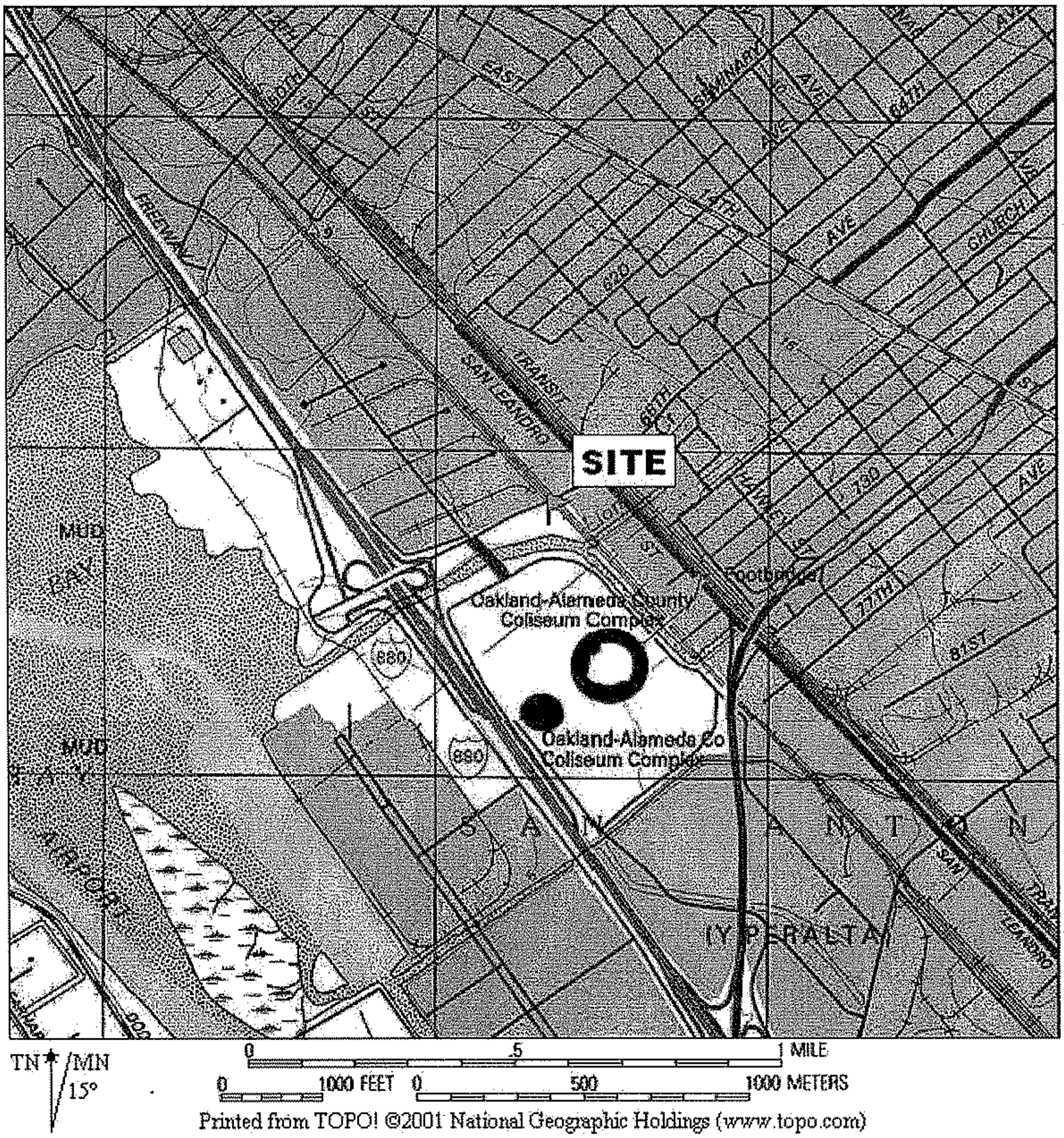
VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 11/09/09	Date of Well Decommissioning Report: 12/03/09	
All Monitoring Wells Decommissioned: (Yes) No	Number Decommissioned: 17	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 12/04/09

Attachments:

1. Site Vicinity Map (1 p)
2. Site Plans (9 pp)
3. Fence Diagrams, MTBE Isopleth, Sample Location Maps, MTBE vs Time (8 pp)
4. Soil Analytical Data (16 pp)
5. Groundwater Analytical Data (8 pp)
6. Boring Logs (32 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



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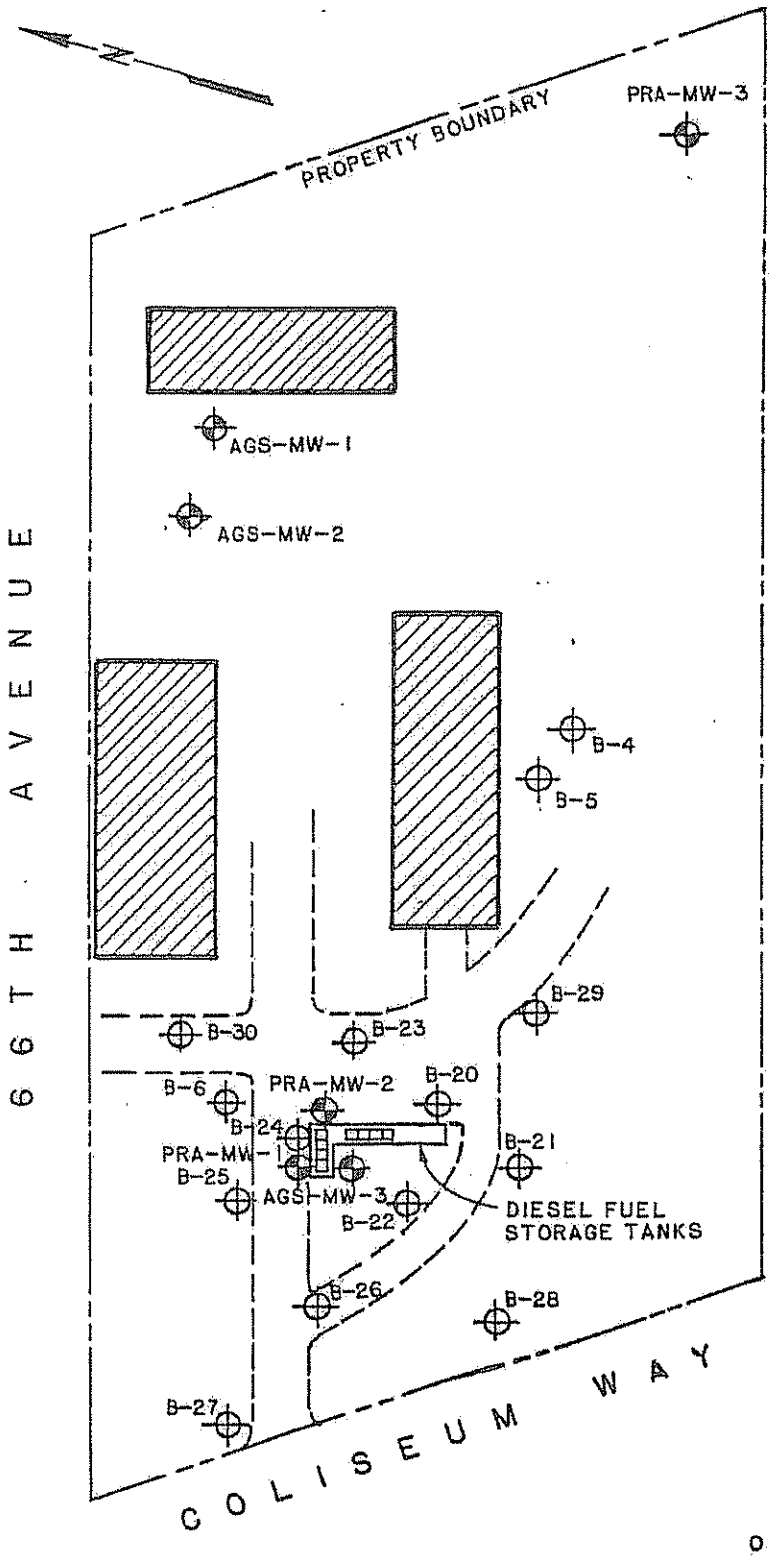
AEI CONSULTANTS	
SITE LOCATION MAP	
796 66th AVENUE OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 278361

ATTACHMENT 1



NOTES

1. PLANIMETRIC BASE DATA TAKEN FROM APPLIED GEOSYSTEMS PROJECT NO. 86120-2 PLATE P-2 AND FIELD MEASUREMENTS TAKEN BY PURCELL RHOADES & ASSOCIATES
2. MONITORING WELLS PRA-MW-1, PRA-MW-2 AND PRA-MW-3 INSTALLED BY PURCELL RHOADES & ASSOCIATES. MONITORING WELLS AGS-MW-1, AGS-MW-2 AND AGS-MW-3 INSTALLED BY APPLIED GEOSYSTEMS.

EXPLANATION

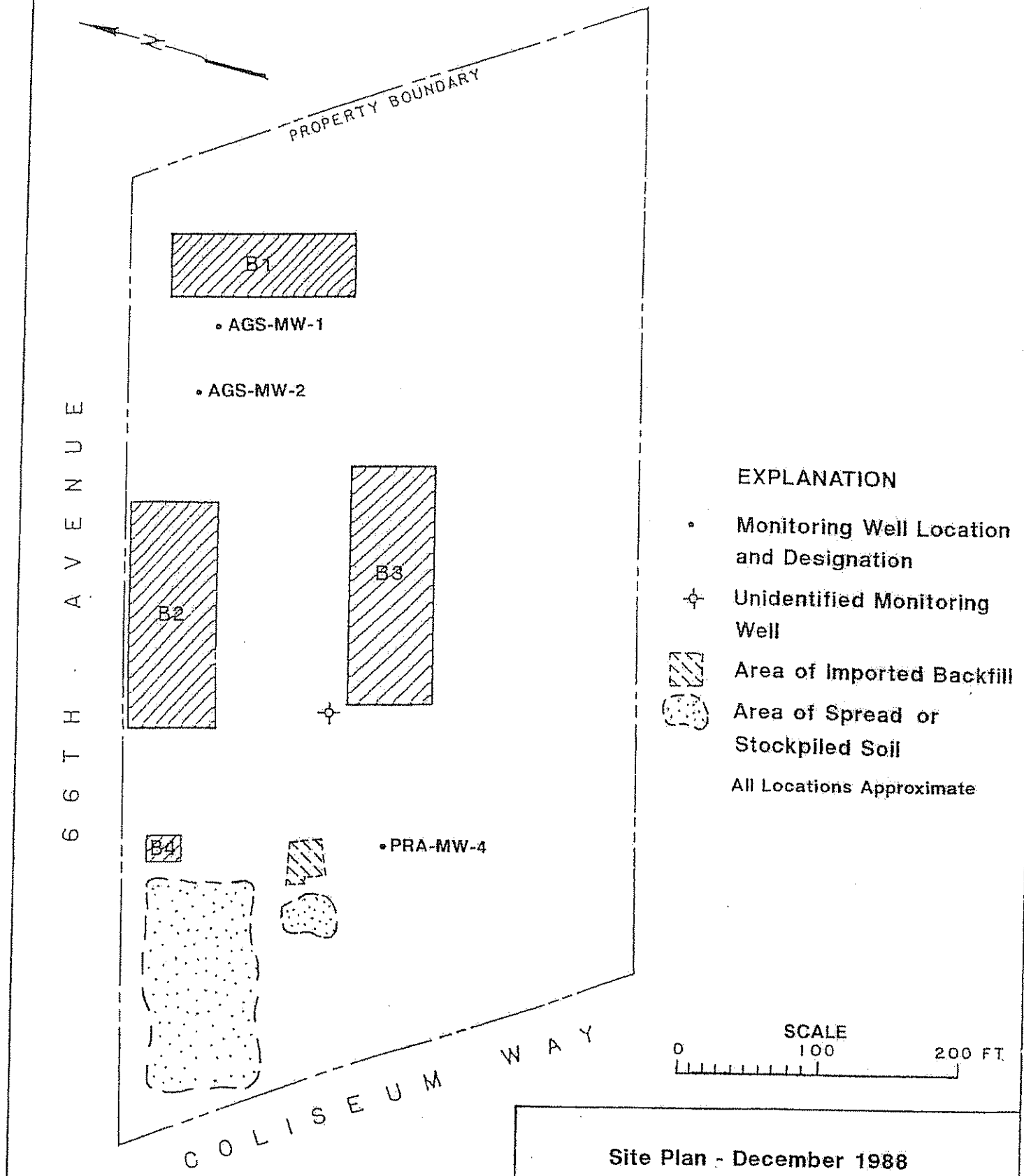
- BUILDING STRUCTURE
- EXPLORATION BORING
- MONITORING WELL

0 100 200 FT

GRAPHIC SCALE

NOTES	DATE 07/20/88	Purcell, Rhoades & Associates Consultants in the Applied Earth Sciences 2504 Technology Drive, Hayward, CA 94545, (415) 732-9000 1041 Hood Avenue, Pleasant Hill, CA 94523, (415) 932-1171	
	JOB NO. 4780-01		
	DES'D P MORRILL	EXPLORATORY BORING AND MONITORING WELL LOCATION MAP	FIGURE NO. 2
	DRAWN R BRACKETT		
	CHK'D J VALLAN		
	APP'D K PRICE	796 66TH AVENUE, OAKLAND, CALIFORNIA	
		CRU	

ATTACHMENT 2

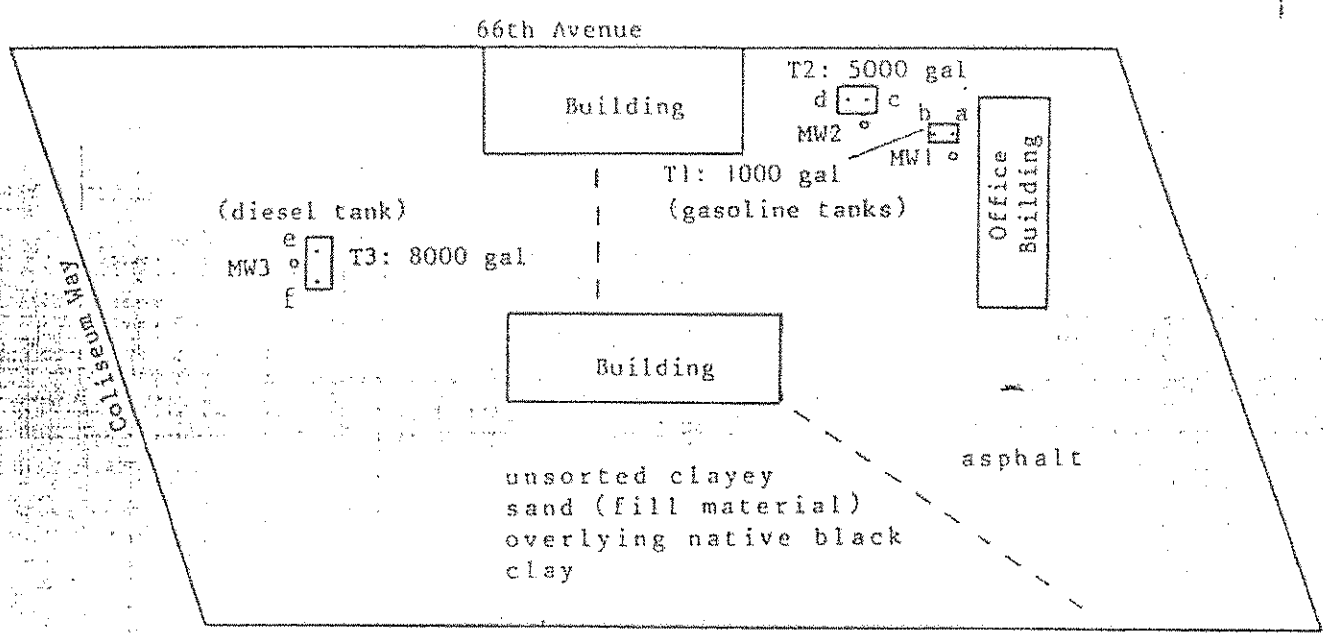


Site Plan - December 1988

ATT Aqua Terra Technologies Consulting Engineers & Scientists

McGuire and Hester

JOB NUMBER	DATE	PLATE
892.1	December 1988	3



Source: measured by Applied GeoSystems by tape and compass method

sample location
a. SE-8-T1
b. SW-8-T1
c. SE-10-T2
d. SW-10-T2
e. SN-9-T3
f. SS-9-T3

MW1 ° monitoring well location

Approximate Scale

0 100 200

Feet

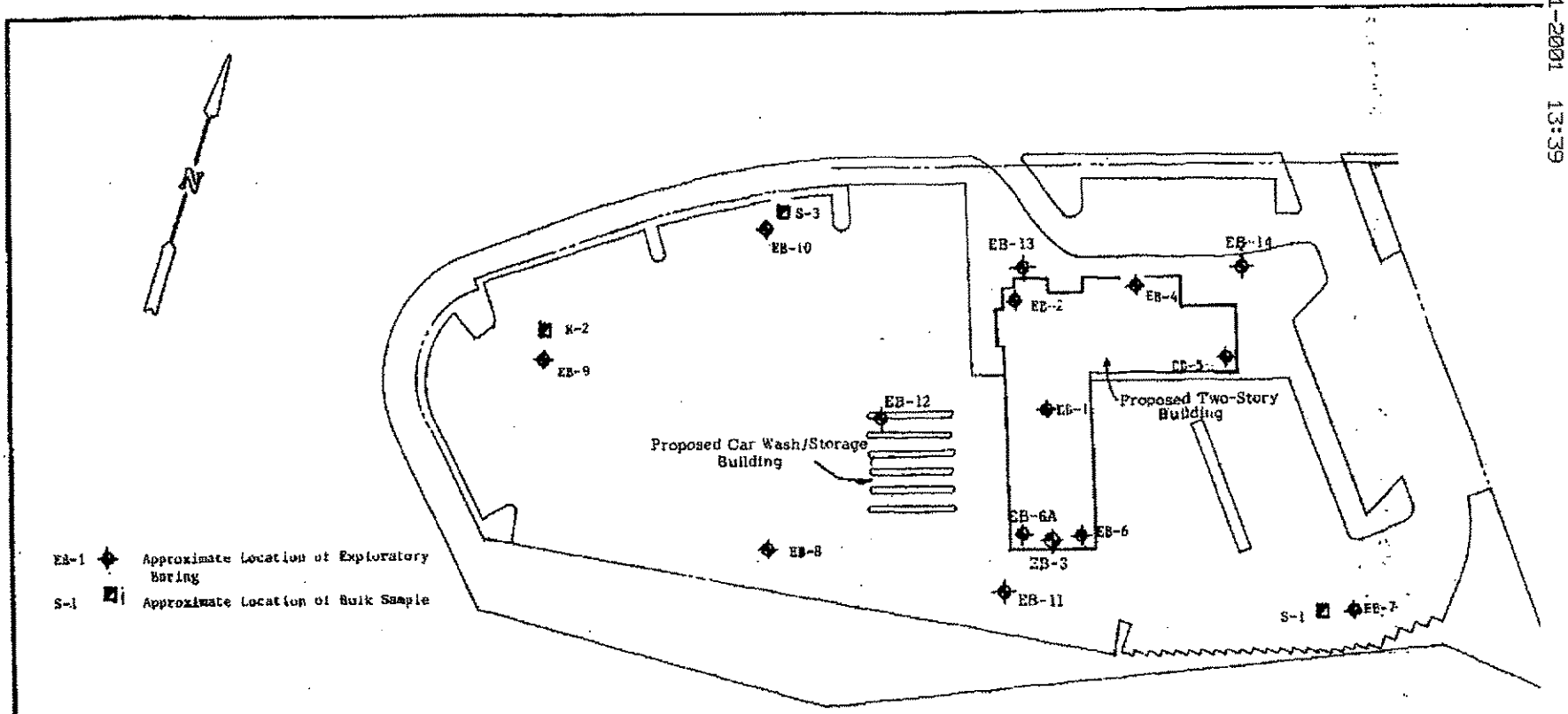
Applied GeoSystems

PROJECT NO. 86120-2

GENERALIZED SITE PLAN
McGuire and Hester
796 66th Avenue
Oakland, California

PLATE

P-2



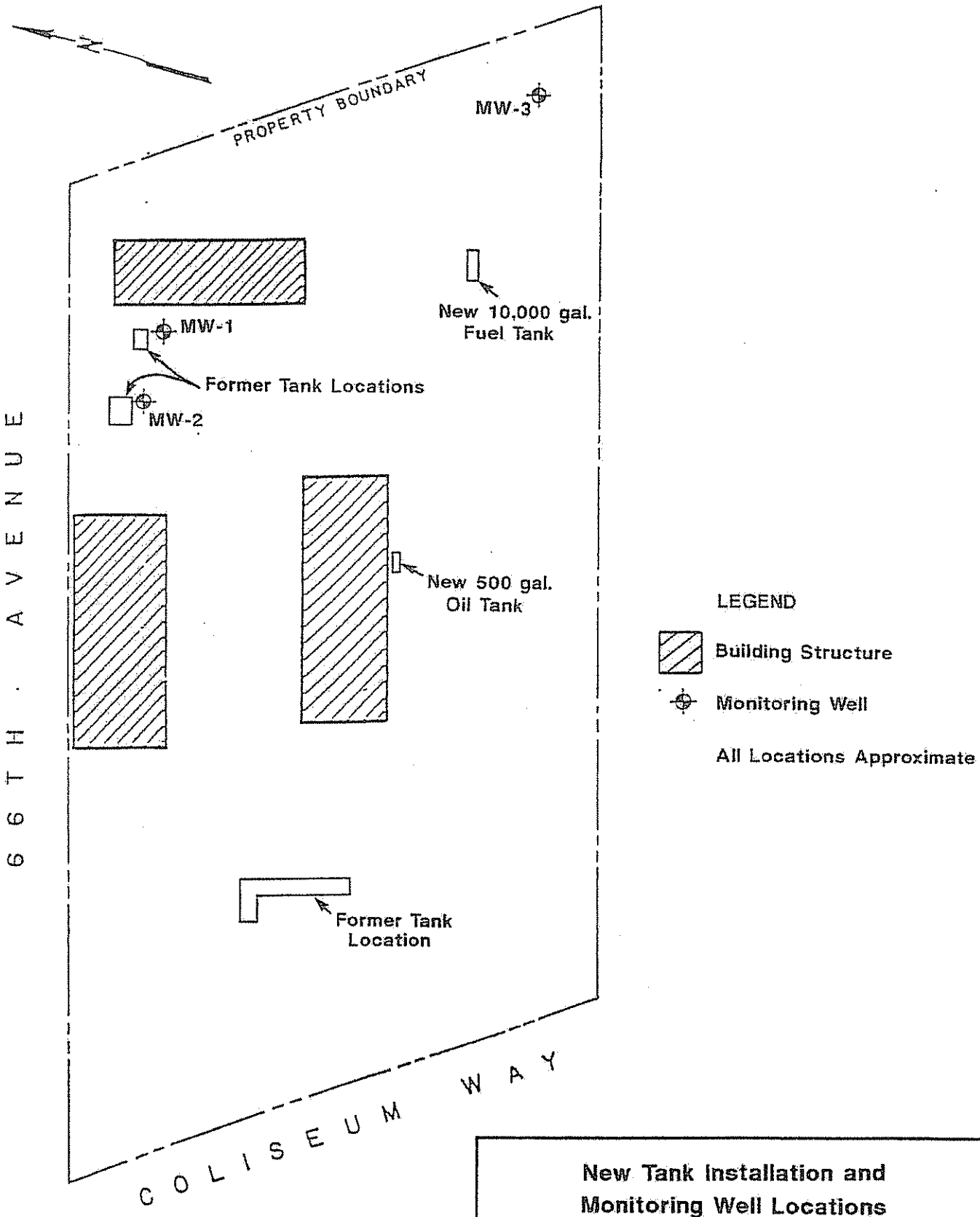
Base: "Site Plan" by Haviland Associates, Architects, dated January 4, 1988.

Kaldveer Associates
Geoscience Consultants
A Corporation

SITE PLAN

PROPOSED CRUISE AMERICA FACILITY
Oakland, California

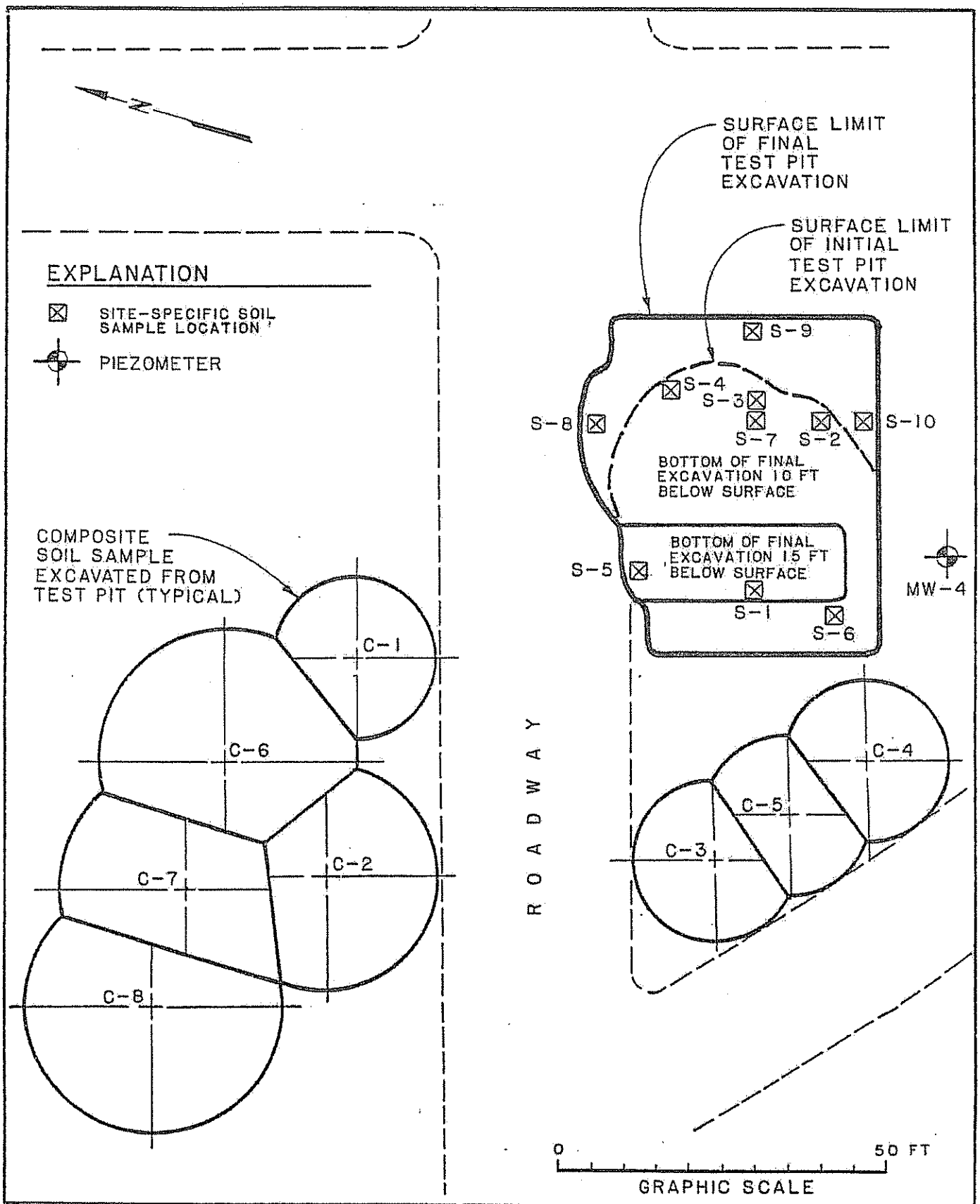
PROJECT NO.	DATE	Figure
6936-1	August 1988	1



New Tank Installation and Monitoring Well Locations

ATT Aqua Terra Technologies
Consulting Engineers
& Scientists

McGuire and Hester		PLATE
JOB NUMBER	DATE	2
892.1	12/89	



NOTES

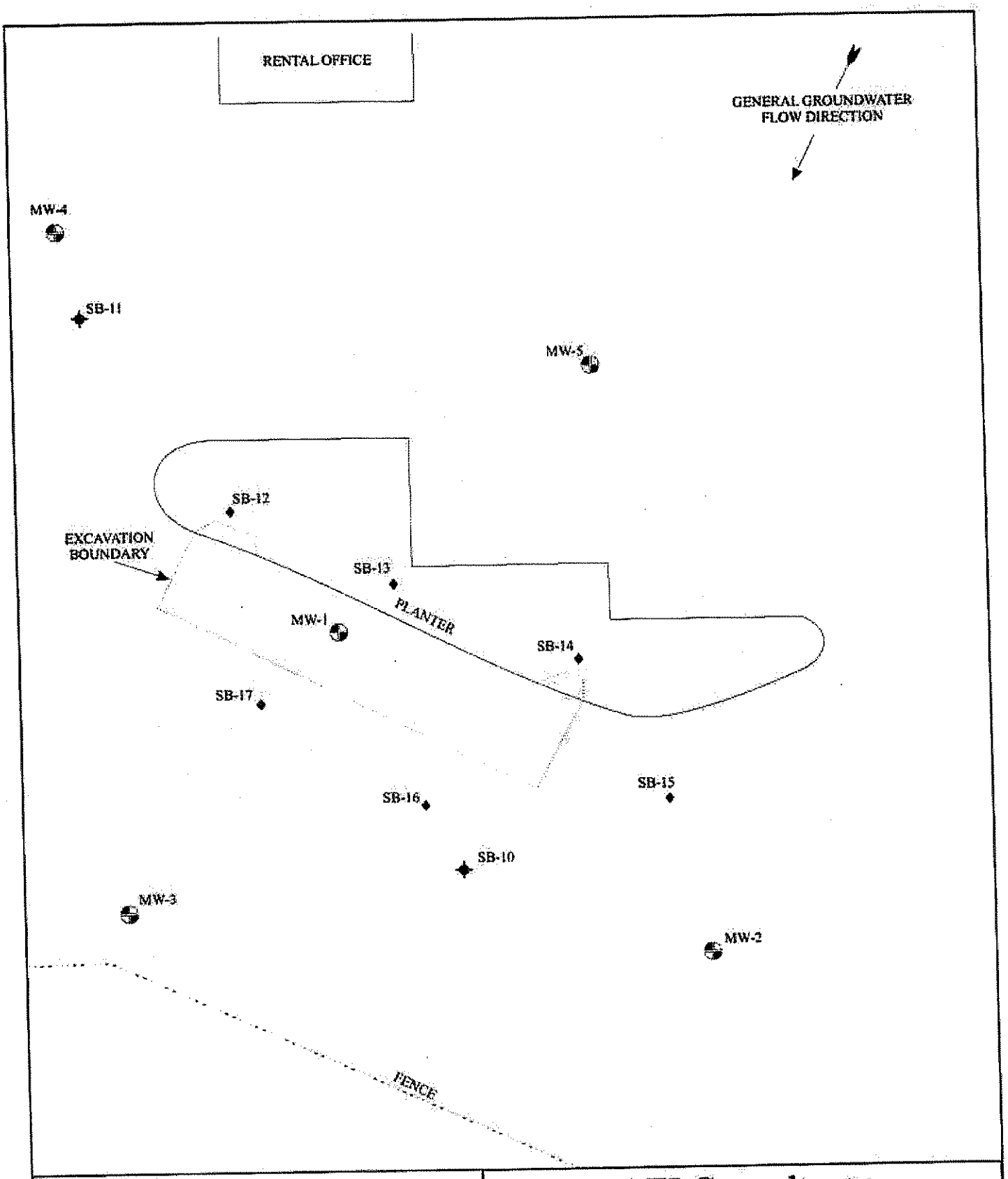
DATE	08/23/88
JOB NO.	4780-01
DESG'D	P MORRILL
DRAWN	R BRACKETT
CHK'D	B WORDEN
APP'D	D AFFELDT

Purcell, Rhoades & Associates
Consultants in the Applied Earth Sciences

TEST PIT EXCAVATION AND SOIL SAMPLE STORAGE
796 66TH AVENUE, OAKLAND, CALIFORNIA
CRUISE AMERICA

FIGURE NO. 1

REV NO.



LEGEND

- Soil Boring: July & Sept. 2001
- Soil Boring: Sept. 2002
- Monitoring Wells

N

0' 10' 20'

SCALE: 1 in = 20 ft

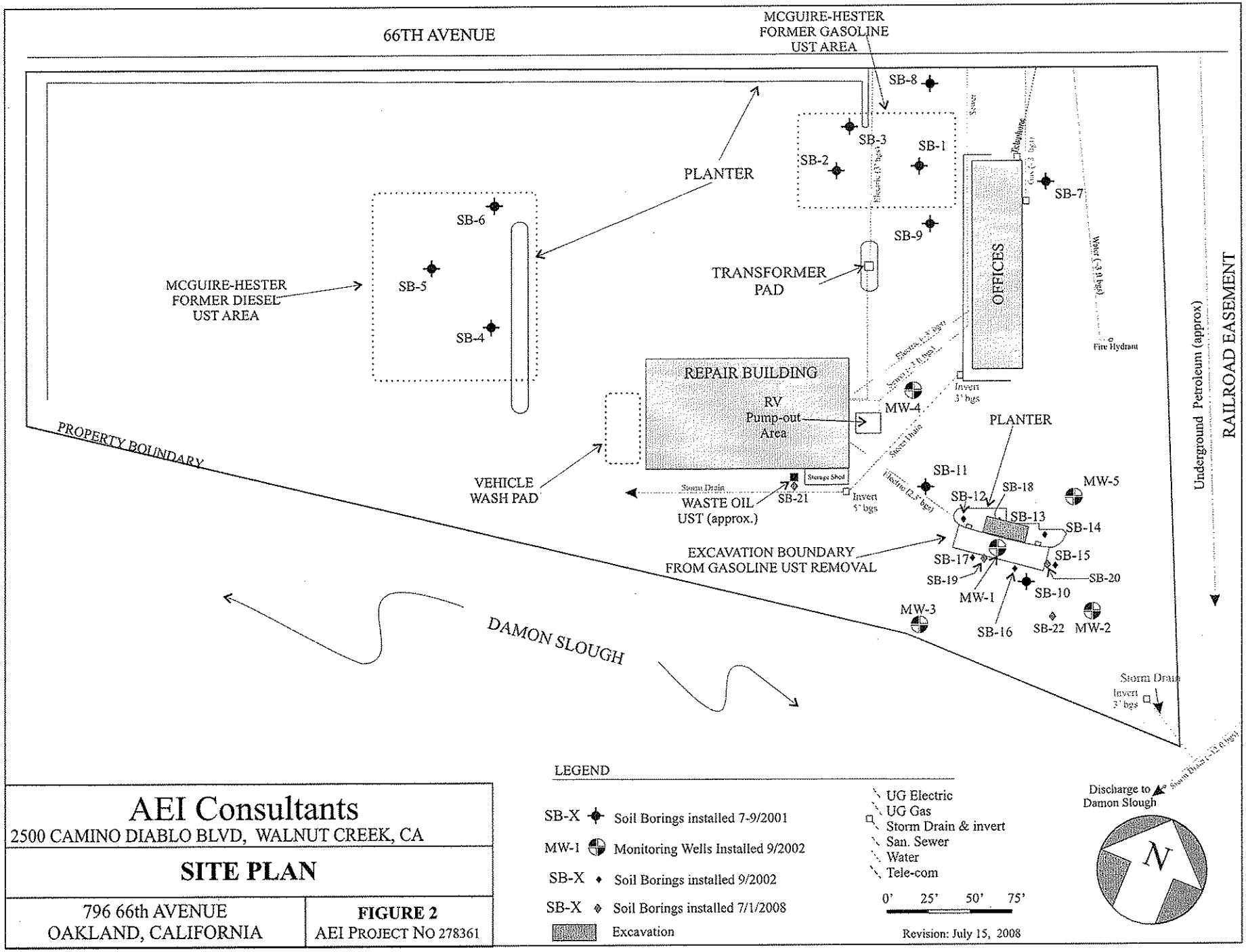
AEI Consultants

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

BORING & WELL LOCATIONS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 3
AEI PROJECT NO 8262



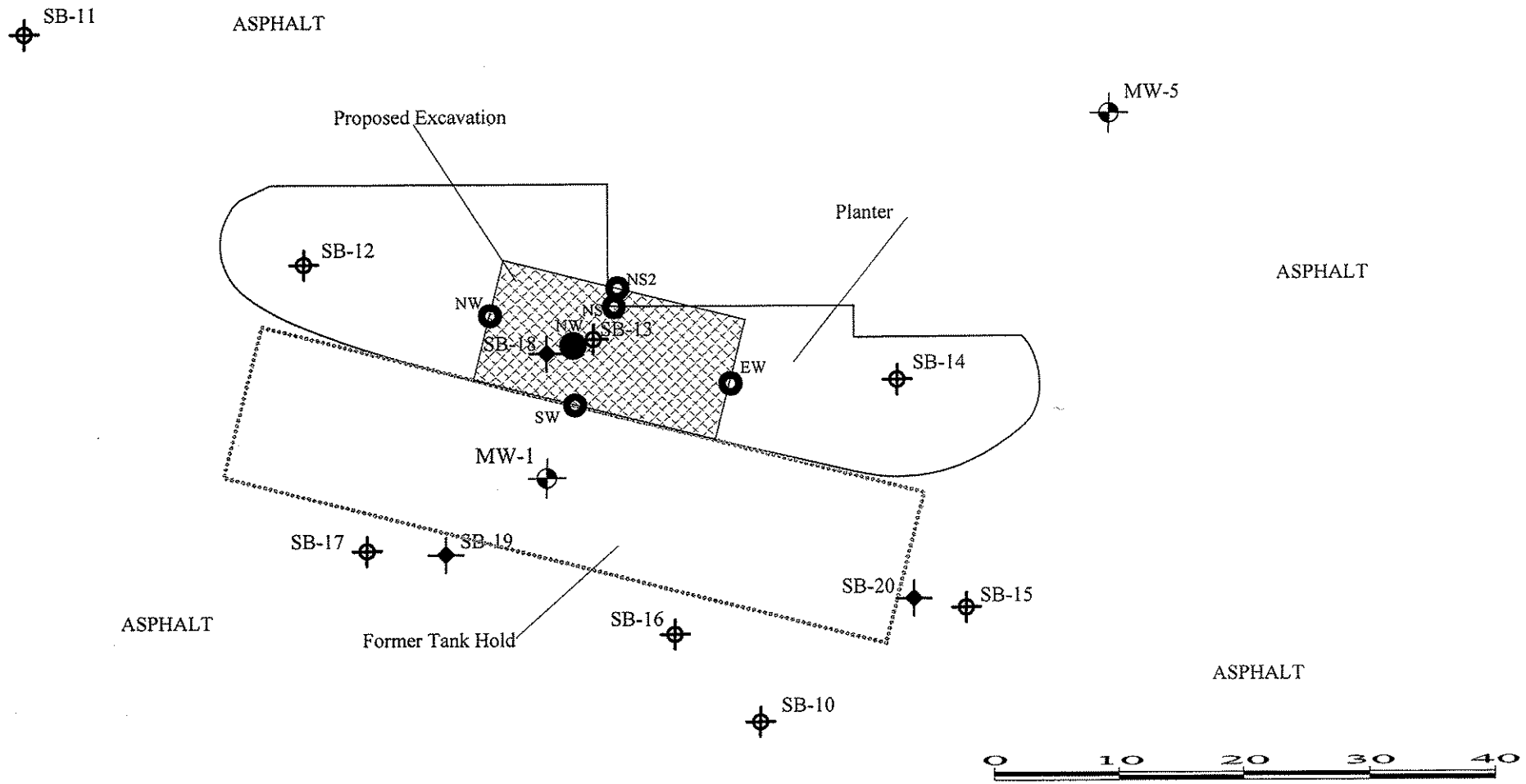
AEI Consultants

2500 CAMINO DIABLO BLVD, WALNUT CREEK, CA

SITE PLAN

796 66th AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
AEI PROJECT NO 278361



LEGEND

- MW-3 — Groundwater monitoring well
- SB-19 — Soil borings - July 1, 2008
- SB-17 — Soil borings - 2001 - 2002
- Former Tank Hold
- Additional Excavation
- Initial Excavation
- Sidewall Sample
- Pit Groundwater Sample

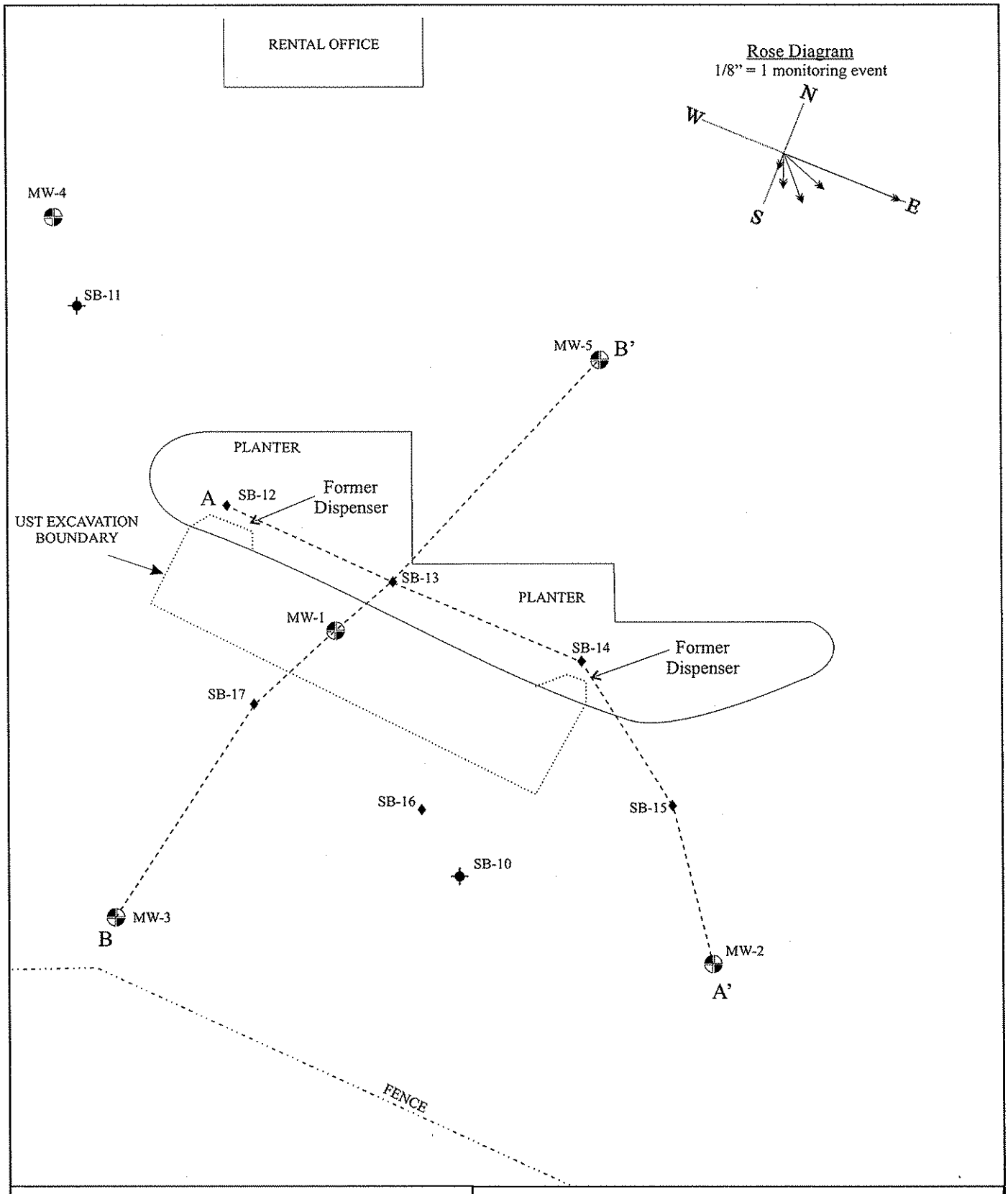
AEI CONSULTANTS

2500 Camino Diablo, Walnut Creek, CA

SITE MAP

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 3
AEI Project # 287361



LEGEND

- Soil Boring: July & Sept. 2001
- Soil Boring: Sept. 2002
- Monitoring Wells
- Fence Line

N

0' 10' 20'

SCALE: 1 in = 20 ft

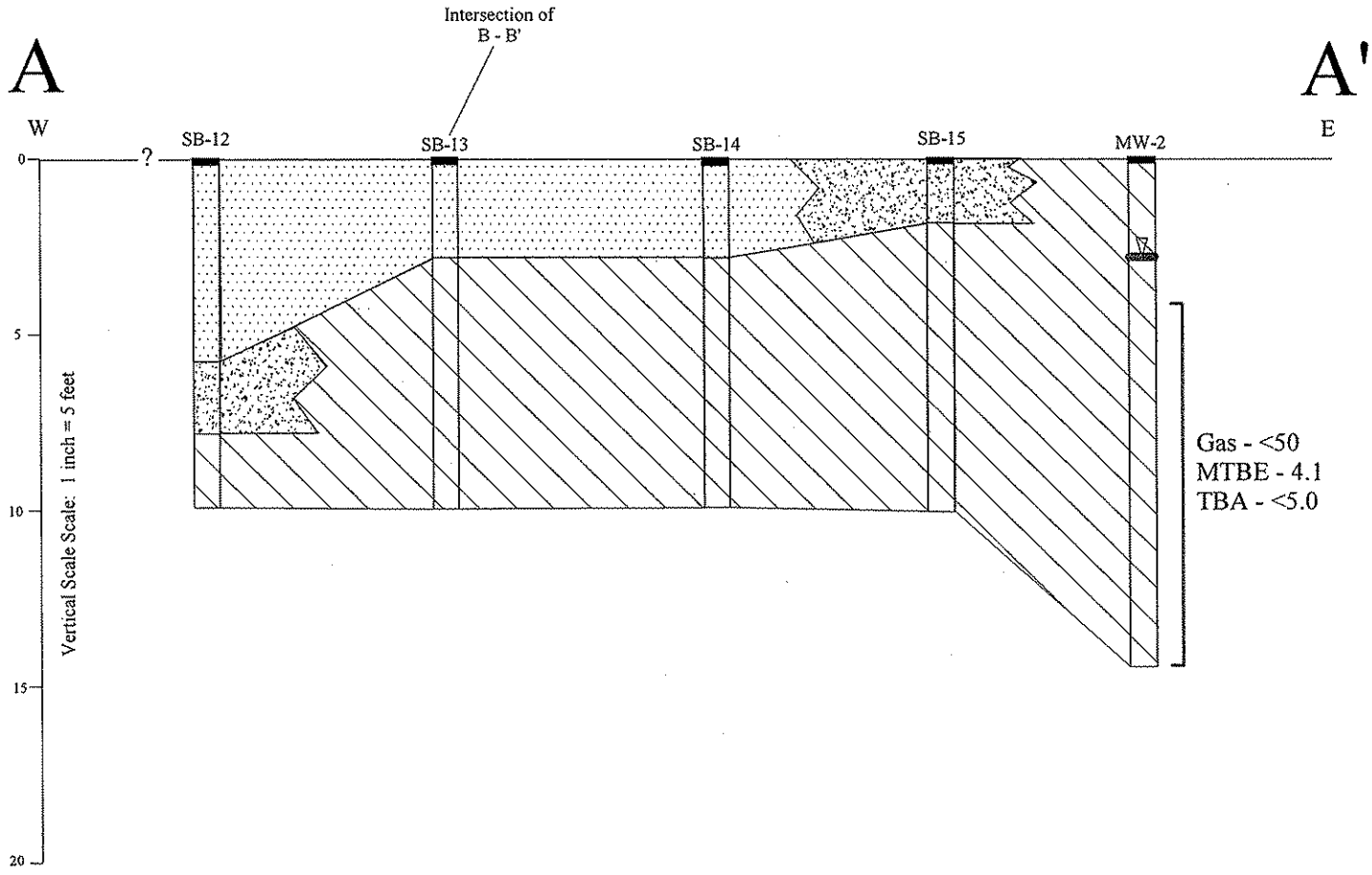
AEI Consultants

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

SITE PLAN

796 66
OAKLAN

ATTACHMENT 3



Approximate Horizontal Scale: 1" = 20'

Silty - Sandy Clay

Clayey - Sandy Gravel

Sand

Groundwater elevation as of 7/11/06

Well Screen Interval

*Values represent groundwater concentrations in ug/L as of 7/11/06
MTBE - methyl tertiary butyl ether
TBA - tertiary butyl alcohol

0 40 80

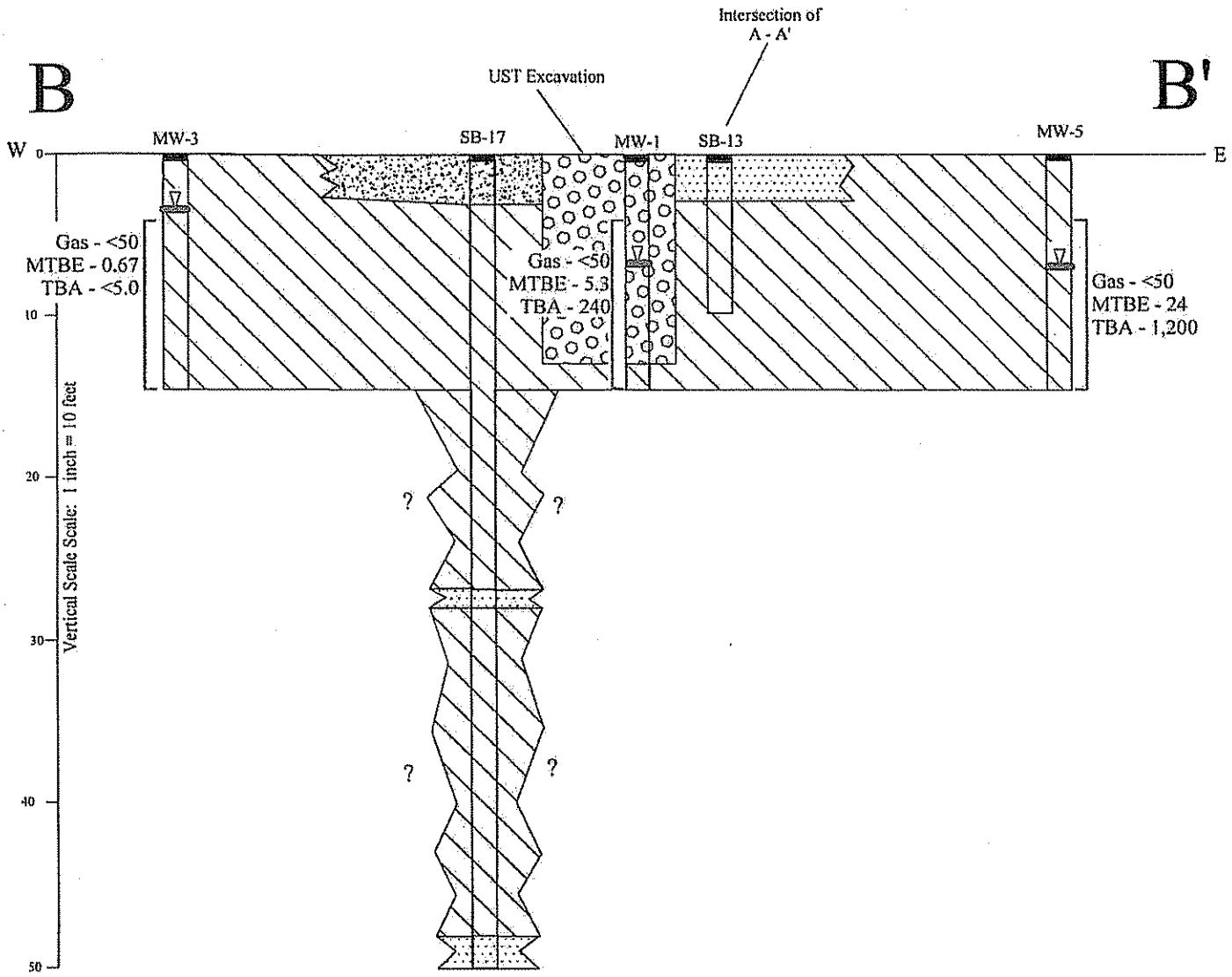
Scale 1" = 20'

AEI CONSULTANTS
2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

A - A' Fence Diagram

796 66th Avenue
Oakland, CA

Figure 5
PROJECT NO. 110566



Approximate Horizontal Scale: 1" = 20'

- Sandy - Silty Clay
- Clayey Gravel
- Sand / Gravelly Sand
- Backfill
- Groundwater elevation as of 7/11/06
- Well Screen Interval

0 40 80

Scale 1" = 20'

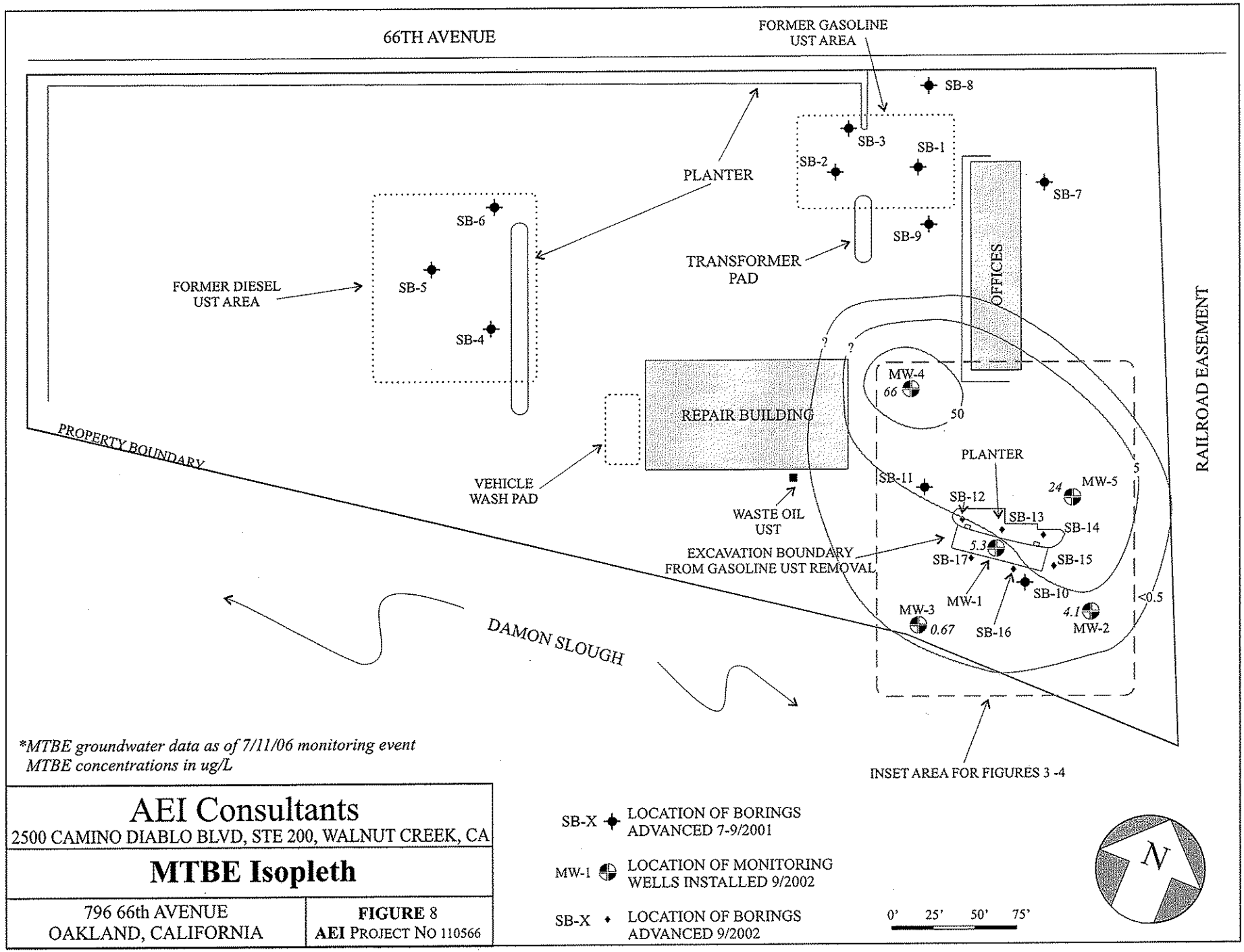
*Values represent groundwater concentrations in ug/L as of 7/11/06
MTBE - methyl tertiary butyl ether
TBA - tertiary butyl alcohol

AEI CONSULTANTS
2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

B - B' Fence Diagram

796 66th Avenue
Oakland, CA

Figure 6
PROJECT NO. 110566



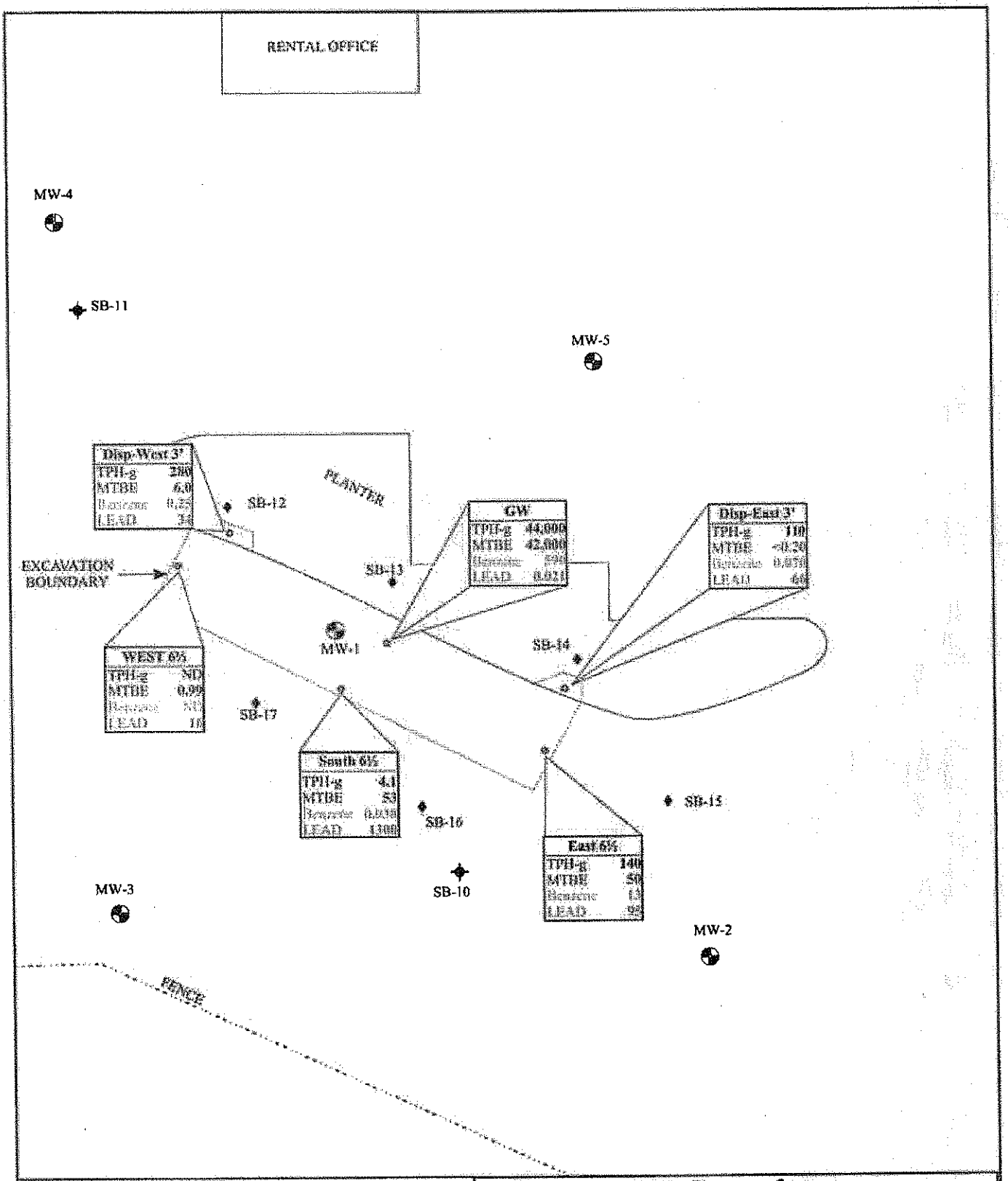
**MTBE groundwater data as of 7/11/06 monitoring event*
MTBE concentrations in ug/L

AEI Consultants

2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK, CA

MTBE Isopleth

796 66th AVENUE OAKLAND, CALIFORNIA	**FIGURE** 8 **AEI** PROJECT NO 110566



LEGEND

- MW-X MONITORING WELL LOCATION
- SB-X SOIL SAMPLES COLLECTED 9/6/02
- WEST X SOIL SAMPLES COLLECTED 11/30/01
- SB-X SOIL SAMPLES COLLECTED 7/17 &9/28/01
- TPH-g Total Petroleum Hydrocarbons as gasoline
- MTBE Methyl Tertiary Butyl Ether
  Expressed as: result by EPA 8020/ result by EPA 8260
- LEAD Total Lead Expressed as : TTLC / STLC

Soil sample results in mg/kg
Groundwater results in µg/L , except lead (mg/L)

AEI Consultants

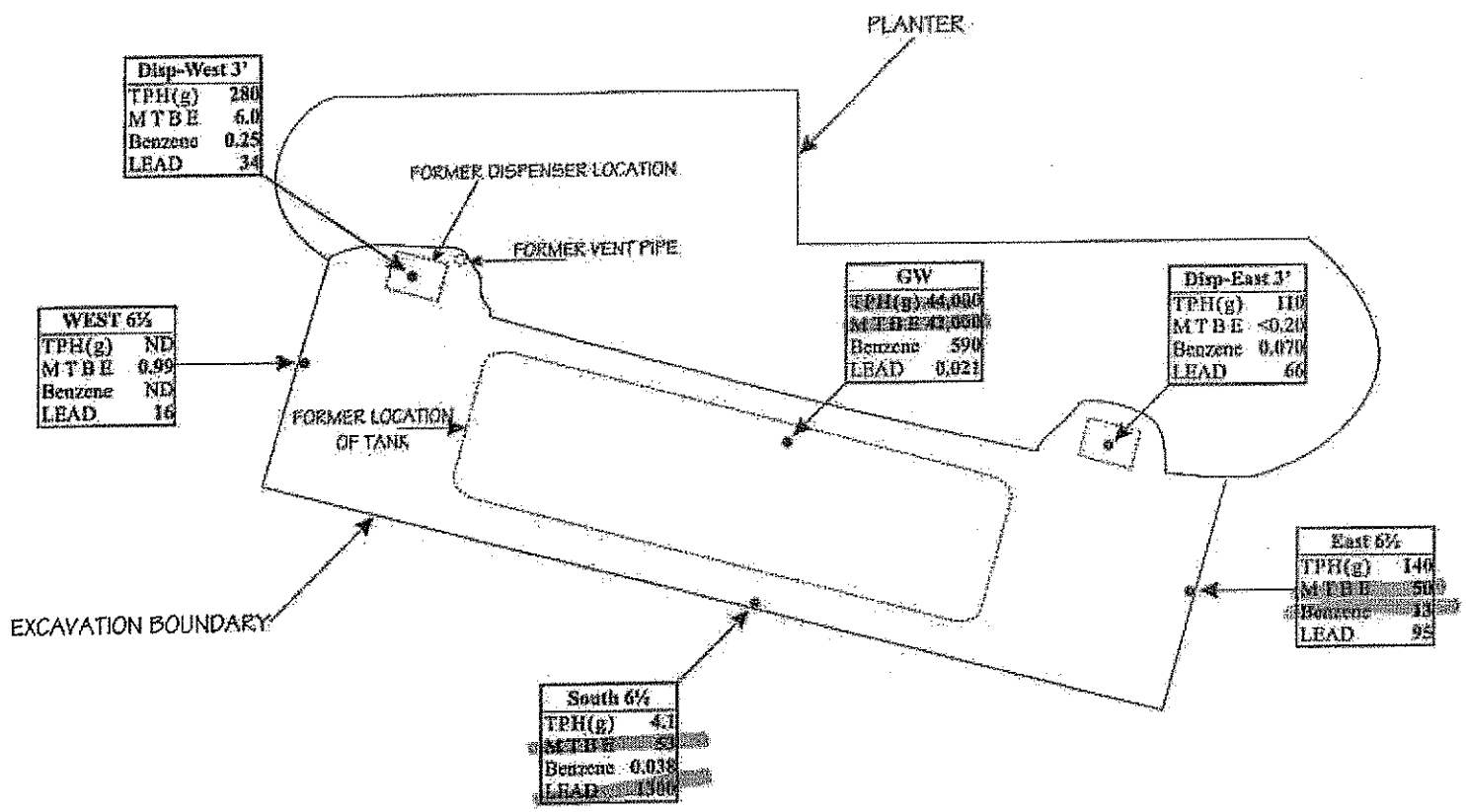
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

SCALE: 1" = 20' | DRAWN BY: N. GARFIELD | DATE: 10/21/2002

TANK REMOVAL ANALYTICAL RESULTS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 7
AEI PROJECT NO 5526



AEI Consultants

3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

SCALE: 1" = 11'	DRAWN BY: J. ORMEROD	DATE: 12/17/01

SAMPLE LOCATION MAP

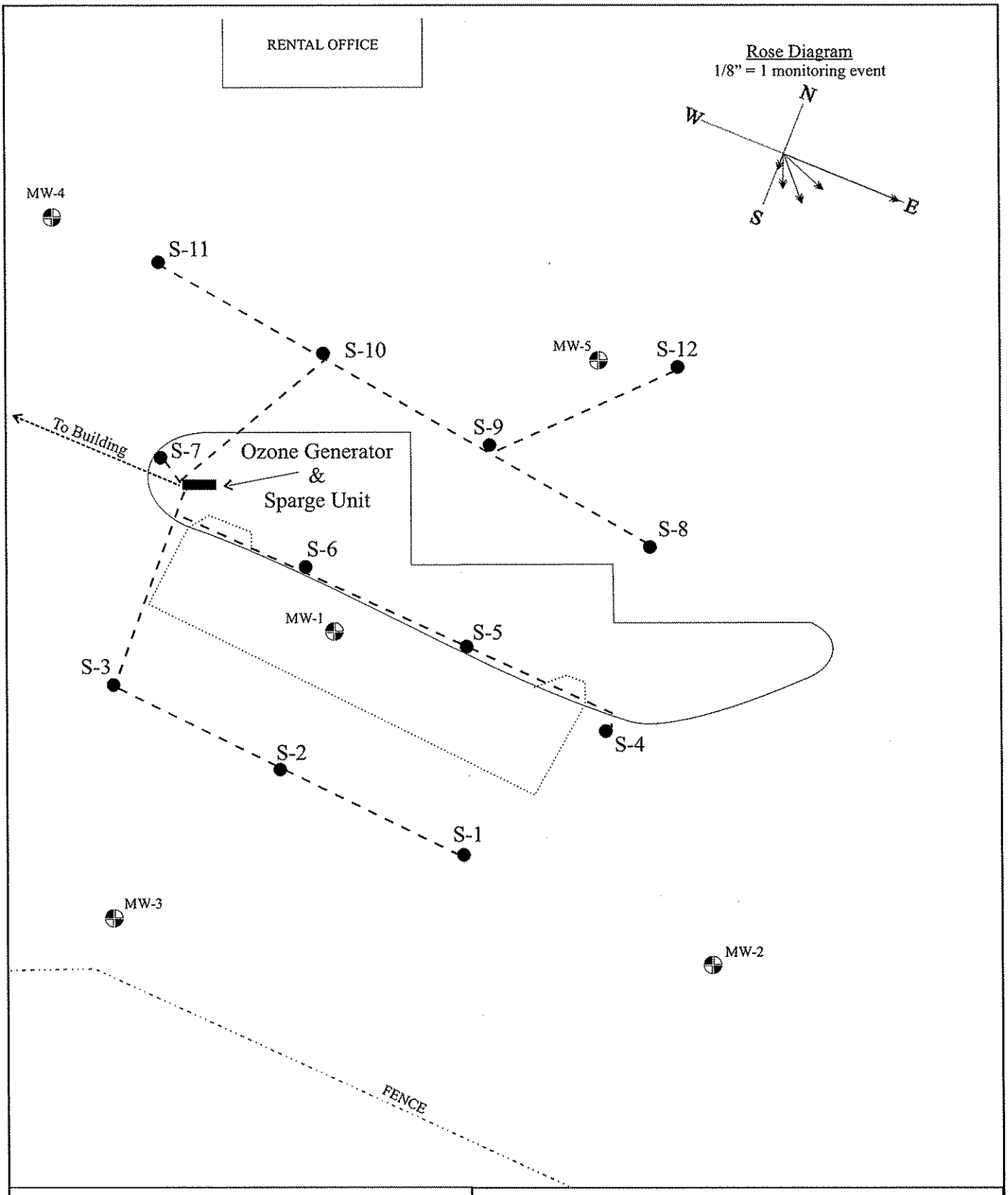
796 66TH AVENUE OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 3

KEY

- GROUNDWATER SAMPLE LOCATION
- SOIL SAMPLE LOCATION

TPH(g) TOTAL PETROLEUM HYDROCARBON AS GASOLINE
MTBE METHYL TERTIARY BUTYL ETHER
LEAD TOTAL LEAD
GROUNDWATER RESULTS IN µg/L
SOIL SAMPLE RESULTS IN mg/kg

N



LEGEND

- Monitoring Wells
- Sparge Well Points
- Sparge Lines and Conduit
- Electrical Conduit

N

0' 10' 20'

SCALE: 1 in = 20 ft

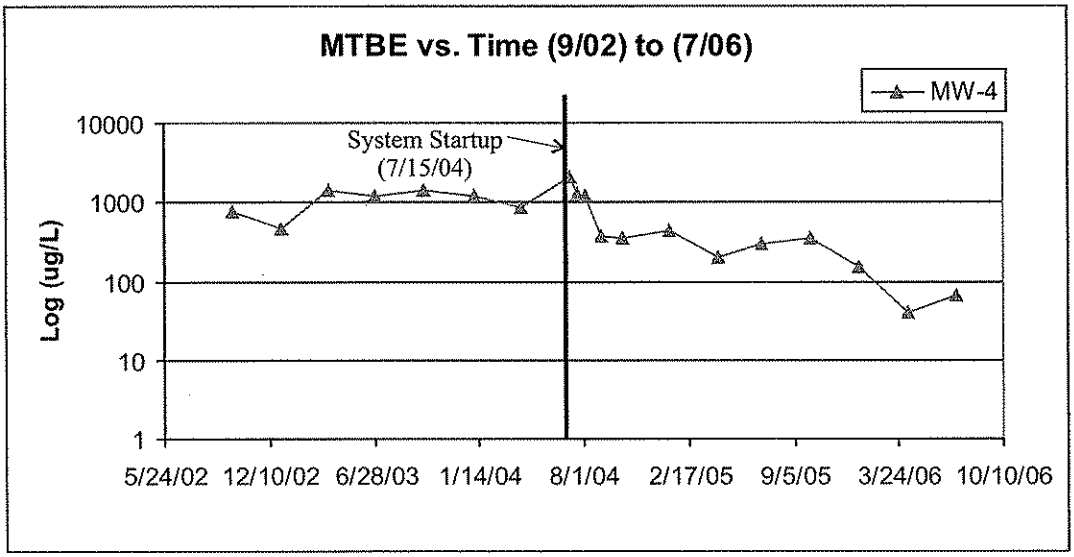
AEI Consultants

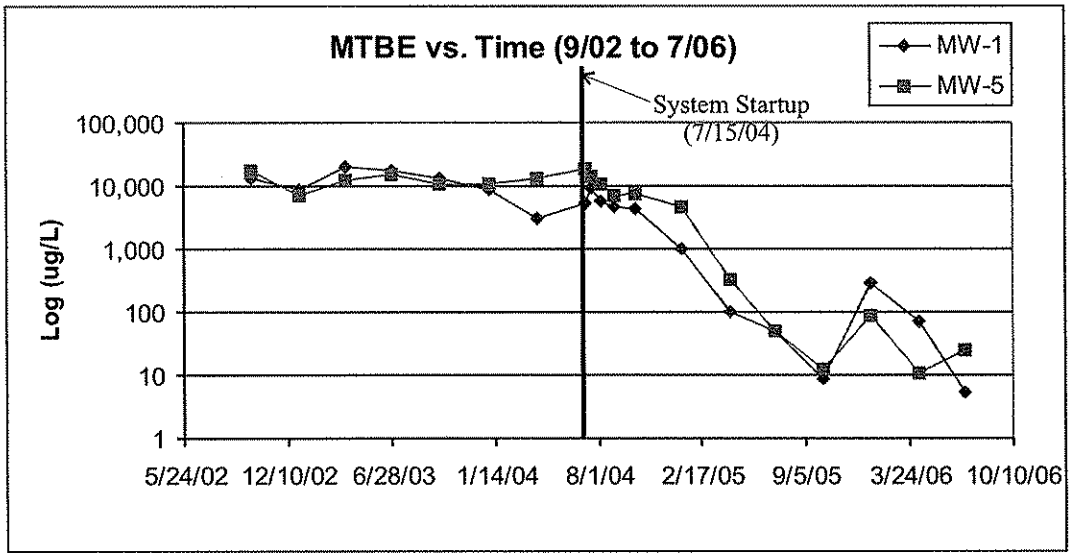
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

SPARGE WELL LOCATIONS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 4
AEI PROJECT NO 110566





AEI Consultants

2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

MTBE vs. TIME: MW-1, MW-4 & MW-5

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 7
AEI PROJECT NO 110566

Table 1
Historical Soil Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE	TBA	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes	Lead
			8015		8260				8021B			TTLC
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-1 7'	7/17/2001	<1.0	-		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-2 6'	7/17/2001	<1.0	26		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-2 10'	7/17/2001	<1.0	-		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-3 4'	7/17/2001	<1.0	-		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-4 6'	7/17/2001	<1.0	2.8		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-5 4'	7/17/2001	5.0	13		-	-	<0.05	0.1600	0.058	0.11	0.21	-
SB-5 7'	7/17/2001	9.7	37		-	-	<0.05	0.059	0.012	0.007	0.056	-
SB-6 7'	7/17/2001	1.5	11		-	-	<0.05	0.008	0.018	<0.005	<0.005	-
SB-6 15'	7/17/2001	<1.0	<1.0		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-8 4'	9/28/2001	16	-		-	-	<0.05	0.053	0.11	0.031	0.14	-
SB-8 11'	9/28/2001	<1.0	-		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
Disp-East 3'	11/30/2001	110	-		-	-	<0.20	0.07	1.2	0.16	5.2	-
Disp-West 3'	11/30/2001	280	-		-	-	6	0.25	7.5	4.1	26	-
South 6 1/2	11/30/2001	4.1	-		-	-	53	0.038	0.16	0.034	0.19	-
West 6 1/2	11/30/2001	<50	-		-	-	0.99	<0.005	0.014	0.011	0.046	-
East 6 1/2	11/30/2001	140	-		-	-	50	13	3.9	7.9	18	-
SB-12 5'	9/6/2002	<50	-		-	-	<0.05	<0.005	<0.005	<0.005	<0.005	1200
SB-13 4'	9/6/2002	15,000	-	-	-	-	<50	21	840	300	1700	830
SB-14 4'	9/6/2002	<50	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	110
SB-15 4'	9/6/2002	<50	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	5
SB-16 4'	9/6/2002	73	-	-	-	-	1.5	<0.05	0.18	<0.05	<0.05	20
SB-17 4'	9/6/2002	1.2	-	-	-	-	2.1	0.0073	0.007	<0.005	0.011	3.2
SB-17 39'	9/6/2002	<50	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	3.3

ATTACHMENT 4

Table 1
Historical Soil Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE	TBA	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes	Lead
			8015		8260		8021B					TTLC
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MW-1 4'	9/19/2002	<1.0	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	5.9
MW-2 4"	9/19/2002	<1.0	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	25
MW-3 4'	9/19/2002	<1.0	-	-	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	25
MW-4 4'	9/19/2002	6.2	-	-	-	-	<0.05	<0.005	0.0080	0.0078	0.021	160
MW-5 4'	9/19/2002	<1.0	-	-	-	-	2.0	0.0053	0.0088	<0.005	0.010	190
SB-18-3.5	7/1/2008	1500	-	-	<0.25	<2.5	<5.0	<0.50	6.5	19	88	230
SB-18-5	7/1/2008	21	-	-	12	<3.3	13	0.21	0.22	0.92	3.6	17
SB-19-3.5	7/1/2008	<1.0	-	-	0.024	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	16
SB-19-6	7/1/2008	17	-	-	6.5	<3.3	6.8	0.79	0.31	0.2	1.6	190
SB-20-3.5	7/1/2008	<1.0	-	-	0.023	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	9.7
SB-20-5.5	7/1/2008	<1.0	-	-	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	320
SB-21-3.5	7/1/2008	<1.0	<1.0	<1.0	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<5.0
SB-21-6	7/1/2008	16	180	110	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	0.041	14
SB-22-4	7/1/2008	<1.0	-	-	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	-
SB-22-23.5	7/1/2008	<1.0	-	-	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	-
RWQCB ESL May 2008		180	180	2500	8.4	110	8.4	0.27	9.3	47	11	720

Commercial/Industrial

Shallow soil, non drinking water

BOLD = Current soil analyticals that Exceed ESL

mg/kg = milligrams per kilogram (ppm)

- = Sample not analyzed by this method

Sample location removed during additional excavation

Table 4
Excavation Sidewall Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Sample Depth	Date	TPH-g	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			8015	8021B				
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NW	4.0	2/12/2009	<1.0	<0.05	<0.05	<0.05	<0.05	<0.05
NS	4.0	2/12/2009	160	<1.7	<0.17	0.53	0.37	2.6
NS2	4.0	2/23/2009	2.2	2.3	0.027	0.012	0.014	0.028
SW	4.0	2/12/2009	<1.0	<0.05	<0.05	<0.05	<0.05	<0.05
EW	4.0	2/12/2009	38	<0.50	0.0091	0.18	0.42	2.4
Shallow Soil Com/Ind non drinking water RWQCB ESL May 2008			83	8.4	0.27	9.3	47	11

mg/kg = milligrams per kilogram (ppm)
Sample location removed during additional excavation

Table 5
Water Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Sample Depth	Date	TPH-g	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			8015	8021B				
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
W	6.5	2/12/2009	71	72	1.2	3.9	1.7	8.5
Com/Ind non drinking water RWQCB ESL May 2008			210	1800	46	130	43	100

µg/L = micrograms per liter

Table 6
Soil Stockpile Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Sample Depth	Date	TPH-g	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes	Total Lead	ICP WET Lead
			8015	8021B					6010C	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
STK1234	----	2/12/2009	190	<8.0	0.26	1.40	3.6	18	58	1.7

mg/kg = milligrams per kilogram

mg/L = milligrams per Liter

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

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4700; Cruise America	Date Sampled: 11/30/2001
		Date Received: 11/30/2001
	Client Contact: John Ormerod	Date Extracted: 11/30/2001
	Client P.O:	Date Analyzed: 11/30-12/04/2001

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
84558	GW	W	TTLC	0.021	N/A
84559	Disp-East 3'	S	TTLC	66	93
84560	Disp-West 3'	S	TTLC	34	93
84561	South 6 1/2	S	TTLC	1300	100
84562	West 6 1/2	S	TTLC	16	94
84563	East 6 1/2	S	TTLC	95	95

Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	S	TTLC	3.0 mg/kg
	W	TTLC	0.005 mg/L
	—	STLC,TCLP	0.2 mg/L

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director

ATT

Table 1. Soil Chemical Data Summary[a]
Underground Tank Closure Investigation
McGuire & Hester, Oakland, CA

Tank Number	Sampling Date	Sample Number	TPH[b] as Diesel (mg/Kg)	TPH[b] as Gasoline (mg/Kg)
Tank T1	01/16/87	SE-8	NA[c]	758
	01/16/87	SW-8	NA	9.6
Tank T2	01/16/87	SE-10	NA	415
	01/16/87	SW-10	NA	3.8
Tank T3	01/16/87	SS-9	78	NA
	01/16/87	SN-9	492	NA

a. Summary of analytical results presented in AGS report dated February 13, 1987 (Attachment D-1)
b. TPH = Total petroleum hydrocarbons reported as either gasoline or diesel. Analysis for TPH as diesel using EPA Method 3550/8015. Analysis for TPH as gasoline using EPA Method 5030.
c. NA = Sample not analyzed for this constituent.

ATT

Table 2. Soil and Groundwater Chemical Data Summary, Post Closure Underground Tank Investigation, McGuire & Hester, Oakland, CA[a]

SOIL RESULTS

Boring Number	Sampling Date	Depth (ft)	TPH[b] as Diesel (mg/Kg)	TPH[b] as Gasoline (mg/Kg)
MW-1	02/10/87	5	NA[c]	2.1
	02/10/87	10	NA	0.3
MW-2	02/10/87	5	NA	0.4
	02/10/87	10	NA	1.8
MW-3	02/10/87	5	1,750	NA
	02/10/87	10	30	NA

GROUNDWATER RESULTS

Monitoring Well Designation	Sampling Date	TPH[b] as Diesel (ug/L)	TPH[b] as Gasoline (ug/L)	Aromatic Hydrocarbons[d] (ug/L)			
				B	E	T	X
MW-1	02/12/87	NA	29	0.7	4.2	1.2	5.8
MW-2	02/12/87	NA	23.7	ND[d]	1.3	0.8	4.3
MW-3	02/12/87	ND[e]	NA	NA	NA	NA	NA

a. Summary of Analytical Results presented in AGS report dated March 24, 1988.
b. TPH = Total petroleum hydrocarbons reported as either gasoline or diesel. Analysis for TPH as diesel using EPA Method 3550/8015. Analysis for TPH as gasoline using EPA Method 5030.
c. NA = Sample not analyzed for this constituent.
d. B = Benzene, E = Ethylbenzene, T = Toluene, X = Xylenes.

Table 3. Soil Organic Chemical Data Summary, Preacquisition Due Diligence Investigation, McGuire & Hester, Oakland, CA[a].

Sample Number	Depth (Feet)	(mg/Kg) TPH[b,c,d]	(mg/Kg) Oil & Grease	(ug/Kg) POC[e] B	POC[e] T	POC[e] E	(ug/Kg) EOC[f]
MW-1-1	1.5-2.0	160[c]	NA[g]	NA[h]	NA	NA	NA
MW-1-2	2.5-3.0	270[c]	NA	NA	NA	NA	NA
MW-2-1	1.5-2.0	<10	NA	NA	NA	NA	NA
MW-2-1	1.5-2.0	460[b]	NA	NA	NA	NA	NA
MW-2-2	2.5-3.0	74[d]	NA	NA	NA	NA	NA
MW-2-2	2.5-3.0	42[b]	NA	NA	NA	NA	NA
MW-3-1	1.0-1.5	NA	NA	ND[h]	ND	ND	ND
MW-3-2	2.0-2.5	NA	NA	ND	ND	ND	ND
B-4-1	1.0-1.5	NA	32,000	ND	ND	ND	ND
B-5-1	1.0-1.5	NA	50	ND	ND	ND	NA
B-6-1	1.0-1.5	NA	220	42	77	39	ND

a. Summary of Analytical Results presented in Purcell, Rhoades & Associates report dated June 1, 1988. Samples collected 2/17/88. Concentrations expressed in milligrams per kilogram (mg/Kg) or as micrograms per kilogram (ug/Kg), as noted.
b. Total Petroleum Hydrocarbon as diesel.
c. Total Petroleum Hydrocarbon as gasoline.
d. Total Petroleum Hydrocarbon as Motor Oil.
e. Purgeable Organic Compounds.
f. Extractable Organic Compounds. B = benzene, T = toluene; E = ethylbenzene
g. Not analyzed
h. None detected

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Table 5. Soil TPH Concentration Summary, Final Preaquisition Due Diligence Investigations, McGuire and Hester, Oakland, CA[a]

Sample Number	Sampling Date	TPH[b] as Diesel (mg/Kg)
B-25-1	7-11-88	ND[c]
B-25-2	7-11-88	ND
B-26-1	7-11-88	ND
B-26-2	7-11-88	1.7
B-27-1	7-11-88	1.8
B-27-2	7-11-88	ND
B-28-1	7-11-88	ND
B-28-2	7-11-88	ND
B-29-1	7-11-88	15
B-29-2	7-11-88	57
B-30-1	7-11-88	1.2
S1	7-28-88	9.6
S2	7-28-88	3,300
S3	7-28-88	10
S4	7-28-88	1,600
S5	7-28-88	20
S6	7-28-88	22
S7	7-28-88	ND
S8	8-01-88	140
S9	8-01-88	ND
S1	8-01-88	18
C1	8-01-88	3,100
C2	8-01-88	3,100
C3	8-01-88	100
C4	8-01-88	1,300
C5	8-01-88	3,400
C6	8-01-88	360
C7	8-01-88	960
C8	8-01-88	1,400

a Summary of analytical results presented in Purcell, Rhoades & Associates reports dated August 16, 1988 (preliminary and supplemental reports). TPH = Total Petroleum hydrocarbons reported as diesel.

b Analysis for TPH as diesel using EPA Method-3550/8015.

c ND = This constituent not detected.

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Environmental Geotechnical Consultants
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 07/11/88
Date Received: 07/12/88
Date Analyzed: 07/13/88
Date Reported: 07/14/88

Project: #4780-01, Cruise America/McGuire & Hester

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8070727	B-20-1	1.0	N.D.
8070728	B-20-2	1.0	42
8070729	B-21-1	1.0	N.D.
8070730	B-21-2	1.0	N.D.
8070731	B-22-1	1.0	N.D.
8070732	B-22-2	1.0	N.D.
8070733	B-32-1	1.0	N.D.
8070734	B-23-2	1.0	N.D.
8070735	B-24-1	1.0	N.D.
8070736	B-24-2	1.0	20

Method of Analysis: EPA 3550/8015

Analytes reported as N.D. were not present above the stated limit of detection.

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Date Reported: 07/14/88

Project: #4780-01, Cruise America /McGuire & Hester

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8070737	B-25-1	1.0	N.D.
8070738	B-25-2	1.0	N.D.
8070739	B-26-1	1.0	N.D.
8070740	B-26-2	1.0	1.7
8070741	B-27-1	1.0	1.8
8070742	B-27-2	1.0	N.D.
8070743	B-28-1	1.0	N.D.
8070744	B-28-2	1.0	N.D.
8070745	B-29-1	1.0	15
8070746	B-29-2	1.0	57
8070747	B-30-1	1.0	1.2

Method of Analysis: EPA 3550/8015

Analytes reported as N.D. were not present above the stated limit of detection.

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Table 7. Stockpiled Soil Analytical Data Summary, Postacquisition Investigations, McGuire & Hester, Oakland, CA[a]

Sample Number	Sample Date	TPH as diesel (mg/Kg)	Total Oil & Grease (mg/Kg)
1	10-17-88	ND[c]	NA[d]
2	10-17-88	200	NA
3	10-17-88	270	2,600[e]
4	10-17-88	ND	NA
5-surface	10-17-88	ND	NA
SS1	11-21-88	1,200	1,700[f]
SS2	11-21-88	1,200	1,900[f]
SS3	11-21-88	870	1,300[f]
SS4	11-21-88	910	1,700[f]

a. Samples collected by Subsurface Consultants, Inc. on October 17, 1988 and by ATT on November 21, 1988.
b. Total petroleum hydrocarbons reported as diesel. Analysis for TPH as diesel using EPA Method 3550/8015.
c. Non detected.
d. Not analyzed.
e. Analysis for total oil and grease using Standard Method 503A.
f. Analysis for total oil and grease using Standard Method 503E.

TABLE 1

ANALYTICAL RESULTS OF PREVIOUS INVESTIGATION BY PRA

SAMPLING DATE - FEBRUARY 17, 1988

		Results (mg/Kg)[a]			
		Petroleum Hydrocabons			
Sample location	Depth of Sampling	Volatile, as Gasoline	Extractable, as Motor oil	as Diesel	Oil & Grease
MW-1-1	1.5 - 2'	160	NR[b]	NR	NR
MW-1-2	2.5 - 3'	270	NR	NR	NR
MW-2-1	1.5 - 2'	NR	10	460	NR
MW-2-2	2.5 - 3'	NR	74	42	NR
B-4-1	1 - 1.5'	NR	NR	NR	32,000
B-5-1	1 - 1.5'	NR	NR	NR	50
B-6-1	1 - 1.5'	NR	NR	NR	220

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.
[b]NR--Analysis not requested.

Table 4. Soil Metal Concentration Summary, Initial Preacquisition Due Diligence Investigation, McGuire & Hester, Oakland, CA[a]

Parameter	TTLC[b] (mg/Kg)	STLC[c] (mg/L)	MW-3-1 2/17/88 1 - 1.5'	MW-3-2 1/17/88 2 - 2.5'
Antimony, & compounds	500	15	62[d]	55
Arsenic, & compounds	500	5.0	28	24
Barium, & compounds[e]	10,000	100	80	72
Beryllium, & compounds	75	0.75	<5	<5
Cadmium, & compounds	100	1.0	7	5
Chromium (VI), & compounds	500	560	NA[f]	NA
Chromium, & compounds	2,500	5.0	56	57
Cobalt, & compounds	8,000	80	19	24
Copper, & compounds	2,500	25	44	34
Lead, & compounds	1,000	5.0	78	<50
Mercury, & compounds	20	0.200	0.07	0.11
Molybdenum, & compounds	3,500	350	<20	<20
Nickel, & compounds	2,000	20	74	130
Selenium, & compounds	100	1.0	<0.5	3.4
Silver, & compounds	500	5.0	<2	<2
Thallium, & compounds	700	7.0	53	46
Vanadium, & compounds	2,400	24	54	42
Zinc, & compounds	5,000	250	100	100

a. Summary of analytical results presented in Purcell, Rhodes & Associates report dated June 1, 1988. Samples collected February 17, 1988.
b. TTLC - Total Threshold Limit Concentration, from Section 66699, Article 11, California Code of Regulations.
c. STLC - Soluble Threshold Limit Concentration, from Seciton 66699, Article 11, California Code of Regulations.
d. Data are expressed as milligrams analyte per kilogram sample.
e. Excludes Barite.
f. NA - Not analyzed, total Cr below regulatory criterion for Cr(VI).

TABLE 1 - Soil Sample Analyses

	Disp-East 3'	Disp-West 3'	South 6½	West 6½	East 6½
TPH-GASOLINE (mg/kg)	110	280	4.1	ND	140
MTBE (mg/kg)	<0.20	6.0	53	0.99	50
BENZENE (mg/kg)	0.070	0.25	0.038	ND	13
TOLUENE (mg/kg)	1.2	7.5	0.16	0.014	3.9
ETHYL BENZENE (mg/kg)	0.16	4.1	0.034	0.011	7.9
TOTAL XYLENES (mg/kg)	5.2	26	0.19	0.046	18
TOTAL LEAD (mg/kg)	66	34	1,300	16	95

mg/kg = milligrams per kilogram (ppm)
ND = not detected above the reporting limit

TABLE 2 - Groundwater Sample Analyses

	GW
TPH-GASOLINE (µg/L)	44,000
MTBE (µg/L)	42,000
BENZENE (µg/L)	590
TOLUENE (µg/L)	5,100
ETHYL BENZENE (µg/L)	640
TOTAL XYLENES (µg/L)	3,500
TOTAL LEAD (mg/L)	0.021

µg/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)

Copies of all analytical results and Chain of Custody documentation are located in Appendix D: Analytical Documentation.

5.0 SUMMARY AND CONCLUSIONS

On November 29, 2001, a 10,000-gallon gasoline UST was removed from the property located at 796 66th Avenue in Oakland, California. Prior to removal, 4,085 gallons of waste liquid were removed, transported and disposed off-site. The tank was transported under non-hazardous waste manifest to the Ecology Control Industries' disposal facility in Richmond, California where the tank was cleaned and disposed of as scrap metal.

A total of five (5) soil samples and one (1) groundwater sample were collected during the tank removal activities. Concentrations of TPH as gasoline were present in four of the five soil samples ranging from 4.1 mg/kg to 280 mg/kg. Concentrations of MTBE and BTEX were also detected in the five soil samples. Elevated concentrations of TPH as gasoline and MTBE were present in the groundwater sample at 44,000 µg/L and 42,000 µg/L, respectively. Elevated concentrations of BTEX were also present in the groundwater sample.

TABLE 3. SUMMARIZED ANALYTICAL RESULTS - PURGEABLE ORGANIC COMPOUNDS

Analyte	MDL[b] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[a] MW-3-1 02/17/88 1-1.5' (-5937)	MW-3-2 02/17/88 2-2.5' (-5938)	B-4-1 02/17/88 1-1.5' (-5939)	B-6-1 02/17/88 1-1.5' (-5941)
Benzene	25	ND[c]	ND	ND	42
Bromodichloromethane	10	ND	ND	ND	ND
Bromoform	25	ND	ND	ND	ND
Bromomethane	15	ND	ND	ND	ND
Carbon tetrachloride	15	ND	ND	ND	ND
Chlorobenzene	25	ND	ND	ND	ND
Chloroethane	15	ND	ND	ND	ND
2-Chloroethylvinyl ether	35	ND	ND	ND	ND
Chloroform	10	ND	ND	ND	ND
Chloromethane	15	ND	ND	ND	ND
Dibromochloromethane	15	ND	ND	ND	ND
1,2-Dichlorobenzene	25	ND	ND	ND	ND
1,3-Dichlorobenzene	25	ND	ND	ND	ND
1,4-Dichlorobenzene	25	ND	ND	ND	ND
1,1-Dichloroethane	20	ND	ND	ND	ND
1,2-Dichloroethane	15	ND	ND	ND	ND
1,1-Dichloroethene	15	ND	ND	ND	ND
trans-1,2-Dichloroethene	10	ND	ND	ND	ND
1,2-Dichloropropane	25	ND	ND	ND	ND
cis-1,3-Dichloropropene	20	ND	ND	ND	ND
trans-1,3-Dichloropropene	25	ND	ND	ND	ND
Ethylbenzene	30	ND	ND	ND	39
Methylene chloride	15	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	30	ND	ND	ND	ND
Tetrachloroethene	20	ND	ND	ND	ND
Toluene	25	ND	ND	ND	77
1,1,1-Trichloroethane	20	ND	ND	ND	ND
1,1,2-Trichloroethane	25	ND	ND	ND	ND
Trichloroethene	10	ND	ND	ND	ND
Trichlorofluoromethane	15	ND	ND	ND	ND
Vinyl chloride	15	ND	ND	ND	ND

[a]Data expressed in units of micrograms analyte per kilogram sample, as-received basis.

[b]MDL--Method detection limit.

[c]ND--Not detected at the listed method detection limit.

TABLE 4. SUMMARIZED ANALYTICAL RESULTS - EXTRACTABLE ORGANIC COMPOUNDS

Analyte	MDL[b] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[a] MW-3-1 02/17/88 1-1.5' (-5937)	MW-3-2 02/17/88 2-2.5' (-5938)[d]	B-4-1 02/17/88 1-1.5' (-5939)[e]	B-6-1 02/17/88 1-1.5' (-5941)[f]
Acenaphthene	33	ND[c]	ND	ND	ND
Acenaphthylene	33	ND	ND	ND	ND
Aldrin	33	ND	ND	ND	ND
Anthracene	33	ND	ND	ND	ND
Benzidine	33	ND	ND	ND	ND
Benzo(a)anthracene	33	ND	ND	ND	ND
Benzo(b)fluoranthene	33	ND	ND	ND	ND
Benzo(k)fluoranthene	33	ND	ND	ND	ND
Benzo(a)pyrene	33	ND	ND	ND	ND
Benzo(ghi)perylene	33	ND	ND	ND	ND
Benzyl butyl phthalate	33	ND	ND	ND	ND
delta-BHC	33	ND	ND	ND	ND
gamma-BHC	33	ND	ND	ND	ND
Bis(2-chloroethyl)ether	33	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	33	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	33	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	3,300	ND	ND	ND	ND
4-Bromophenyl phenyl ether	33	ND	ND	ND	ND
2-Chloronaphthalene	33	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	33	ND	ND	ND	ND
Chrysene	33	ND	ND	ND	ND
4,4'-DDD	33	ND	ND	ND	ND
4,4'-DDE	33	ND	ND	ND	ND
4,4'-DDT	33	ND	ND	ND	ND
Dibenzo(a,h)anthracene	33	ND	ND	ND	ND
Di-n-butyl phthalate	1,650	ND	ND	ND	ND
1,2-Dichlorobenzene	33	ND	ND	ND	ND
1,3-Dichlorobenzene	33	ND	ND	ND	ND
1,4-Dichlorobenzene	33	ND	ND	ND	ND
3,3'-Dichlorobenzidine	33	ND	ND	ND	ND
Dieldrin	33	ND	ND	ND	ND
Diethyl phthalate	33	ND	ND	ND	ND
Dimethyl phthalate	8,250	ND	ND	ND	ND
2,4-Dinitrotoluene	33	ND	ND	ND	ND
2,6-Dinitrotoluene	33	ND	ND	ND	ND
Di-n-octylphthalate	33	ND	ND	ND	ND
Endrin aldehyde	33	ND	ND	ND	ND
Fluoranthene	33	ND	ND	ND	ND
Fluorene	33	ND	ND	ND	ND
Heptachlor	33	ND	ND	ND	ND
Heptachlor epoxide	33	ND	ND	ND	ND
Hexachlorobenzene	33	ND	ND	ND	ND
Hexachlorobutadiene	33	ND	ND	ND	ND
Hexachlorocyclopentadiene	33	ND	ND	ND	ND
Hexachloroethane	33	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	33	ND	ND	ND	ND
Isophorone	33	ND	ND	ND	ND
Naphthalene	33	ND	ND	ND	ND
Nitrobenzene	33	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	1,320	ND	ND	ND	ND
Phenanthrene	33	ND	ND	ND	ND
Pyrene	33	ND	ND	ND	ND
1,2,4-Trichlorobenzene	33	ND	ND	ND	ND
4-Chloro-3-methylphenol	33	ND	ND	ND	ND
2-Chlorophenol	33	ND	ND	ND	ND
2,4-Dichlorophenol	33	ND	ND	ND	ND
2,4-Dimethylphenol	33	ND	ND	ND	ND
2,4-Dinitrophenol	82	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	1,650	ND	ND	ND	ND
2-Nitrophenol	33	ND	ND	ND	ND
4-Nitrophenol	82	ND	ND	ND	ND
Pentachlorophenol	33	ND	ND	ND	ND
Phenol	33	ND	ND	ND	ND
2,4,6-Trichlorophenol	33	ND	ND	ND	ND

[a] ug/Kg--Data are expressed in units of micrograms analyte per kilogram sample, as-received basis.
[b] MDL--Method detection limit.
[c] ND--Not detected at the listed method detection limit.
[d] The detection limits for this sample were 10x the listed MDLs.
[e] The detection limits for this sample were 200x the listed MDLs.
[f] The detection limits for this sample were 100x the listed MDLs.

Table 3
Historical Groundwater Monitoring Analytical Data
796 66th Avenue, Oakland, California

Well ID (screen interval in	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC	Water Table Elevation (ft amsl)	TPH-g *(8015Cm)* µg/L	Benzene µg/L	Toluene *(EPA method 8021B)* µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE *(8021B)* µg/L	MTBE *(8260B)* µg/L	TBA *(8260B)* µg/L
MW-1	9/30/2002	10.88	5.41	5.47	1,800	50	15	16	18	19,000	13,000	<5,000
(4-14)	1/2/2003	10.88	4.77	6.11	660	24	6.4	<2.5	<2.5	7,800	8,900	-
	3/31/2003	10.88	4.95	5.93	660	11	6.4	<5.0	<5.0	16,000	20,000	-
	6/30/2003	10.88	4.54	6.34	830	<5.0	6.8	<5.0	<5.0	16,000	17,000	-
	10/1/2003	10.88	4.66	6.22	720	<5.0	<5.0	<5.0	<5.0	14,000	13,000	-
	1/5/2004	10.88	4.07	6.81	<300	7.8	2.9	<3.0	<3.0	-	8,700	-
	4/5/2004	10.88	4.33	6.55	100	2.8	3.0	<1.0	<1.0	2,300	3,000	<500
	7/7/2004	10.88	4.97	5.91	190	<1.7	2.0	<1.7	<1.7	4,900	5,500	<1,000
	7/19/2004	10.88	5.12	5.76	340	<2.5	4.0	<2.5	<2.5	8,000	9,200	<1,700
	8/6/2004	10.88	5.13	5.75	280	<0.5	5.6	<0.5	<0.5	7,200	5,900	<1,000
	8/20/2004	10.88	5.31	5.57	<250	<2.5	<2.5	<2.5	<2.5	4,600	-	-
	9/3/2004	10.88	5.22	5.66	<250	<2.5	<2.5	<2.5	<2.5	5,700	4,700	<1,000
	10/13/2004	10.88	5.23	5.65	170	<0.5	4.8	<0.5	<0.5	3,700	4,400	-
	1/11/2005	10.88	4.69	6.19	110	8.8	4.2	<0.5	<0.5	880	990	910
	4/13/2005	10.88	5.02	5.86	230	<0.5	9.0	<0.5	<0.5	140	100	2,600
	7/6/2005	10.88	5.06	5.82	200	<0.5	8.3	<0.5	<0.5	<75	50	1,600
	10/6/2005	10.88	4.92	5.96	110	<0.5	6.8	<0.5	<0.5	<20	8.4	640
	1/9/2006	10.88	3.90	6.98	<50	<0.5	1.8	<0.5	<0.5	260	280	560
	4/10/2006	10.88	3.97	6.91	80	<0.5	3.1	<0.5	<0.5	100	70	160
	7/11/2006	10.88	4.63	6.25	<50	<0.5	2.8	<0.5	<0.5	<5.0	5.3	240
	10/18/2006	-	-	-	79	<0.5	3.7	<0.5	2.3	7.0	6.8	320
	3/13/2008	10.88	4.80	6.08	<50	<0.5	<0.5	<0.5	<0.5	5.5	<10	780
MW-2	9/30/2002	10.77	8.00	2.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.84	<5.0
(4-14)	1/2/2003	10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	19	20	-
	3/31/2003	10.77	5.15	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.9	-
	6/30/2003	10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	7.0	9.6	-
	10/1/2003	10.77	6.69	4.08	<50	<0.5	<0.5	<0.5	<0.5	7.7	6.7	-
	1/5/2004	10.77	6.18	4.59	71	4.7	13	2.7	12	-	7.8	-
	4/5/2004	10.77	7.22	3.55	210	14	39	6.6	27	16	13	<5.0
	7/7/2004	10.77	6.83	3.94	<50	<0.5	<0.5	<0.5	<0.5	5.7	5.6	<5.0
	10/13/2004	10.77	7.18	3.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.6	-
	1/11/2005	10.77	7.27	3.50	74	2.6	11	2.1	10	<5.0	4.4	<5.0
	4/13/2005	10.77	6.66	4.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	7/6/2005	10.77	6.83	3.94	<50	<0.5	0.77	<0.5	<0.5	<5.0	2.9	<5.0
	10/6/2005	10.77	7.05	3.72	<50	<0.5	0.81	<0.5	0.54	<5.0	2.1	<5.0

ATTACHMENT 5

Table 3
Historical Groundwater Monitoring Analytical Data
796 66th Avenue, Oakland, California

Well ID (screen interval in	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC	Water Table Elevation (ft amsl)	TPH-g *(8015Cm)* µg/L	Benzene µg/L	Toluene *(EPA method 8021B)* µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE *(8021B)* µg/L	MTBE *(8260B)* µg/L	TBA *(8260B)* µg/L
MW-2	1/9/2006	10.77	6.18	4.59	<50	<0.5	<0.5	<0.5	<0.5	6.1	7.6	<5.0
continued	4/10/2006	10.77	6.27	4.50	50	<0.5	8.0	1.5	6.1	<5.0	1.1	<5.0
	7/11/2006	10.77	6.97	3.80	<50	<0.5	0.72	<0.5	<0.5	<5.0	4.1	<5.0
	10/18/2006	-	-	-	53	<0.5	2.6	1.2	4.3	<5.0	1.7	<5.0
	3/13/2008	10.77	6.66	4.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.0	<2.0
MW-3	9/30/2002	10.20	5.21	4.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
(4-14)	1/2/2003	10.20	5.31	4.89	<50	0.89	0.50	<0.5	0.72	15	14	-
	3/31/2003	10.20	4.58	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.62	-
	6/30/2003	10.20	3.83	6.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.6	-
	10/1/2003	10.20	4.02	6.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	-
	1/5/2004	10.20	6.18	4.02	71	4.7	13	2.7	12	-	7.8	-
	4/5/2004	10.20	3.79	6.41	120	8.8	22	3.2	13	<5.0	<0.5	<5.0
	7/7/2004	10.20	3.76	6.44	<50	<0.5	<0.5	<0.5	<0.5	<5.0	4.0	<5.0
	10/13/2004	10.20	4.45	5.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	-
	1/11/2005	10.20	5.21	4.99	68	2.2	9.0	1.7	8.5	<5.0	<0.5	<5.0
	4/13/2005	10.20	4.44	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	7/6/2005	10.20	3.91	6.29	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	10/6/2005	10.20	4.16	6.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	1/9/2006	10.20	4.44	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	4/10/2006	10.20	4.02	6.18	<50	<0.5	4.0	0.78	3.3	<5.0	<0.5	<5.0
	7/11/2006	10.20	3.53	6.67	<50	<0.5	0.51	<0.5	1.1	<5.0	0.67	<5.0
	10/18/2006	-	-	-	<50	<0.5	2.2	0.76	3.1	<5.0	<0.5	<5.0
	3/13/2008	10.20	4.45	5.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.77	<2.0
MW-4	9/30/2002	11.07	5.50	5.57	<100	<0.5	<0.5	<0.5	<0.5	790	750	<100
(4-14)	1/2/2003	11.07	4.90	6.17	<50	<0.5	<0.5	<0.5	<0.5	420	460	-
	3/31/2003	11.07	4.81	6.26	<50	<0.5	<0.5	<0.5	<0.5	1,500	1,400	-
	6/30/2003	11.07	4.61	6.46	<50	<0.5	<0.5	<0.5	<0.5	1,600	1,200	-
	10/1/2003	11.07	4.76	6.31	<50	<0.5	<0.5	<0.5	<0.5	1,800	1,400	-
	1/5/2004	11.07	4.32	6.75	<50	3.0	6.7	1.4	6.1	-	1,200	-
	4/5/2004	11.07	4.43	6.64	<50	0.79	2.0	<0.5	2.2	800	840	<250
	7/7/2004	11.07	5.08	5.99	<50	<0.5	<0.5	<0.5	<0.5	1,400	2,100	<250
	7/19/2004	11.07	5.19	5.88	<50	<0.5	<0.5	<0.5	<0.5	1,200	1,300	<500
	8/6/2004	11.07	5.20	5.87	<50	0.76	<0.5	<0.5	<0.5	1,300	1,200	<500
	8/20/2004	11.07	5.37	5.70	<50	<0.5	<0.5	<0.5	<0.5	460	-	-
	9/3/2004	11.07	5.35	5.72	<50	<0.5	<0.5	<0.5	<0.5	440	370	<50
	10/13/2004	11.07	5.35	5.72	<50	<0.5	<0.5	<0.5	<0.5	330	360	-
	1/11/2005	11.07	4.99	6.08	<50	1.0	2.1	<0.5	1.8	450	430	<100

Table 3
Historical Groundwater Monitoring Analytical Data
796 66th Avenue, Oakland, California

Well ID (screen interval in	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC	Water Table Elevation (ft amsl)	TPH-g *(8015Cm)* µg/L	Benzene µg/L	Toluene *(EPA method 8021B)* µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE *(8021B)* µg/L	MTBE *(8260B)* µg/L	TBA *(8260B)* µg/L
MW-4	4/13/2005	11.07	5.17	5.90	<50	<0.5	<0.5	<0.5	<0.5	340	200	<50
continued	7/6/2005	11.07	5.18	5.89	<50	<0.5	<0.5	<0.5	<0.5	300	290	330
	10/6/2005	11.07	5.03	6.04	<50	<0.5	<0.5	<0.5	<0.5	380	350	430
	1/9/2006	11.07	4.11	6.96	<50	<0.5	<0.5	<0.5	<0.5	140	150	200
	4/10/2006	11.07	4.13	6.94	<50	<0.5	1.0	<0.5	1.1	52	39	120
	7/11/2006	11.07	4.72	6.35	<50	<0.5	<0.5	<0.5	<0.5	56	66	120
	10/18/2006	-	-	-	<50	<0.5	0.74	0.55	2.5	87	67	160
	3/13/2008	11.07	4.95	6.12	<50	<0.5	<0.5	<0.5	<0.5	19	22	69
MW-5	9/30/2002	11.18	5.62	5.56	<2,000	<5.0	<5.0	<5.0	<5.0	19,000	18000	<2,500
(4-14)	1/2/2003	11.18	5.12	6.06	<50	<0.5	<0.5	<0.5	<0.5	7,000	7,000	-
	3/31/2003	11.18	4.93	6.25	<500	<5.0	<5.0	<5.0	<5.0	14,000	12,000	-
	6/30/2003	11.18	4.75	6.43	<500	<5.0	<5.0	<5.0	<5.0	13,000	15,000	-
	10/1/2003	11.18	4.88	6.30	<500	<5.0	<5.0	<5.0	<5.0	12,000	11,000	-
	1/5/2004	11.18	4.19	6.99	<1,000	<10	<10	<10	<10	-	11,000	-
	4/5/2004	11.18	4.57	6.61	<250	<2.5	<2.5	<2.5	<2.5	9,400	13,000	<2,500
	7/7/2004	11.18	5.19	5.99	<500	<5.0	<5.0	<5.0	<5.0	15,000	19,000	<2,000
	7/19/2004	11.18	5.32	5.86	<500	<5.0	<5.0	<5.0	<5.0	16,000	14,000	<2,500
	8/6/2004	11.18	5.33	5.85	110	<0.5	<0.5	<0.5	<0.5	12,000	11,000	<2,500
	8/20/2004	11.18	5.49	5.69	<500	<5.0	<5.0	<5.0	<5.0	7,200	-	-
	9/3/2004	11.18	5.48	5.70	<500	<2.5	<2.5	<2.5	<2.5	8,500	7,200	<1,700
	10/13/2004	11.18	5.49	5.69	<250	<2.5	<2.5	<2.5	<2.5	6,700	7,700	-
	1/11/2005	11.18	5.08	6.10	<100	1.5	3.3	<1.0	2.3	3,000	4,800	1,200
	4/13/2005	11.18	5.24	5.94	<50	<0.5	<0.5	<0.5	<0.5	510	320	2,600
	7/6/2005	11.18	5.27	5.91	<50	<0.5	<0.5	<0.5	<0.5	43	51	4,900
	10/6/2005	11.18	5.14	6.04	<50	<0.5	<0.5	<0.5	<0.5	25	<25	1,900
	1/9/2006	11.18	4.23	6.95	<50	<0.5	<0.5	<0.5	<0.5	70	84	2,000
	4/10/2006	11.18	4.24	6.94	<50	<0.5	0.59	<0.5	<0.5	13	11	860
	7/11/2006	11.18	4.85	6.33	<50	<0.5	<0.5	<0.5	<0.5	20	24	1,200
	10/18/2006	-	-	-	<50	<0.5	1.6	0.51	1.8	17	12	1,300
	3/13/2008	11.18	5.04	6.14	<50	<0.5	<0.5	<0.5	<0.5	10	11	750
RWQCB ESL May 2008					210	46	130	43	100	1,800	1,800	18,000

Commercial/Industrial - Non drinking water

Notes:

bgs = below ground surface

ft amsl = feet above mean sea level

TOC = Top of Casing; all well elevations and depths to water are measured from TOC

TPH-g = Total Petroleum Hydrocarbons as gasoline

µg/L = micrograms per liter

MTBE = Methyl tertiary-Butyl Ether

TBA = tertiary-Butyl Alcohol

- = Sample not analyzed by this method

Table 2
Historical Soil Boring Groundwater Sample Analytical Data
796 66th Avenue, Oakland, California

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE (EPA 8260)	TBA (EPA 8260)	MTBE (EPA 8021B)	Benzene (EPA 8021B)	Toluene (EPA 8021B)	Ethyl benzene (EPA 8021B)	Xylenes (EPA 8021B)	Lead
		µg/L	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
SB-1 W	7/17/2001	<50	-	-	-	-	650	0.63	<0.5	<0.5	<0.5	-
SB-2 W	7/17/2001	<50	-	-	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
SB-3 W	7/17/2001	120	-	-	-	-	<5.0	<0.5	4.6	<0.5	<0.5	-
SB-4 W	7/17/2001	<50	990	-	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
SB-5 W	7/17/2001	68	410	-	-	-	<5.0	<0.5	0.66	<0.5	<0.5	-
SB-6 W	7/17/2001	240	590	-	-	-	<5.0	<0.5	2.9	<0.5	<0.5	-
SB-7 W	9/28/2001	<50	-	-	<0.5	-	<5.0	<0.5	0.74	<0.5	<0.5	-
SB-9 W	9/28/2001	<50	-	-	630	-	670	<0.5	1.0	<0.5	<0.5	-
SB-10 W	9/28/2001	<500	-	-	13,000	-	15,000	<2.0	<2.0	2.5	<2.0	-
SB-11 W	9/28/2001	58	-	-	1,700	-	1,900	2.4	1.8	<0.5	0.79	-
GW*	11/30/2001	44,000	-	-	-	-	42,000	590	5100	640	3500	-
SB-12	9/6/2002	<1000	-	-	32,000	-	31,000	44	<10	<10	<10	<0.005
SB-13	9/6/2002	13,000	-	-	49,000	-	51,000	300	1700	320	1,800	<0.005
SB-14	9/6/2002	<500	-	-	9,500	-	11,000	<5.0	<5.0	<5.0	<5.0	<0.005
SB-15	9/6/2002	300	-	-	770	-	730	<0.5	3.2	0.71	3.5	0.039
SB-16	9/6/2002	<200	-	-	2,700	-	3,900	<1	2.1	<1	2.5	<0.005
SB-17	9/6/2002	<200	-	-	5,500	-	5,900	<1.7	3.8	<1.7	4.2	<0.005
SB-17-W 47'	9/6/2002	90	-	-	120	-	150	1.7	3.5	1.9	3.5	-
SB-18-W	7/1/2008	8,500	-	-	1300	6,800	1,100	40	270	240	1,000	-
SB-21-W	7/1/2008	<50	180	360	11	160	11	<0.5	<0.5	<0.5	<0.5	-
SB-22-W	7/1/2008	<50	-	-	9.2	<2.0	8.3	<0.5	<0.5	<0.5	<0.5	-
RWQCB ESL May 2008		210	210	210	1,800	18,000	1,800	46	130	43	100	

Table F-1b Commercial/Industrial Non drinking water

Additional analyses VOCs all ND, PCBs all ND, Metals bottle broken in transit, no analysis

MDL = Method Detection Limit

µg/L = micrograms per liter (ppb)

- = Sample not analyzed by this method

* Sample GW was collected from standing water within the tank excavation

Sample location removed during additional excavation

ATT

Table 6. Groundwater Analytical Data Summary, Preacquisition Due Diligence Investigation, McGuire and Hester, Oakland, CA[a]

Sample Designation	Sample Date	TPH[b] Concentration (mg/L)
MW - 1	7-11-88	0.72
MW - 2	7-11-88	60
MW - 3	7-11-88	33
MW - 4	8-11-88	2300

a Summary of analytical results presented in Purcell, Rhoades & Associates report dated August 16, 1988 (preliminary and supplemental reports).

b Total petroleum hydrocarbons reported as diesel by EPA Method 3510/8015. Results experienced in milligrams per liter (mg/L). Sampling method may not have been appropriate for site conditions.

c Concentration reported as petroleum oil by Method 418.1.

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222 • FAX (415) 364-9233

Environmental Geotechnical Consultants
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 07/11/88
Date Received: 07/14/88
Date Analyzed: 07/15/88
Date Reported: 07/18/88

Project: #4780-01, Cruise America

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Water	Detection Limit ppb	High Boiling Point Hydrocarbons ppb
8070925	MW-1	50	720
8070926	MW-2	50	60000

Method of Analysis: EPA 3510/8015

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222 • FAX (415) 364-9233

Environmental Geotechnical Consultants
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 07/11/88
Date Received: 07/12/88
Date Analyzed: 07/13/88
Date Reported: 07/14/88

Project: #4780-01, Cruise America/McGuire & Hester

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit	High Boiling Point Hydrocarbons
	Water	ppb	ppb
8070748	MW-3	50	33000

Method of Analysis: EPA 3510/8015

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

Table 4
Fuel Oxygenate and Lead Scavenger Data

Sample ID	Date	Diisopropyl ether (DIPE) µg/L	Ethyl tert-butyl ether (ETBE) µg/L	Methyl-t-butyl ether (MTBE) µg/L	tert-Amyl methyl ether (TAME) µg/L	t-Butyl alcohol (TBA) µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichloroethane (1,2-DCA) µg/L
MW-1	9/30/2002	<500	<500	13,000	<500	<500	<500	<500
MW-2	9/30/2002	<0.5	<0.5	0.84	<0.5	<0.5	<0.5	<0.5
MW-3	9/30/2002	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	9/30/2002	<10	<10	750	<10	<100	<10	<10
MW-5	9/30/2002	<250	<250	18,000	<250	<2,500	<250	<250
MDL		0.5	0.5	0.5	0.5	5	0.5	0.5

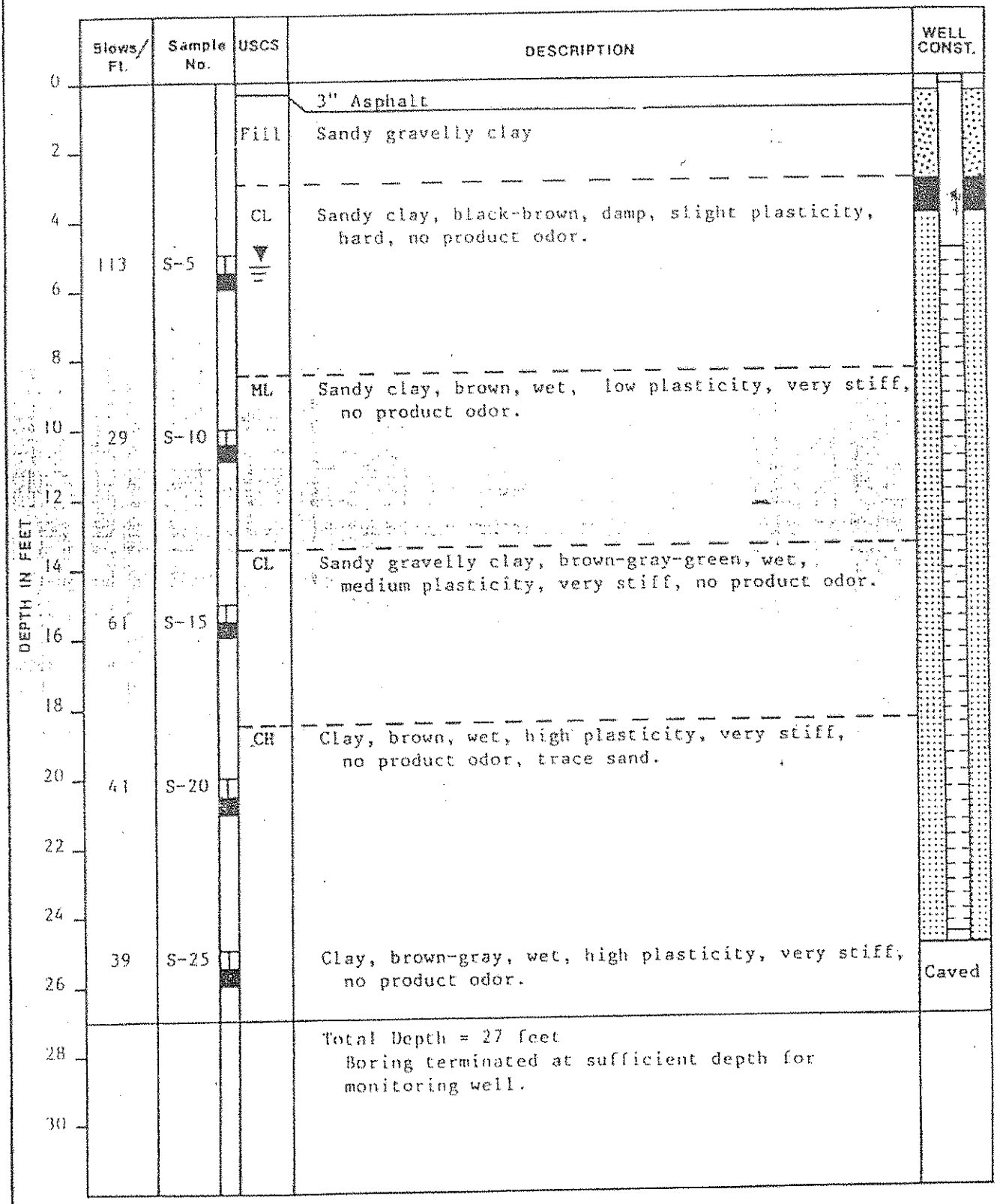
MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

µg/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

- = Sample not analyzed by this method



Applied GeoSystems

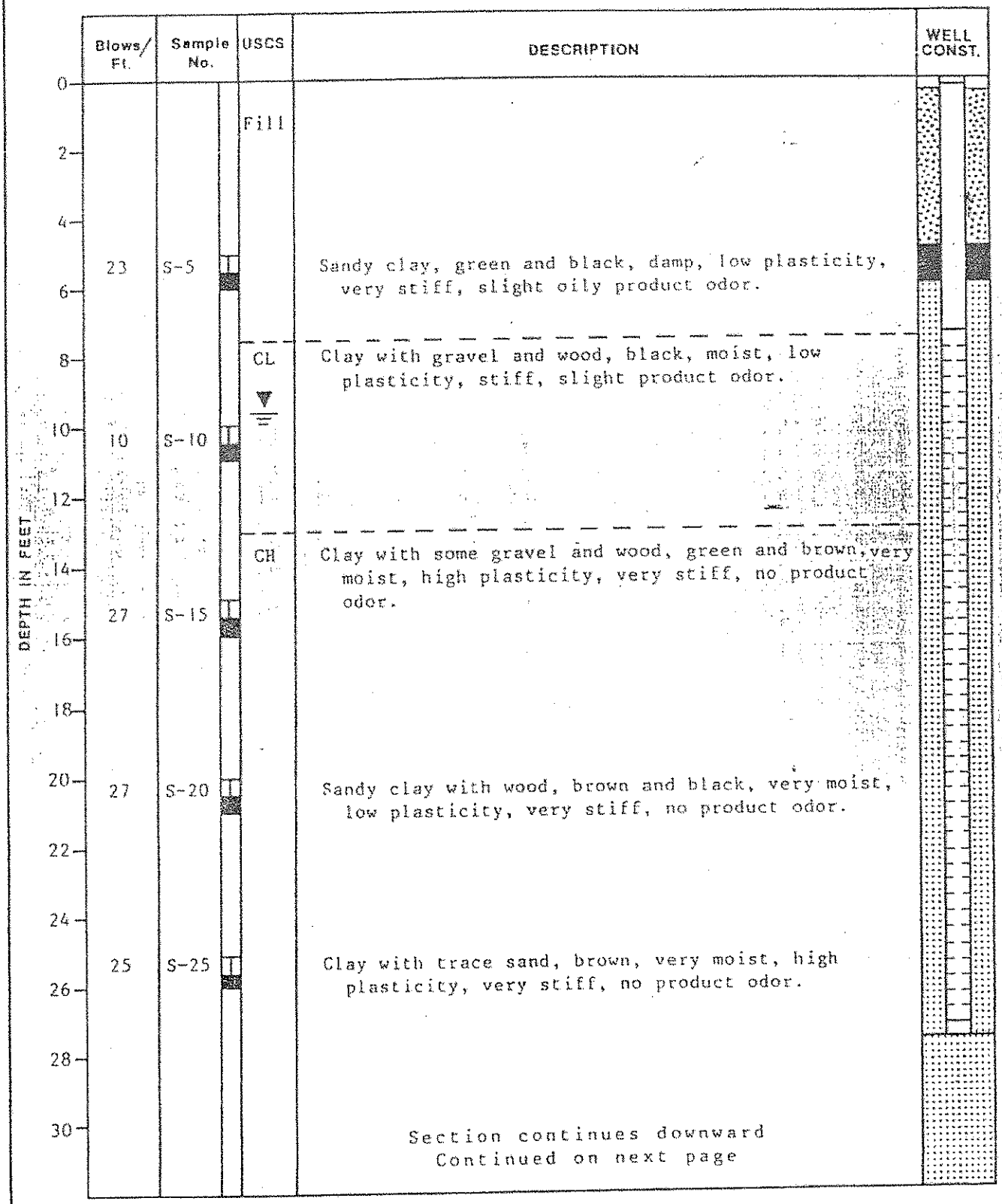
LOG OF BORING B-2/MW-2

PLATE

McGuire and Hester
796 66
Oakland,

ATTACHMENT 6

PROJECT NO. 86120-2



Applied GeoSystems

PROJECT NO. 86120-2

LOG OF BORINGB-3/MW-3

McGuire and Hester
796 66th Avenue
Oakland, California

PLATE

P-6

Blows/ Ft.	Sample No.	USCS	DESCRIPTION	WELL CONST.
22	S-30	CH	Clay, brown, very moist, high plasticity, very stiff, no product odor.	
		CL	Clayey sand with some gravel, brown, wet, no plasticity, dense, no product odor.	Caved
45	S-35		Total Depth = 36 feet Boring terminated at sufficient depth for monitoring well.	

DEPTH IN FEET

30
32
34
36
38
40

Applied GeoSystems

LOG OF BORING B-3 / MW-3

McGuire and Hester
796 66th Avenue
Oakland, California

PLATE

P-7

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	6'	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-20

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty SAND, dark grayish brown, increasing clay w/depth, slighty plastic, gravelly, product odor.	medium dense	SM		1						
Sandy CLAY, dark blue-green-gray, moist, with some poorly sorted angular gravels.	stiff	CL		2						
				3		37				
Wood debris, decomposing and undecomposed, black, moist, product odor				4						
				5						
Wood debris, black, wet, oily feel, grab sample.				6						
Boring Terminated At 6½ Feet				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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FIGURE 3 - LOG OF TEST BORING B-20

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	4.5'	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-21

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty Gravels, light brown, dry, baserock.	dense	GM		1						
Clayey Gravels, grayish brown, moist, hard, black sandstone frags., product odor.	dense	GC		2						
Clay, gray, plastic, moist.	stiff	OH		3		15	----	-----	----	--
Clay, gray, plastic, wet.	stiff	OH		4						
Boring Terminated At 5½ Feet				5		5	----	-----	----	--
				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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TITLE

FIGURE 4 - LOG OF TEST BORING B-21

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.	B-22
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1		

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVELS. light brown, dry baserock.	dense	GM		1						
Sandy CLAY, very dark gray, moist, plastic, strong odor.	stiff	CL		2		25	----	-----	----	--
Sandy CLAY, dark blue-green-gray, moderately plastic, with some coarse angular gravels, fragments of sandstone with product odor, black.	stiff	CL		3 4 5		30	----	-----	----	--
Boring Terminated At 5½ Feet				6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1						

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FIGURE 5 - LOG OF TEST BORING B-22

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-23

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVELS, brown, coarse angular gravels, dry.	dense	GM		1–5		26	----	----	----	--
Clayey SAND, black, non-plastic, moist.	medium dense	SC				10	----	----	----	--
Boring Terminated AT 5 Feet				6–20						

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FIGURE 6 - LOG OF TEST BORING B-23

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-24

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty SAND, very dark gray, dry with some gravels.	dense	SM		1						
Clayey GRAVELS, dark blue-green-gray, with some coarse, angular gravels, damp.	dense	GC		2		45	----	-----	----	--
Clayey SAND, very dark brown, moist.	medium dense	SC		3						
CLAY, black, firm, plastic, wet, shell fragments, strong product odor.	firm	CL		4						
				5		6	----	-----	----	--
Boring Terminated At 5 Feet				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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FIGURE 7 - LOG OF TEST BORING B-24

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-25

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVELS, light brown, dry, coarse angular gravels, baserock.	dense	GM		1–2						
Silty SANDS, dark grayish-brown, wood debris, layer of black shell fragments.	soft	SM		3–4						
Clay, dark gray, plastic, moist, product odor.	soft	OH		5		3	----	-----	----	--
Boring Terminated At 5½ Feet				6–20						

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FIGURE 8 - LOG OF TEST BORING B-25

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	5'	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-26

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVEL, light brown, dry coarse angular gravels, baserock.	dense	GM		1						
Sandy CLAY, very dark gray, plastic, moist.	stiff	CL		2		30	----	-----	----	--
Sandy CLAY, dark blue-green-gray, damp, with some coarse angular gravels.	stiff	CL		3						
				4						
				5						
Boring Terminated At 5 Feet by wood debris.				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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FIGURE 9 - LOG OF TEST BORING B-26

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	5'	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-27

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVELS, light brown, dry baserock .	dense	GM		1						
Sandy CLAY, dark blue-green-gray, moist, with some angular gravels.	stiff	CL		2						
Sandy CLAY, very dark brown, moist, plastic.	stiff	CL		3		30	----	-----	----	--
				4						
Clayey SANDS, black, wet.	medium dense	SC		5		13	----	-----	----	--
Boring Terminated At 5½ Feet				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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FIGURE 10 - LOG OF TEST BORING B-27

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-28

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVEL, light brown, dry baserock	dense	GM		1						
Sandy CLAY, dark brown, moderately plastic, moist.	stiff	CL		2 3 4		20	----	-----	----	--
CLAY, dark gray, plastic, moist.	stiff	OH		5		20	----	-----	----	--
Boring Terminated At 5½ Feet				6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1						

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FIGURE 11 - LOG OF TEST BORING B-28

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-29

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET	SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)
Silty GRAVELS, light brown, dry baserock.	dense	GM		1						
				2						
Sandy CLAY, dark brown, with some gravels, damp.	stiff	CL		3		33	----	-----	----	--
				4						
Wood debris, black, decomposing, moist.				5						
Boring Terminated At 5 Feet				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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FIGURE 12 - LOG OF TEST BORING B-29

DRILL RIG	Mobile B-40	BORING ELEVATION	Ext. Grade	LOGGED BY	PJM	PROJECT NO.	4780-01	BORING NO.
DEPTH TO GROUNDWATER	5'	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-30

EXPLORATORY BORING LOG

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS

SOIL/ROCK DESCRIPTION—CLASSIFICATION AND REMARKS	CONSISTENCY	GROUP SYMBOL (U.S.C.S.)	WATER LEVEL / GRAPHIC LOG	DEPTH IN FEET
Silty GRAVELS, light brown, dry, baserock, coarse angular gravels.	dense	GM		1
Sandy CLAY, very dark gray, plastic, moist.	stiff	OH		3
CLAY, black, wet, wood debris, product odor.	soft	OH		5
Boring Terminated At 5½ Feet				6

SAMPLE	BLOW COUNTS / FOOT	% MOISTURE CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PLASTICITY INDEX (PI)

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FIGURE 13 - LOG OF TEST BORING B-30

Project No: 5526

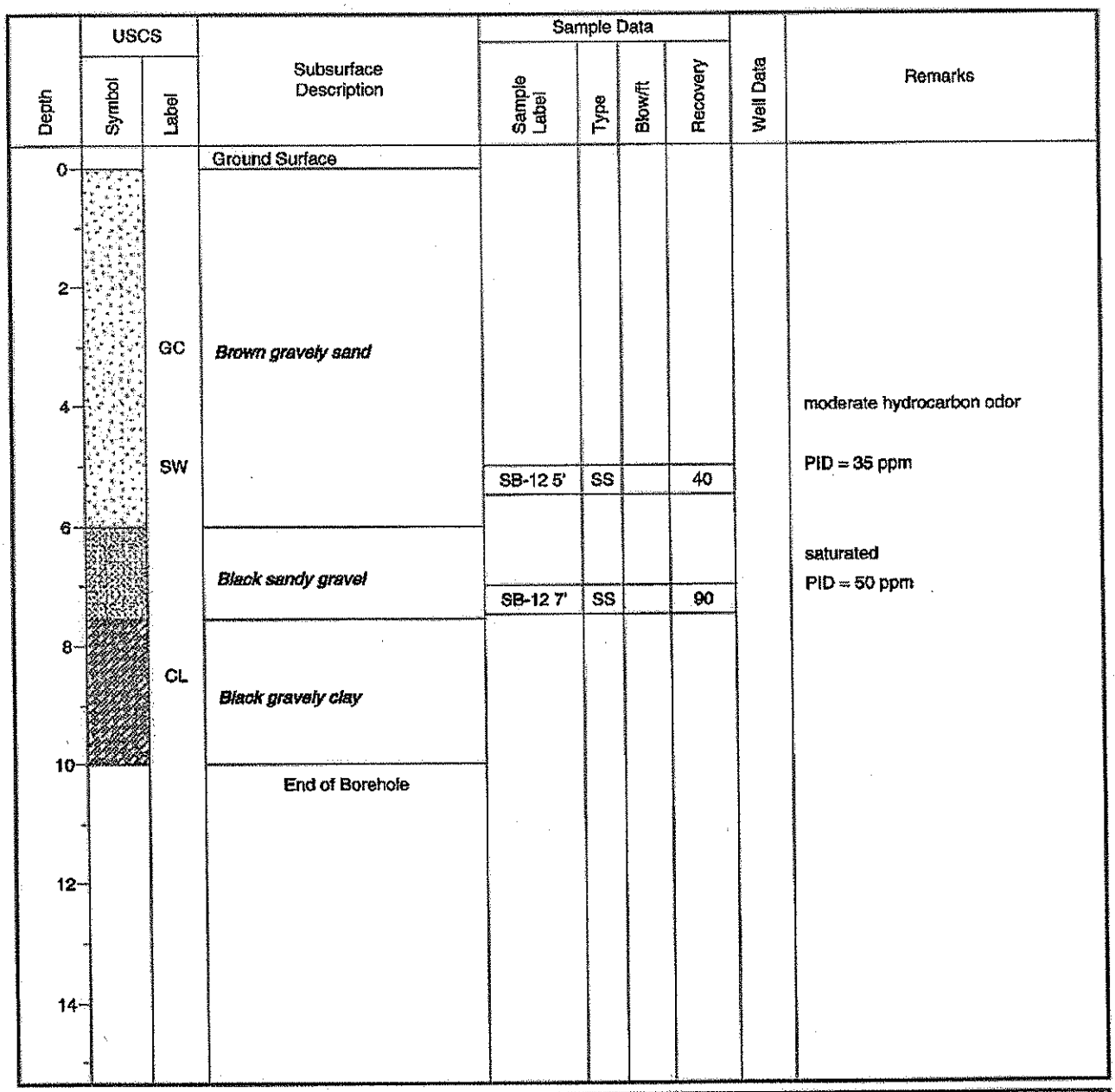
Sheet: 1 of 1

Project Name: Cruise America

Client:

Location:

Log of Borehole: SB-12



Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10

Depth to Water: 6.40

Reviewed by: EW

Logged by: NG

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Project No: 5526

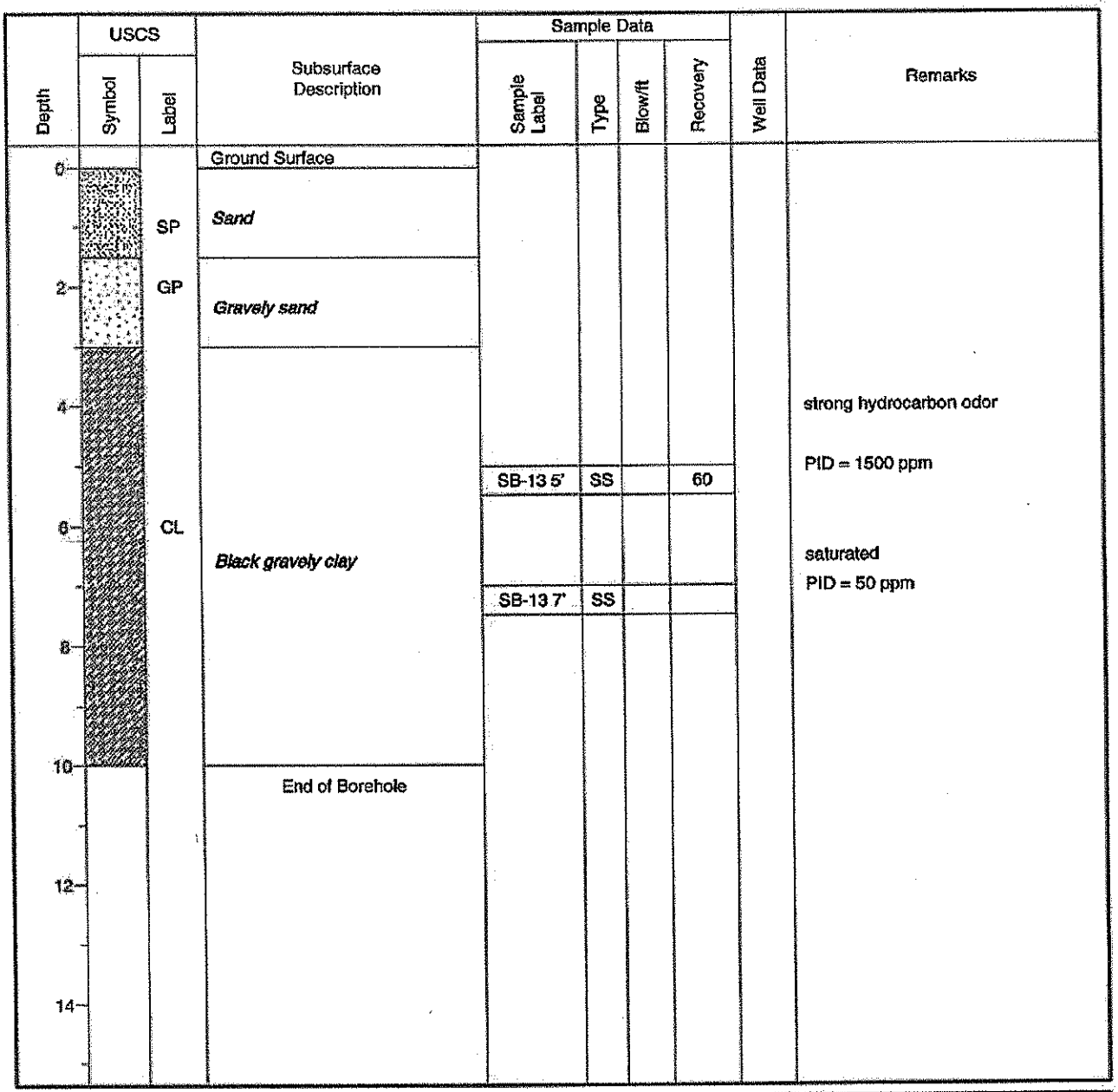
Sheet: 1 of 1

Project Name: Cruise America

Client:

Location:

Log of Borehole: SB-13



Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10

Depth to Water: 6.15

Reviewed by: EW

Logged by: NG

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Project No: 5526

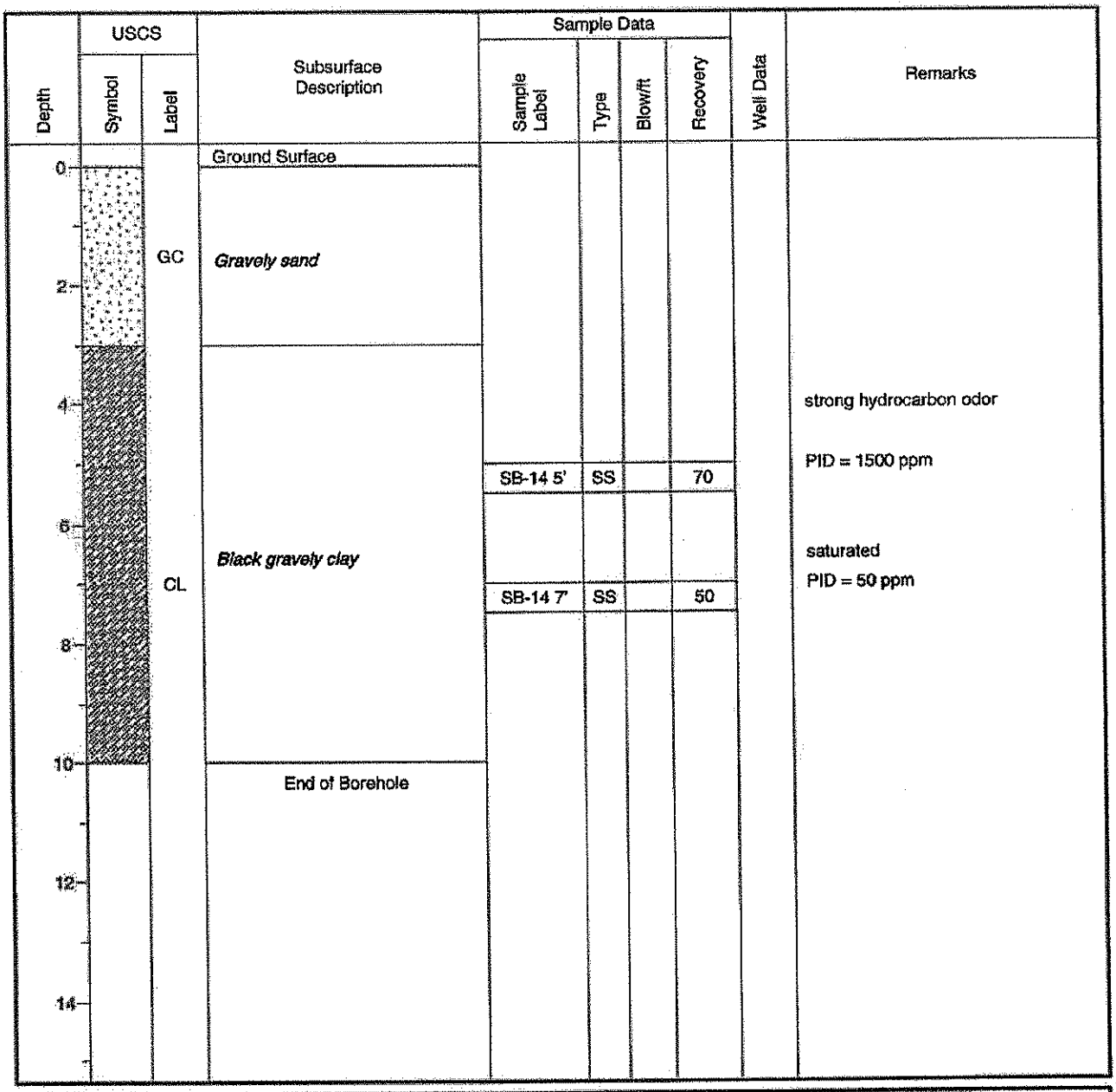
Sheet: 1 of 1

Project Name: Cruise America

Log of Borehole: SB-14

Client:

Location:



Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10

Depth to Water: 5.98

Reviewed by: EW

Logged by: NG

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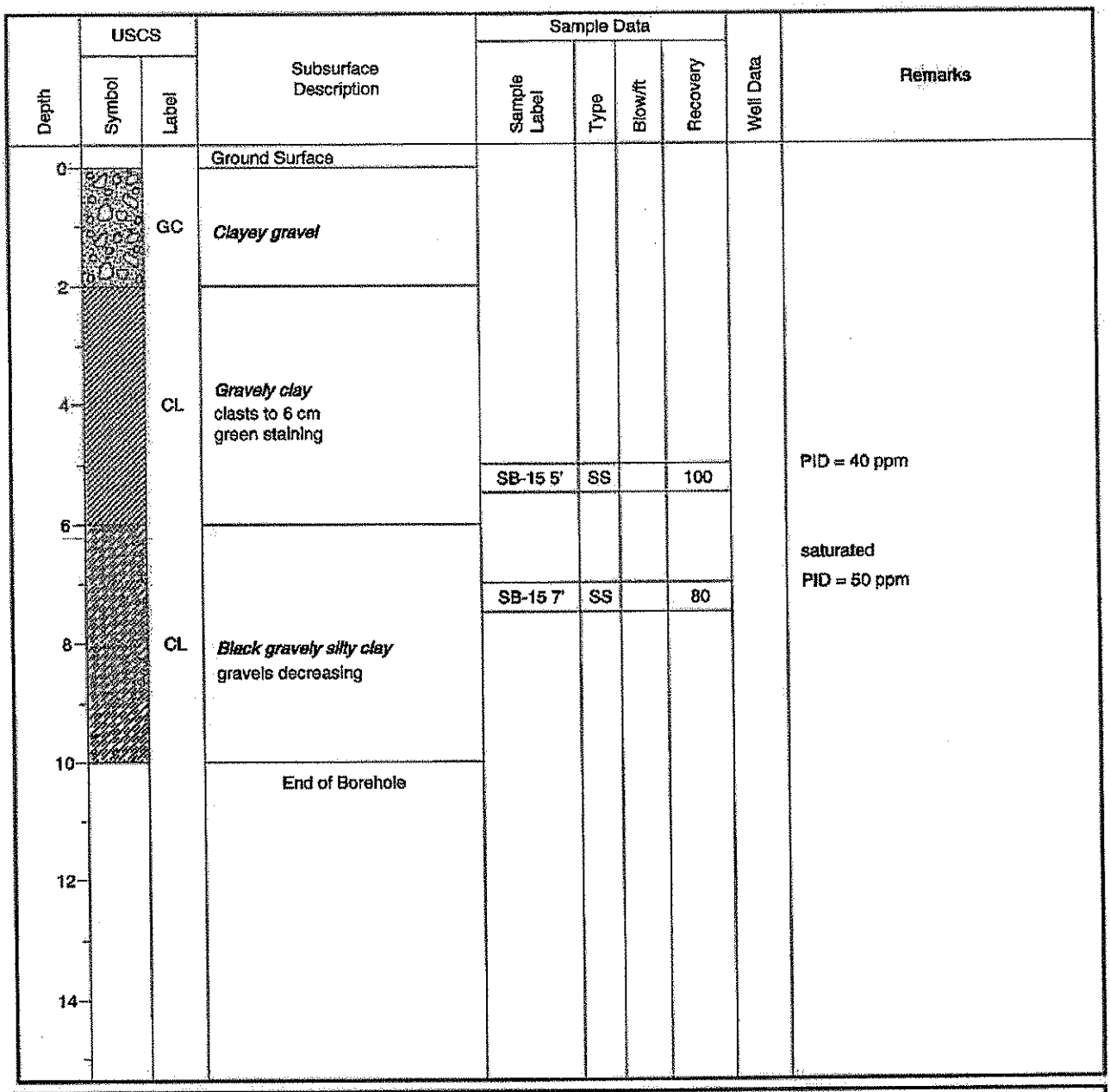
Sheet: 1 of 1

Project Name: Cruise America

Client:

Location:

Log of Borehole: SB-15



Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10

Depth to Water: 5.45

Reviewed by: EW

Logged by: NG

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Project No: 5626

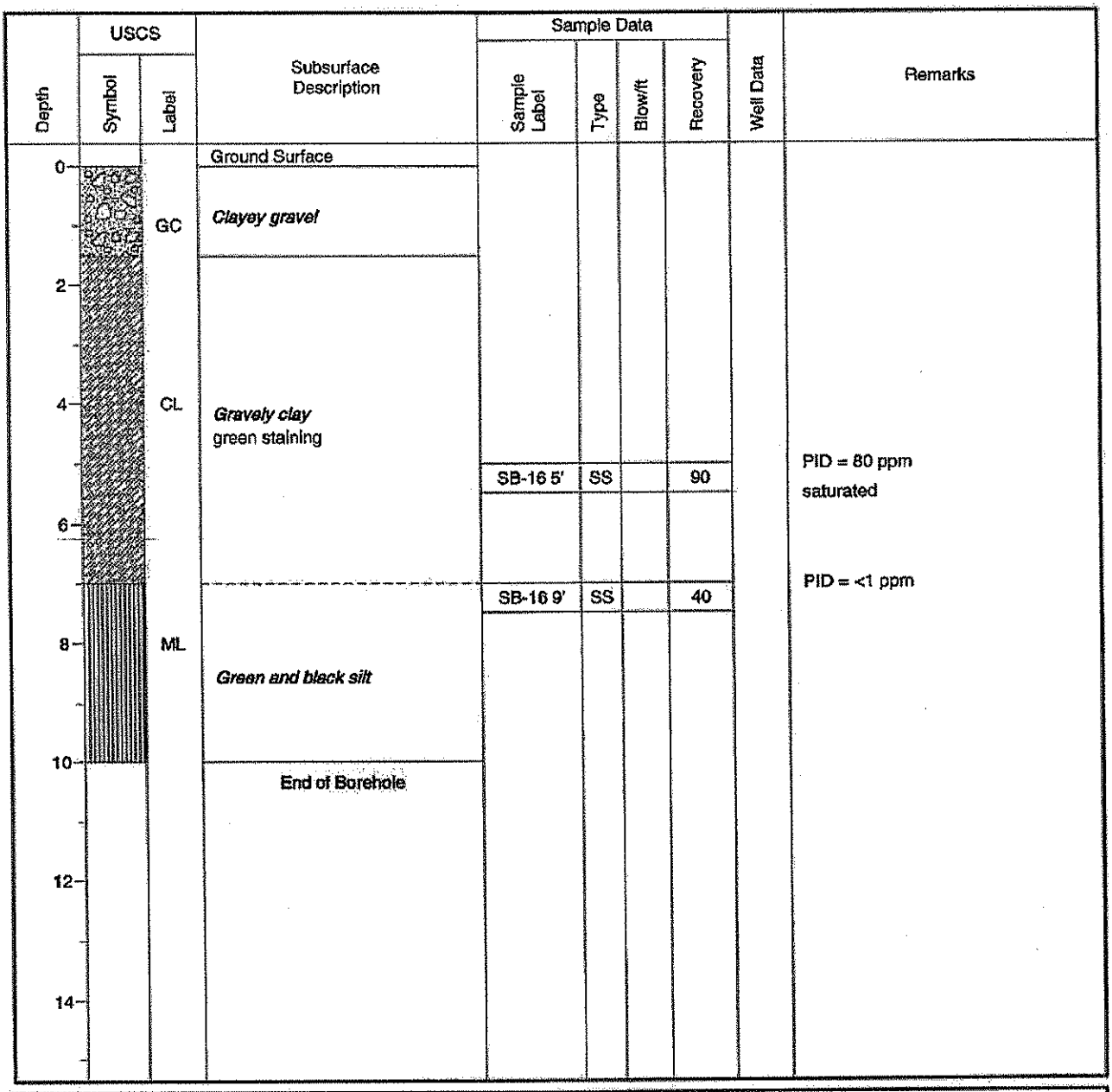
Sheet: 1 of 1

Project Name: Cruise America

Log of Borehole: SB-16

Client:

Location:



Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10

Depth to Water: 5.35

Reviewed by: EW

Logged by: NG

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Project No: 5526

Sheet: 1 of 2

Project Name: Cruise America

Log of Borehole: SB-17

Client:

Location:

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Data: Sample Label	Sample Data: Type	Sample Data: Blow/ft	Sample Data: Recovery	Well Data	Remarks
0			Ground Surface						
2		GC	***Clayey gravel***						
4				SB-17 5'	SS		80		PID = 10 ppm
6		CL	***Gravely clay*** green staining						saturated moderate hydrocarbon odor
8		OL	***Black silty clay*** Organic and anthropogenic debris	SB-17 9'	SS		70		PID = 50 ppm
10									
12		CL	***Soft Clay*** Organic rich						
14									sulfide odor
16		SC	***Sandy Clay***						
18									
20		OH	***Stiff organic clay***	SB-17 20'	SS		100		
22		CL							
24			***Brown gravely clay*** Gravels increase with depth						

Drill Date 9/6/02

Drill Method: Dual Cased Direct Push

Total Depth: 50

Depth to Water: 5.58, 45.5

Reviewed by: EW

Logged by: NG

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Project No: 5526

Sheet: 2 of 2

Project Name: Cruise America

Log of Borehole: SB-17

Client:

Location:

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Data: Sample Label	Sample Data: Type	Sample Data: Blow/ft	Sample Data: Recovery	Well Data	Remarks
27			***Brown gravely clay*** Gravels increase with depth						
		SW	***Well graded sand***						
29									
31			stiffens-less sand rounded clasts 2-3cm <5%						
33									
35									
37		CH	***Stiff sandy clay*** plastic						
39				SB-17 39'	SS		100		
41			softer, more fine sand and silt						
43									
45									wet
47		CL	***Sandy clay*** soft, cohesive						
49		SW	***Well-graded gravely sand***						

Drill Date 9/6/02

Drill Method: Dual Cased Direct Push

Total Depth: 50

Depth to Water: 5.58, 45.5

Reviewed by: EW

Logged by: NG

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Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-18

Sheet 1 of 1

Date(s) Drilled **July 1, 2008**	Logged By **Robert F. Flory**	Checked By **Leah Levine-Goldberg**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 inch**	Total Depth of Borehole **10 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation **11 feet MSL**
Groundwater Level and Date Measured **4.1 feet ATD**	Sampling Method(s) **Tube**	Permit # **W2008-0360**
Borehole Backfill **Cement Slurry**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0			GP		Crushed Rock, gray 6N/, underlain by geotextile sheet		
			GC-CL		Clayey Gravel- Gravelly Clay, dark yellowish brown - dark grayish brown 10YR 4/4 - 4/2, moderately firm, slightly moist (FILL)		
		SB-18-3.5	CL		Gravelly Clay, very dark gray 10YR 3/1, moderately firm, moist, gasoline odor (FILL) (ATD)	95	
5		SB-18-5					
		SB-18-6					
		SB-18-7	GC-CL		Clayey Gravel- Gravelly Clay, grayish green 5G 4/2 - dark greenish gray 5GY 4/1, wood fragments, moderately firm, very moist (FILL)		
			Unused CL		Woody Peat, black 2.5/, firm		
					Gravelly Clay, very dark greenish gray 5GY 3/1, moderately firm, - moderately soft, wet (FILL)		
					Silty Clay, very dark greenish gray 5GY 3/1 - black N 2.5/, moderately soft, wet (FILL)		
10					Bottom of Boring at 10 feet bgs		
15							
20							

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Figure

Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-19

Sheet 1 of 1

Date(s) Drilled **July 1, 2008**	Logged By **Robert F. Flory**	Checked By **Leah Levine-Goldberg**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation **11 feet MSL**
Groundwater Level and Date Measured **Not Encountered ATD**	Sampling Method(s) **Tube**	Permit # **W2008-0360**
Borehole Backfill **Cement Slurry**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0			Asphalt		Asphalt, 3"		
			GC-CL		Clayey Gravel- Gravelly Clay, dark gray - dark grayish brown 10YR 4/1 - 4/2, moderately firm, slightly moist (FILL) No odor		
		SB-19-3.5	CL		Gravelly Clay, dark greenish gray 5G 4/1, moderately firm, moist, no odor (FILL)		
			GM-GC		Sandy Gravel, dark greenish gray 5G 4/1, clayey, moderately firm, moist, no odor (FILL)		
5		SB-19-6			No recovery		
					Bottom of Boring at 8 feet bgs		
10							
15							
20							

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Figure

Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-20

Sheet 1 of 1

Date(s) Drilled **July 1, 2008**	Logged By **Robert F. Flory**	Checked By **Leah Levine-Goldberg**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation **11 feet MSL**
Groundwater Level and Date Measured **Not Encountered ATD**	Sampling Method(s) **Tube**	Permit # **W2008-0360**
Borehole Backfill **Cement Slurry**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0			Asphalt		Asphalt, 3"		
			GC-CL		Clayey Gravel- Gravelly Clay, dark gray - dark grayish brown 10YR 4/1 - 4/2, moderately firm, slightly moist (FILL) No odor		
			CL		Gravelly Clay, brown 10YR 4/3, moderately firm, moist, no odor (FILL)		
		SB-20-3.5					
			GC-CL		Sandy Gravelly Clay, black 10YR 2/1, abundant wood fragments, firm, moist, no odor		
5		SB-20-5.5					
					No recovery		
					Bottom of Boring at 8 feet bgs		
10							
15							
20							

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Figure

Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-22

Sheet 1 of 2

Date(s) Drilled **July 1, 2008**	Logged By **Robert F. Flory**	Checked By **Leah Levine-Goldberg**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 inch**	Total Depth of Borehole **28 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation **11 feet MSL**
Groundwater Level and Date Measured **Not Encountered ATD**	Sampling Method(s) **Tube**	Permit # **W2008-0360**
Borehole Backfill **Cement Slurry**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0			Asphalt		Asphalt, 3"		
			GC-CL		Clayey Gravel- Gravelly Clay, brown - yellowish btrown 10YR 4/3 - 5/4, moderately firm, slightly moist (FILL)		
			CL		Gravelly Clay, olive 5Y 5/3 - 5/4, moderately firm, slightly moist (FILL)		
		SB-22-4	CL		Peat, Black		
5					Sandy Clay, dark olive gray - olive gray 5Y 3/2 - 5/2 - grayish brown 10YR 5/2, streaks gravelly, firm, moist, no odor		
			SC-CL		Clayey Sand - Sandy Clay, very dark greenish gray 5G 3/1, soft, plastic, wet		
10		SB-22-9.5					
			SC		Very Clayey Sand, dark greenish gray - very dark greenish gray 10GY 4/1 - 3/1, soft, plastic, wet		
					Peat, black, woody, interbedded with clay partings		
15			SC-CL		Very Clayey Sand - Sandy Clay, very dark greenish gray 10GY 3/1, soft, plastic, wet		
		BS-22-15.5	SC-CL		Oyster Sand, light gray 10YR 7/1, 1/4" streak, clayey, soft		
			CL		Very Clayey Sand - Sandy Clay, very dark greenish gray 10GY 3/1, soft, plastic, wet		
			CL		Sandy Clay, very dark greenish gray 10GY 3/1, soft, plastic, wet		
					Clayey Gravel streak		
					Sandy Clay, very dark greenish gray 10GY 3/1, soft, plastic, wet		
20			CL		Silty Clay, grayish green 5G 5/2 - 4/2, firm, moist		

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Figure

Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-22

Sheet 2 of 2

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
20			CL		Silty Clay, grayish green 5G 5/2 - 4/2, firm, moist (cont.)		
			CL		Silty Clay, grayish green 5G 5/2 - 4/2, becoming sandy, firm, moist		
			ML		Sandy Silt, olive 5Y 5/6 - grenish gray 5G 5/1 mottled, firm, moist		
			GW		Sandy Gravel - Gravelly Sand, dark brown - very dark brown 10YR 3/3 - 3/2, slightly clayey, firm - hard, wet		
	X	SB-22-23.5	SW/SP		Gravelly Sand, yellowish brown 10YR 5/6, firm - hard, wet		
25			SP		Sand, very dark gray - very dark grayish brown 10YR 3/1 - 3/1, fine grained, poorly graded, firm, wet		
			SP		Sand, very dark gray - very dark grayish brown 10YR 3/1 - 3/2, clayey, fine grained, poorly graded, firm, wet clay increasing downward		
	X	SB-22-27.5	CL		Clay, very dark grayish brown 10YR 3/2, firm, wet slightly sandy at top		
					Bottom of Boring at 28 feet bgs		
30							
35							
40							

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Figure

Project: Cruise America
Project Location: 796 66th Ave., Oakland, CA
Project Number: 278361

Log of Boring SB-21

Sheet 1 of 1

Date(s) Drilled **July 1, 2008**	Logged By **Robert F. Flory**	Checked By **Leah Levine-Goldberg**
Drilling Method **Direct Push**	Drill Bit Size/Type **2 inch**	Total Depth of Borehole **11 feet bgs**
Drill Rig Type **GeoProbe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation **11 feet MSL**
Groundwater Level and Date Measured **6.3 feet ATD**	Sampling Method(s) **Tube**	Permit # **W2008-0360**
Borehole Backfill **Cement Slurry**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0			Asphalt		Asphalt, 3"		
			GC		Clayey Gravel, brown - dark brown 10YR 4/4-4/3, moderately firm, slightly moist (FILL) No odor		
			GC		Clayey Gravel, very dark greenish gray - dark greenish gray 5G 3/1-4/1, moderately firm, moist, ? trace odor (FILL)		
		SB-21-3.5					
5			GC-CL		Sandy Gravel - Gravelly Clay, black N 2.5/, sandy, firm, moist - wet, slight oily odor		
		SB-21-6			(ATD) ▽		
			GC		Clayey Gravel, black N 2.5/, sandy, firm, wet, slight oily odor		
			CL		Very Clayey Sand, dark greenish gray - grayish green 10GY 4/1 - 5G 4/2, soft, wet		
		SB-21-7.5					
10					No recovery		Boring caved to 9.7', water at 6.3'
					Bottom of Boring at 11 feet bgs		
15							
20							

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Figure

Project No: 5526

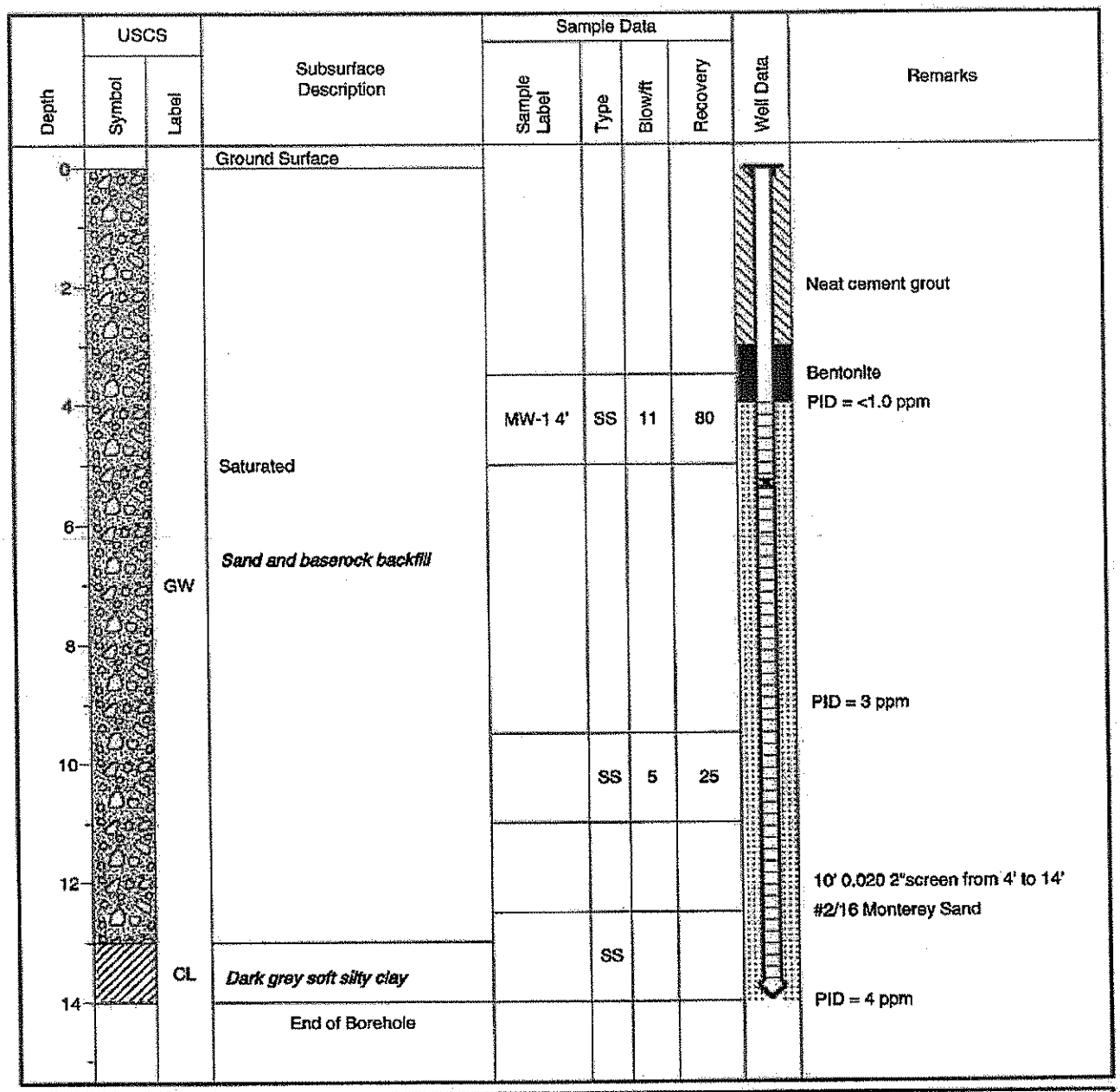
Sheet: 1 of 1

Project Name: Cruise America

Log of Borehole: MW-1

Client:

Location:



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14

Depth to Water: 5.4

Reviewed by: EW

Logged by: NG

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Lafayette, CA 94549
(925) 283-6000

Project No: 5526

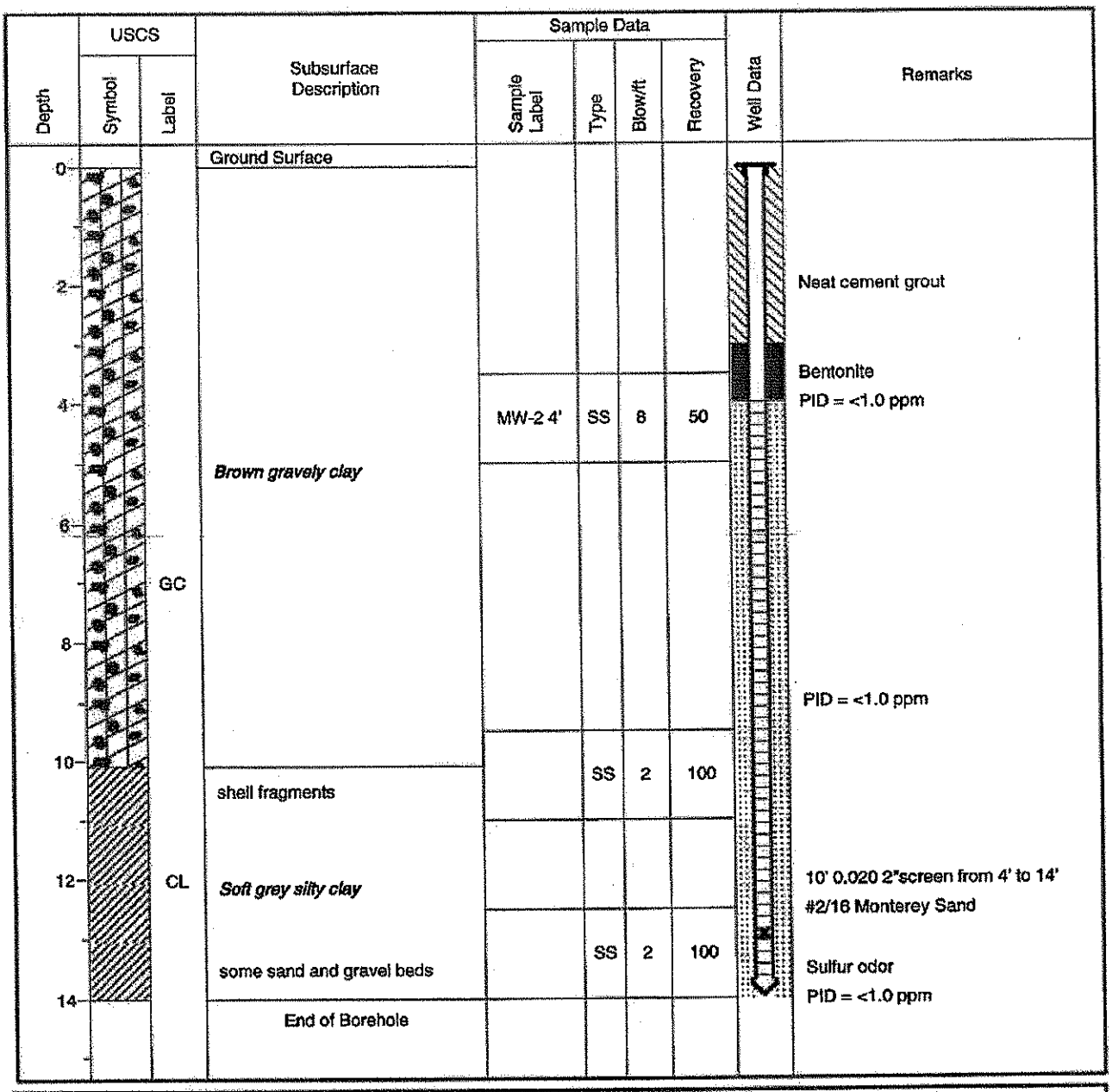
Sheet: 1 of 1

Project Name: Cruise America

Log of Borehole: MW-2

Client:

Location:



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14

Depth to Water: 13.0

Reviewed by: EW

Logged by: NG

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Project No: 5526

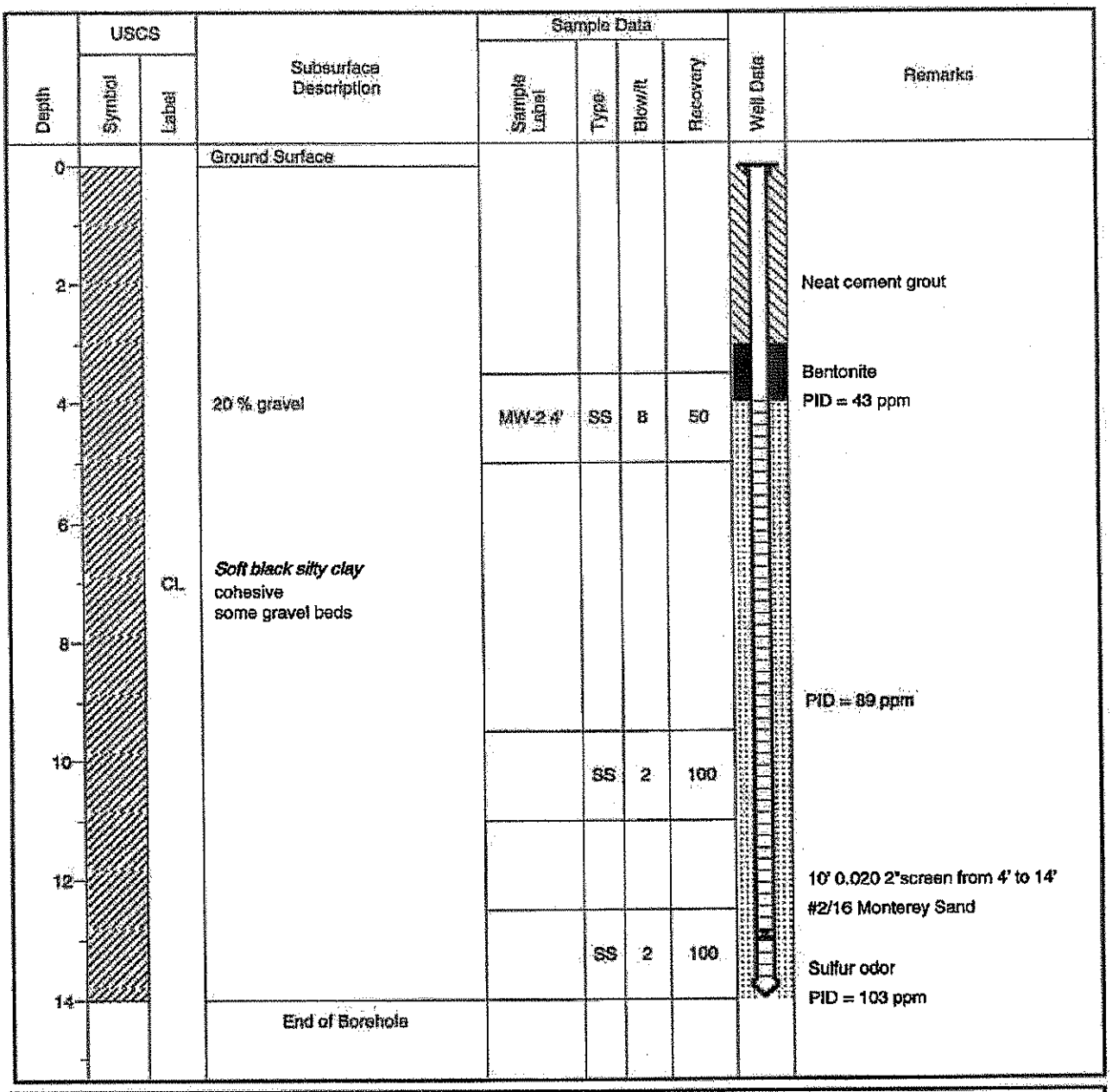
Sheet: 1 of 1

Project Name: Cruise America

Client:

Location:

Log of Borehole: MW-3



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14

Depth to Water: 13.05

Reviewed by: EW

Logged by: NG

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Project No: 5526

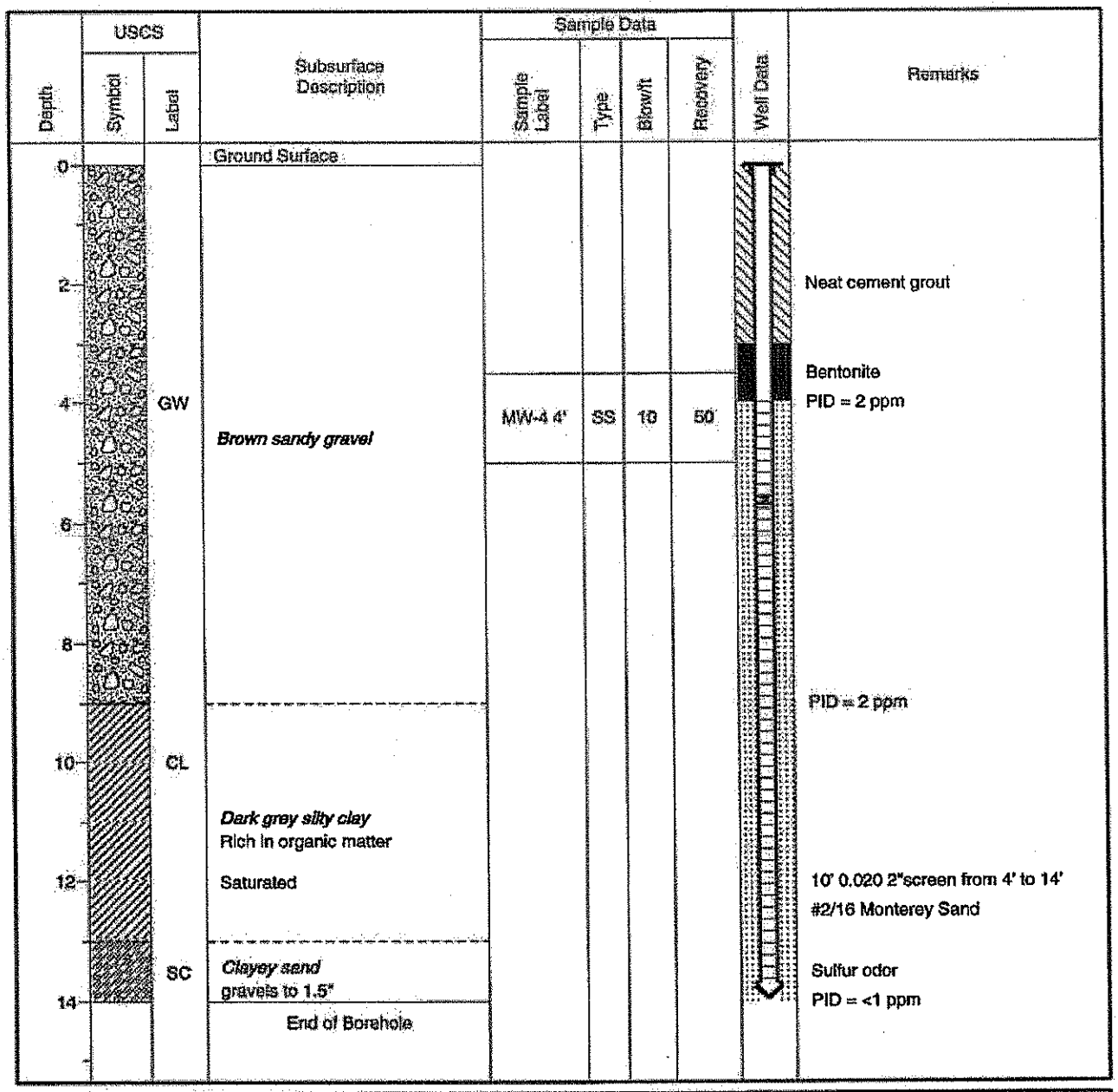
Sheet: 1 of 1

Project Name: Cruise America

Client:

Location:

Log of Borehole: MW-4



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14

Depth to Water: 5.7

Reviewed by: EW

Logged by: NG

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Project No: 5526

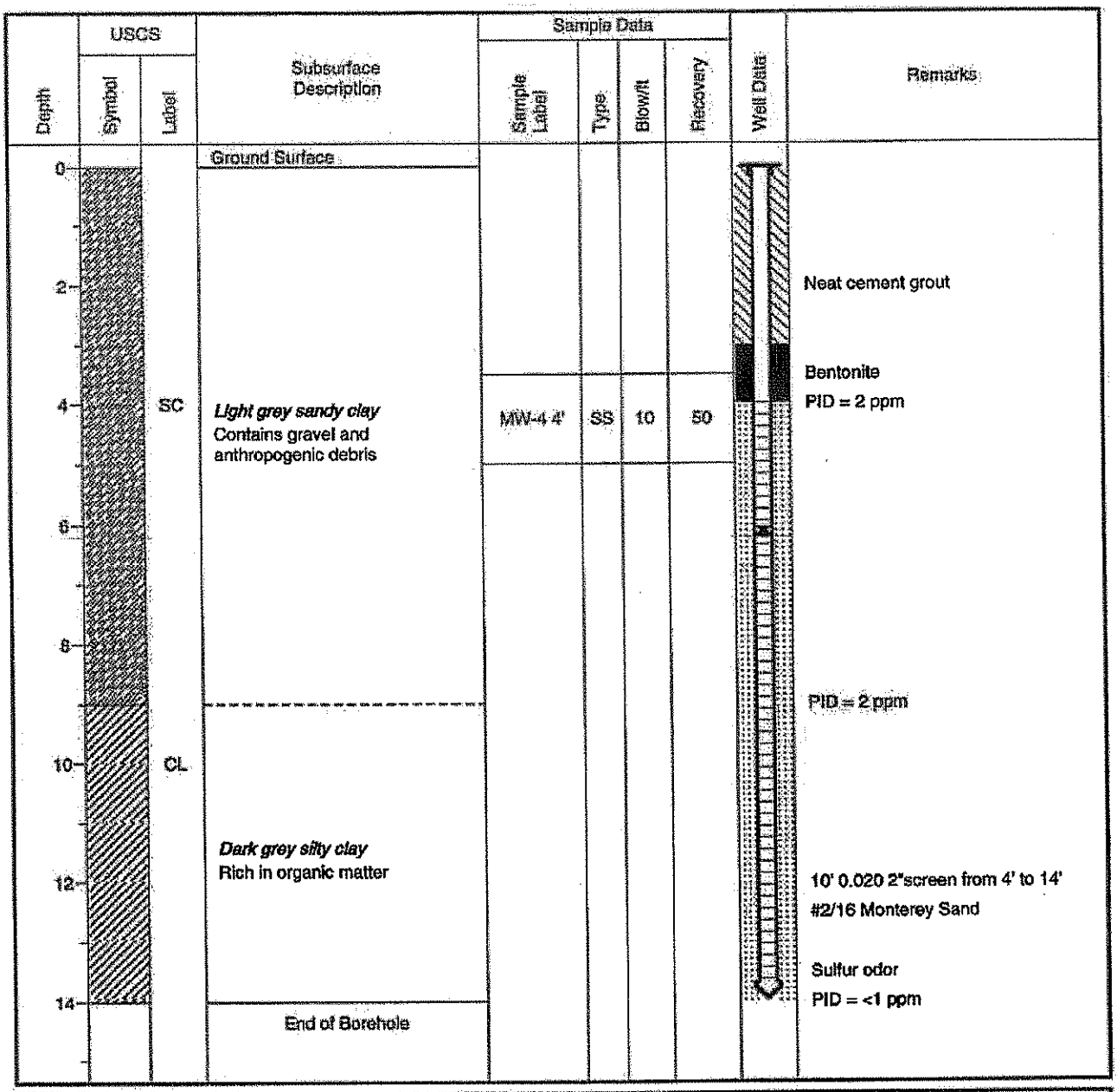
Sheet: 1 of 1

Project Name: Cruise America

Log of Borehole: MW-5

Client:

Location:



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14

Depth to Water: 6.2

Reviewed by: EW

Logged by: NG

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