This file contains the following documents:

1) PR – Preliminary Report (8/16/88)
2) PR – Supplemental Report (8/16/88)
3) Subsurface Consultants – Report (11/10/88)
4) Form C – Waste Oil Tank (1993)

(9)

ATTACHMENT D

Purcell, Rhoades & Associates
Preliminary Report
August 16, 1988

PRELIMINARY INVESTIGATION
DIESEL FUEL PAD
796 66TH AVENUE
OAKLAND, CALIFORNIA

FOR

CRUISE AMERICA, INC.

Purcell, Rhoades & Associates

Purcell, Rhoades & Associates

Consultants in the Applied Earth Sciences

2504 Technology Drive
Hayward, CA 94545
(415) 732-9890
Please Reply to This Office ☐

1041 Hook Avenue
Pleasant Hill, CA 94523
(415) 932-1177
☐ *Please Reply to This Office*

No. 3-0216/4780-01
August 16, 1988

Cruise America, Inc.
5959 Blue Lagoon Drive, Suite 250
Miami, FL 33126

Attention: Mr. Jack Beaver

SUBJECT: Preliminary Investigation of Diesel Fuel Pad, 796 66th Avenue, Oakland, California

Gentlemen:

At your request, this office has performed a subsurface investigation at the site of a former underground diesel fuel tank at the above subject site. It is our understanding that Cruise America intends to purchase this property from the current owner McGuire & Hester, a grading contracting firm. Purcell, Rhoades & Associates (PRA) performed initial investigations that were described in the report dated April 19, 1988. That investigation described detection of some fuel odor within soil samples, but no floating product was observed in water samples. This present investigation was requested to further characterize fuel concentrations. Initial subsurface investigations were performed using a Mobile B-40 drill rig.

During the subject investigation by this office, prior reports performed by Applied Geosystems, Inc. (AGI) dated February 13, 1987 and March 24, 1987 were made available to us. PRA was not aware of these prior reports during our initial investigation. Those AGI reports describe the tank removal and results of soil and water tests in the February report. The March report describes additional test borings, soil sampling and chemical analysis to characterize the extent of fuel contamination adjacent to the tank excavation. These reports were recommended to McGuire & Hester by AGI to be submitted to regulatory agencies. Our inquiries indicate they were not.

In the course of subsurface investigations buried creosote-timbers were encountered. Since Cruise America does not own the subject property, PRA could not be authorized by Cruise America to contact any regulatory agency for guidance in regards to encountered product concentration levels or creosote-timbers disposition on a site specific-basis. Informal, non-site specific discussions with Regional Water Quality Board personnel determined that at this time buried creosote timbers is not an actionable event ion the absence of a

Bruce G. Purcell, C.E.G.
Irving D. Affeldt, C.E.G.

Daniel J. Rhoades, P.E.
Bruce J. Murphy

potable water source. Future actions by regulatory agencies may result in changes to the nonactionable status of creosote-timbers.

This report is limited to the diesel fuel pad area and was based upon our experience with regulatory agencies at other sites. Recognizing that each individual site is treated by regulatory agencies on a case by case basis limits the final determination of site characterization until such time as decisioned by a regulatory agency.

The progress of this report had been discussed with Mr. Fred Rollman, attorney for Cruise America.

If there are any questions, please contact this office.

Very truly yours,

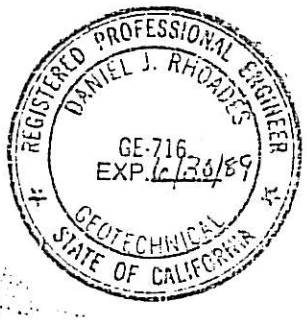
PURCELL, RHOADES & ASSOCIATES

Irving D. Affeldt, C.E.G.
Associate

Reviewed by:

Daniel J. Rhoades, Principal
Civil Engineer 16891
Geotechnical Engineer 716

klm



REPORT

REPORT

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PURPOSE AND SCOPE

The purpose of this investigation performed by Purcell, Rhoades & Associates (PRA) was to evaluate the degree and extent of hydrocarbon contamination in the soil and groundwater at the subject site. This investigation was limited to product contamination originating from the underground diesel tank previously located on site. The site was evaluated through exploratory borings and analysis of soil and groundwater samples for the presence of diesel fuel hydrocarbons.

SITE LOCATION

The subject site is located on 796 66th Avenue, east of Coliseum Way (see Figure 1). McGuire and Hester's Company currently exists on site and is used as office space and to store and maintain construction equipment.

BACKGROUND

Previous studies were conducted by us in February 1988. At this time shallow subsurface soil samples (1-3 feet) were obtained from three exploratory borings and during the installation of three piezometric

wells. Various analyses were performed at selected locations and the results of the petroleum hydrocarbons, and oil and grease analyses are summarized in table 1.

Due to the nature of the business conducted at the site where obvious dripping of petroleum products occured during normal operations of maintaining equipment, the presence of gasoline ,diesel, and oil and grease were not surprising. These results, however, do not necessarily indicate the presence of extensive subsurface contamination.

On July 11, 1988 we received two reports prepared by Applied Geo Systems, which we were previously unaware of. The first report, numbered AGS 86120-1, and dated February 13, 1987 investigated the tank removal. The second report, numbered AGS 86120-2, and dated March 24, 1987, investigated soils and groundwater for hydrocarbon contamination.

On January 9, 1987, two underground gasoline tanks (1000 and 5000 gallon) and one underground diesel tank (8000 gallon) were excavated and then removed from the site on January 16, 1988 under the direction of an Applied Geo Systems Geologist and a representative from the Fire Department. Laboratory analysis of the soils indicated relatively

high levels of hydrocarbon contamination from beneath the fill port ends of the tanks. Contamination levels in soil samples from beneath the opposite ends were lower. Standing water in the tank pits had visible hydrocarbon sheen and product odor.

Total volatile hydrocarbons were low (0.3 to 2.1 ppm) in the soil samples obtained from the borings of the monitoring wells near the gasoline tanks. In the groundwater, total volatile hydrocarbons were ranging from 23.7 to 29.0 ppb.

Total extractable hydrocarbons in the soil samples obtained from the boring of MW-3 near the diesel tank ranged from 1750 ppm at 5 feet below the existing ground surface to 30 ppm at 10 feet. Total extractable hydrocarbons, however were non-detected in the groundwater at the time of Applied Geo System's investigation.

FIELD INVESTIGATION

Our field investigation was conducted on July 11, 1988 in the area surrounding the diesel tank pit (see Figure 2) and included the drilling of eleven exploratory soil borings, and soil and groundwater sampling (Designated as borings B20 through B30).

Borings were drilled by a truck-mounted drill rig using a 6-inch continuous flight auger. Prior to drilling, precautions were taken to minimize possible contamination of the soils and groundwater from the drilling and sampling operations. This included a through cleaning of all the drilling equipment in a high-pressure tri-sodium phosphate solution followed by a rinse with clean water before arriving on site. In addition, the augers, drill bit and sampling tools were steam cleaned between borings.

The soils encountered during the drilling operations were logged continuously in the field (see Figures 3 through 13). Generally the first two to three feet of soil is a silty to clayey gravel fill material. Below this the native soil was encountered which consisted primarily of dark gray or brown, black and blue-green sandy clays and clays. Groundwater was encountered at 4-1/2 to 6 feet. Large pieces of undecomposed wood and decomposing wood fragments were often found when groundwater was encountered. A layer of shell fragments was also noted in borings B-24 and B-25.

WATER SAMPLING

Groundwater samples were obtained from the wells in the vicinity of the diesel tank area on July 11, 1988. Sampling was done in accordance with our Sampling and Analysis Plan (Appendix A).

During sampling, floating product was observed in MW-3 and MW-2. On July 14, 1988 we returned with a clear bailer to measure the floating product. At this time, only a slight sheen was detected in MW-1 and MW-3. In MW-2 product adhered to the inside walls of the bailer and small globs floated at the surface. The water in all three wells had a distinct yellow cast and diesel odor.

CHEMICAL ANALYSIS

Soil and groundwater samples were delivered under chain of custody to Sequoia Analytical Laboratory, Inc. in Redwood City, California for analysis. The soil and groundwater samples were analyzed for high boiling point hydrocarbons (diesel) using EPA methods 3510 or 3550/8015. Copies of laboratory results can be found in Appendix B.

RESULTS AND DISCUSSION

Levels of diesel in the soils during the current investigation were not high. Concentrations ranged from non-detected (in most samples) to 57 ppm. Diesel in groundwater, however, was very high with concentrations ranging from 720 to 60,000 ppb. The presence of floating product further substantiated high petrochemical concentrations in the groundwater.

CONCLUSIONS AND RECOMMENDATIONS

1. Shallow subsurface soils do not appear to be extensively contaminated. Significant hydrocarbon concentrations appears to exist in localized areas as a result of continued dripping from equipment onto the soil over time.

2. Levels of diesel detected in the groundwater are considered to be significant and will warrant further investigation and possible remediation.

3. Based on these results the recommendations of the AGS reports and the California Regional Water Quality Control Board's Guidelines for addressing full leaks McGuire and Hester should have submitted copies of the AGS reports to the following agencies for their review and recommendations.

a. Mr. Ted Gerow
Alameda County Division of Environmental Health
470 27th Street, Rm 324
Oakland, CA 94612

b. Mr. Tom Callaghan
California Regional Water Quality Control Board
1111 Jackson Street
Oakland, CA 94607

The conclusions of this report are based solely on the scope of work outlined and the sources of information referenced in this report. Any additional information that becomes available concerning this site should be submitted to Purcell, Rhoades & Associates, Inc., so that our conclusions may be reviewed and modified, if necessary.

INVESTIGATION LIMITATIONS

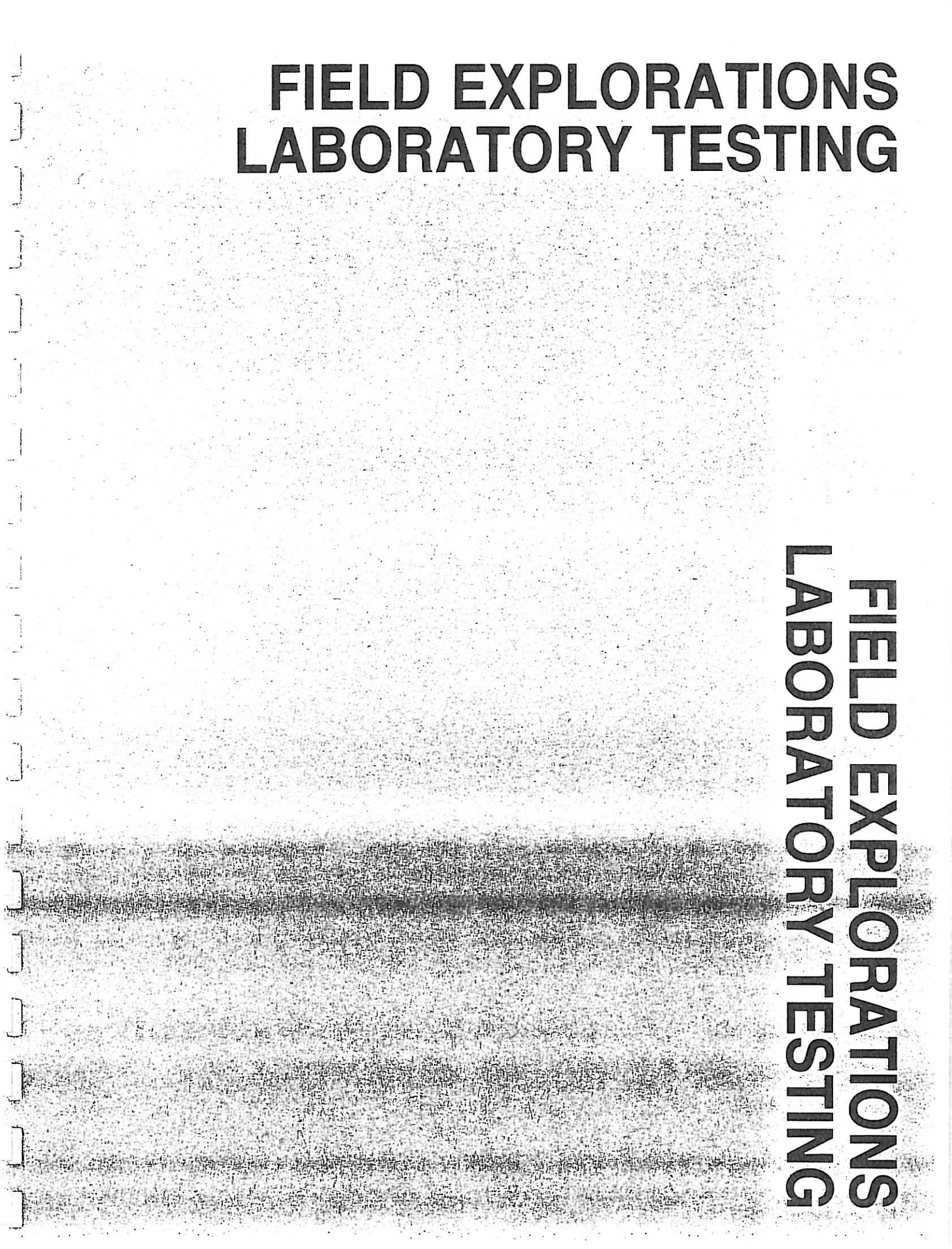
Physical changes to a property, from the condition at which it existed during the time our subsurface exploration was accomplished, can subsequently be brought about by natural or manmade causes. Additionally, the standards of work which are acceptable to approving agencies may be raised during the passage of time, and what is acceptable to the approving agency at this time may not be in the future. For these reasons, the recommendations contained in this report are valid for a period of two years, after which time they must be reviewed by our firm to determine whether or not they are still applicable.

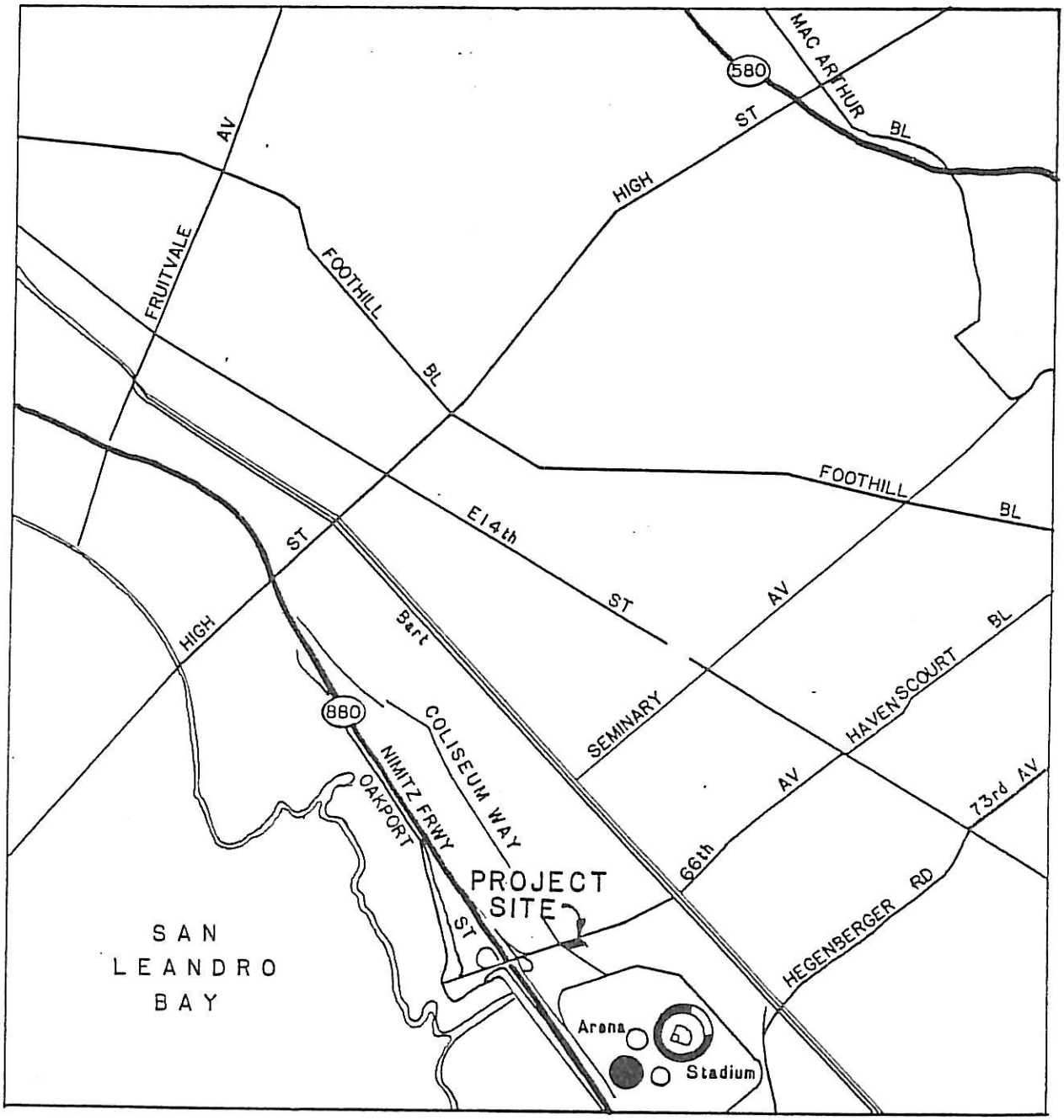
Our services consist of professional opinions and recommendations made in accordance with generally accepted soil mechanics, foundation engineering and engineering geology principles and practices. This warranty is in lieu of all other warranties either expressed or implied. The recommendations submitted in this report are based upon information obtained from our review of published geotechnical data, site reconnaissance, subsurface exploration, laboratory testing and appropriate analyses. Unanticipated soil conditions are frequently encountered and cannot be fully determined by drilling and sampling test borings, and may require that additional expenditures be made

during the construction phase of the project to obtain a properly built project. It is recommended that you establish some contingency fund to accommodate these extra costs if they become necessary.

This report has been prepared in order to aid in the evaluation of this project. In the event any changes in the proposed development concept or location of the facilities are planned, our conclusions and recommendations should not be considered valid unless the changes are reviewed and our conclusions modified or approved in writing by us. It is your responsibility to ensure that our recommendations are made available to your Project Architect, Project Engineer and Contractor.

FIELD EXPLORATIONS
LABORATORY TESTING





0.0 1.0 MI

GRAPHIC SCALE

NOTES

DATE	07/20/88
JOB NO.	4780-01
DESG'D	P MORRILL
DRAWN	J VALLAN
CHK'D	R BRACKETT
APP'D	K PRICE

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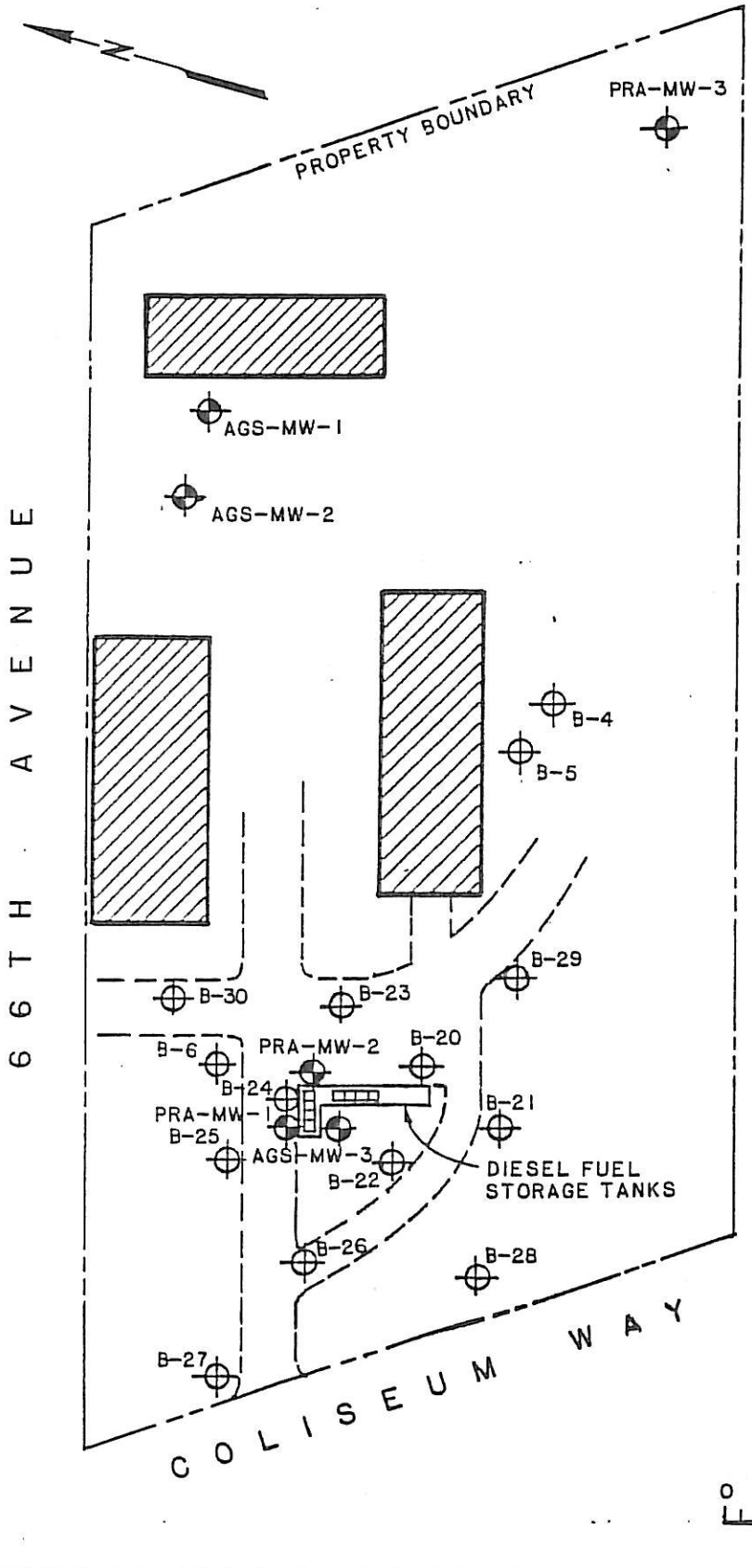
SITE LOCATION MAP

796 66TH AVENUE, OAKLAND, CALIFORNIA

CRUISE AMERICA

FIGURE NO. 1

REV NO.



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
JOB NO.	4780-01
DESG'D	P MORRILL
DRAWN	R BRACKETT
CHK'D	J VALLAN
APP'D	K PRICE

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EXPLORATORY BORING AND MONITORING WELL LOCATION MAP
796 66TH AVENUE, OAKLAND, CALIFORNIA
CRUISE AMERICA

FIGURE NO. 2

REV NO.

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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TITLE

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	----	-----	----	--
				4						
Clay, gray, plastic, wet.	stiff	OH		5		5	----	-----	----	--
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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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.
DEPTH TO GROUNDWATER	none	BORING DIAMETER	6"	DATE DRILLED	7/11/88	SHEET	1 OF 1	B-22

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								
Sandy CLAY, very dark gray, moist, plastic, strong odor.	stiff	CL		1–2		25	----	-----	----	--
Sandy CLAY, dark blue-green-gray, moderately plastic, with some coarse angular gravels, fragments of sandstone with product odor, black.	stiff	CL		3–5		30	----	-----	----	--
Boring Terminated At 5½ Feet				6–20–1						

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TITLE

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						
				2		26	----	-----	----	--
Clayey SAND, black, non-plastic, moist.	medium dense	SC		3						
				4						
				5		10	----	-----	----	--
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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TITLE

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		6	----	-----	----	--
Boring Terminated At 5 Feet				5						
				6						
				7						
				8						
				9						
				10						
				1						
				2						
				3						
				4						
				15						
				6						
				7						
				8						
				9						
				20						
				1						

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TITLE

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	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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TITLE

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

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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TITLE

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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TITLE

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						

PURCELL, RHOADES & ASSOCIATES
FOUNDATION ENGINEERING § SOIL ENGINEERING § GEOLOGY

TITLE

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

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		3–4		33	----	-----	----	--
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						

PURCELL, RHOADES & ASSOCIATES
FOUNDATION ENGINEERING § SOIL ENGINEERING § GEOLOGY

TITLE

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	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, 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						

PURCELL, RHOADES & ASSOCIATES
FOUNDATION ENGINEERING § SOIL ENGINEERING § GEOLOGY

TITLE

FIGURE 13 - LOG OF TEST BORING B-30

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.

APPENDIX A

TOTAL PETROLEUM HYDROCARBONS

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 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.

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 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.

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: 07/14/88
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

10

APPENDIX E

Purcell, Rhoades & Associates
Supplemental Report
August 16, 1988

SUPPLEMENTAL INVESTIGATION
DIESEL FUEL PAD
796 66TH AVENUE
OAKLAND, CALIFORNIA

FOR

CRUISE AMERICA, INC.

Purcell, Rhoades & Associates

Consultants in the Applied Earth Sciences

2504 Technology Drive
Hayward, CA 94545
(415) 732-9890
Please Reply to This Office ☐

1041 Hook Avenue
Pleasant Hill, CA 94523
(415) 932-1177
☐ *Please Reply to This Office*

No. 3-0216/4780-01
August 16, 1988

Cruise America, Inc.
5959 Blue Lagoon Drive, Suite 250
Miami, Florida 33126

Attention: Mr. Jack Beaver

SUBJECT: Supplemental Investigation of Diesel Fuel Pad, 796 66th Avenue, Oakland, California

Gentlemen:

At your request, this office has performed a supplemental investigation at the site of a former underground diesel fuel tank at the above subject site. It is our understanding that Cruise America intends to purchase this property from the current owner McGuire & Hester, a grading contracting firm. Purcell, Rhoades & Associates (PRA) performed initial investigations that were described in the report dated April 19, 1988. That investigation described detection of some fuel odor within soil samples, but no floating product was observed in water samples. This investigation was requested to further characterize fuel concentrations after McGuire & Hester had performed demolition excavated debris from the former fuel tank area. A gradall backhoe was used by McGuire & Hester to clear concrete and construction debris, as part of site demolition. At your request representatives of this office obtained soil samples for diesel fuel analysis of the open excavation.

During the subject investigation by this office, prior reports performed by Applied Geosystems, Inc. (AGI) dated February 13, 1987 and March 24, 1987 were made available to us. PRA was not aware of these prior reports during our initial investigation. Those AGI reports describe the tank removal and results of soil and water tests in the February report. The March report describes additional test borings, soil sampling and chemical analysis to characterize the extent if fuel contamination adjacent to the tank excavation. These reports were recommended to McGuire & Hester by AGI to be submitted to regulatory agencies. Our inquiries indicate they were not.

In the course of debris removal buried creosote-timbers were encountered. Since Cruise America does not own the subject property, PRA could not be authorized by Cruise America to contact any

Bruce G. Purcell, C.E.G.
Irving D. Affeldt, C.E.G.

Daniel J. Rhoades, P.E.
Bruce J. Murphy

regulatory agency for guidance in regards to encountered product concentration levels or creosote-timbers disposition on a site specific-basis. Informal, non-site specific discussions with Regional Water Quality Board personnel determined that at this time buried creosote timbers is not an actionable event in the absence of a potable water source. Future actions by regulatory agencies may result in changes to the nonactionable status of creosote-timbers.

During debris removal by McGuire & Hester within the former tank excavation, a pocket of trapped water and diesel fuel product was encountered. In order to continue debris removal, the water and product was removed and placed in a holding tank and soil samples were taken in sidewalls to verify the absence of fuel contaminated soil in excess of 100 ppm total hydrocarbons. Soil excavation by Macquire & Hester resulted in stockpiling of soil on-site. Soil samples were obtained for diesel fuel concentration.

Groundwater samples of the trapped water/product encountered total extractable hydrocarbons in excess of 320 ppm. After removal of the trapped source, a water sample taken from a downgradient piezometer determined the absence of a floating product line and product concentrations of 2.3 ppm. Taking into consideration that the nearest water is nonpotable and saline the anticipated agency response would not be as critical relative to fuel concentrations within a drinking water source. However, each situation is decided on a case-by-case basis. The migration of any undiscovered trapped diesel product is expected to be minimal due to the slowly permeable clay soils at this site.

In the absence of a site specific determination by a regulatory agency, the soil and water samples tested indicate that in the area sampled, the diesel product has been mitigated by virtue of source removal, the slowly permeable clay soils at this site and the diffusion and dilution of any product trace by tidal flushing action of the nonpotable, saline water. A dedicated monitoring well is proposed for future monthly evaluation for free-floating product.

This report is limited to the diesel fuel pad area and was based upon our experience with regulatory agencies at other sites. Recognizing that each individual site is treated by regulatory agencies on a case by case basis limits the final determination of site characterization until such time as decisioned by a regulatory agency.

The progress of this report and the mitigation measures taken had been discussed with Mr. Fred Rollman, attorney for Cruise America

If there are any questions, please contact this office.

Very truly yours,

PURCELL, RHOADES & ASSOCIATES

Irving D. Affeldt, C.E.G.
Associate

Reviewed by:

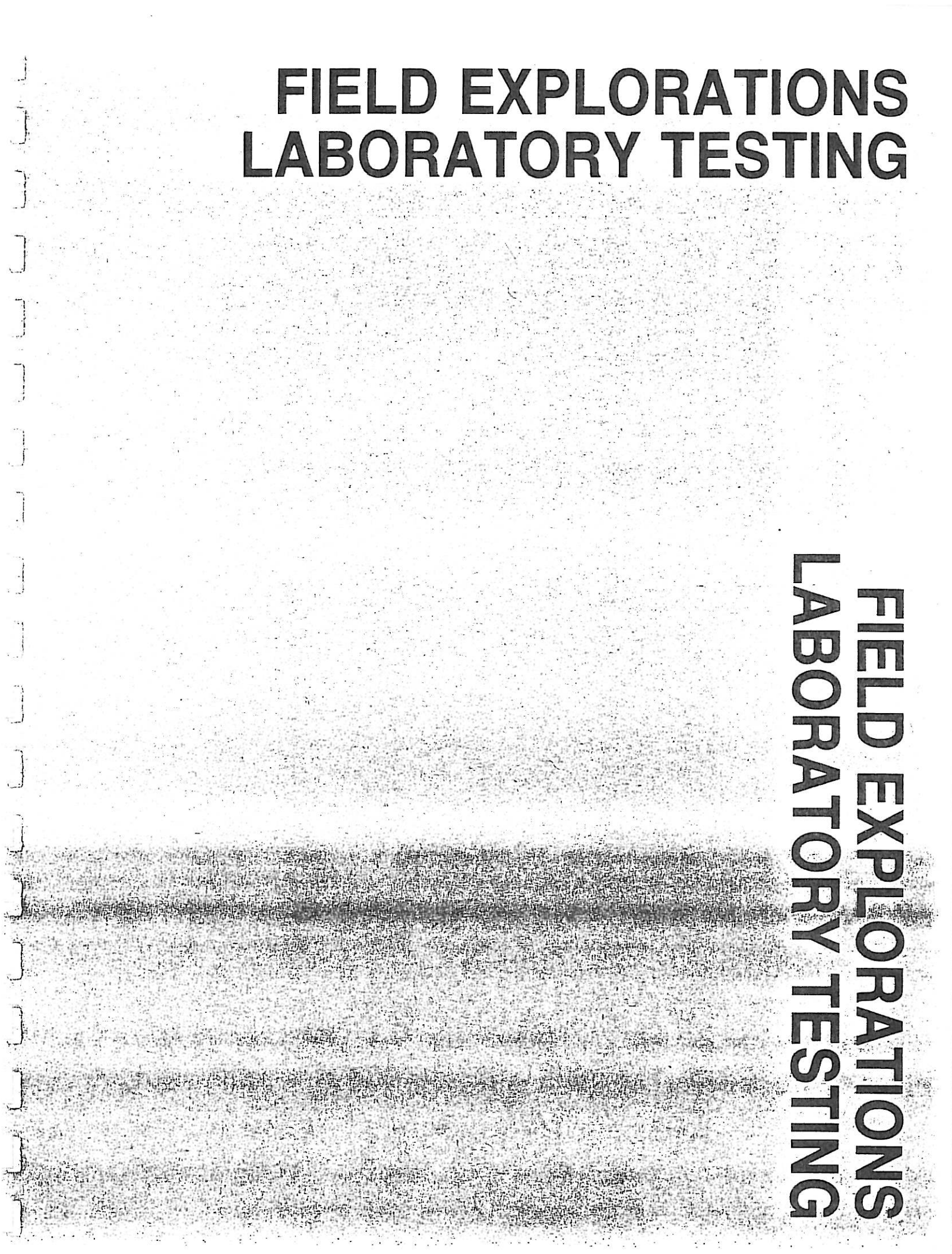
Daniel J. Rhoades, Principal
Civil Engineer 16891
Geotechnical Engineer 716

gw

REGISTERED PROFESSIONAL ENGINEER
DANIEL JAY RHOADES
16891
Exp. 6/30/89
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. RHOADES
GE-716
EXP. 6/30/89
GEOTECHNICAL
STATE OF CALIFORNIA

FIELD EXPLORATIONS
LABORATORY TESTING



Field Note Summary

Excavation of the former diesel tank pit area was begun on July 28, 1988. At that time, soil from the tank pit was excavated to a depth of 15 feet below the existing grade. Soil was also removed outside of the tank pit area originally to a depth of approximately five feet as deemed necessary by smell and visual inspection. The enclosed figure shows the outline of the original excavation.

Immediately following this initial excavation, samples S-1 through S-7 (See Figure) were obtained from the sidewalls and bottom of the pit by using the backhoe at approximate elevations of S-1(15'), S-2(5'), S-4(2'), S-5(2'), S-6(5'), and S-7(10'). The surface of the soil in the bucket was scraped off at the point of sampling and a 2 inch I.D. brass tube liner was manually driven into the soil. The ends were immediately covered with aluminum foil, capped and taped; then placed on ice. Samples were delivered under chain of custody to Sequoia Laboratory the same day of sampling for analysis of diesel.

Results of laboratory analyses showed that samples S-1, S-3, S-5, S-6, and S-7, were acceptably low ranging from 9.6 to 140 parts per million (ppm) diesel. However, S-2(3') and S-4(2') taken from the northwestern and southwestern edges of the pit were still very high at 3,300 and 1,600 ppm, respectively.

Excavation of the pit was therefore continued on August 1, 1988. The figure also shows the final excavation pit and sampling locations at this date. Samples S-8 through S-10 were obtained from the sidewalls at approximately 5 feet below grade. Diesel was undetected in S-7 and S-9 and was at 18 ppm in S-10. At this point concentrations of diesel appeared to be within acceptable levels and excavation was considered complete.

During each day of excavation, soil was separated into piles by the relative appearance of levels of contamination and by different depths. At the end of both days composite samples were obtained from the new piles. Two random samples were obtained from each pile by digging into the pile approximately 1 foot and driving a clean brass liner into the soil. Samples were sealed as described above and delivered to Sequoia Laboratory along with those obtained from the excavation.

Composite samples were identified as C-1 through C-8 and the piles from which they were obtained are shown in the enclosed figure. Five of these samples had concentrations of diesel over 1,000 ppm and the remaining three ranged from 100 to 960 ppm.

During site investigations the Department of Health Services requires soil over 1,000 ppm to be excavated and soil between 100 and 1,000 ppm is usually monitored. However, since all of this soil is currently excavated, and levels of diesel were relatively high in all the piles we would recommend disposal or treatment of all the excavated piles.

In order to evaluate the affect of removal and the trapped product by McGuire & Hester, a piezometer (MW-4 see Figure 1) was located downgradient of the excavation adjacent to the slough. Water samples were obtained with a clear bailer and found to have an absence of free-floating product. The concentration of diesel was found to be 2.3 ppm.

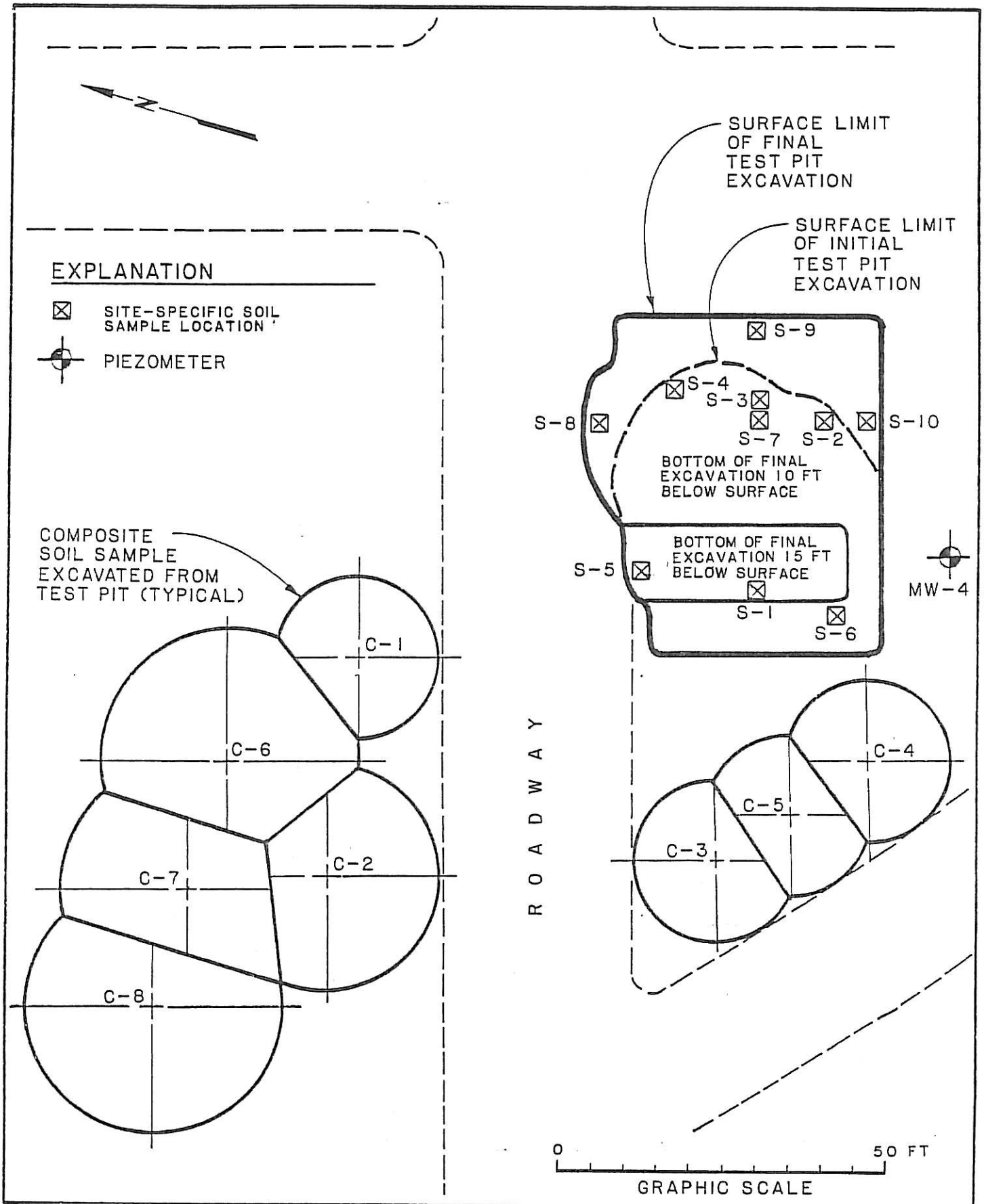
It is recommended that a dedicated monitoring well be installed for monthly evaluation for free-floating product. Due to the proposed construction of new facilities, the installation of this well would best occur after construction.

INVESTIGATION LIMITATIONS

Physical changes to a property, from the condition at which it existed during the time our subsurface exploration was accomplished, can subsequently be brought about by natural or manmade causes. Additionally, the standards of work which are acceptable to approving agencies may be raised during the passage of time, and what is acceptable to the approving agency at this time may not be in the future. For these reasons, the recommendations contained in this report are valid for a period of two years, after which time they must be reviewed by our firm to determine whether or not they are still applicable.

Our services consist of professional opinions and recommendations made in accordance with generally accepted soil mechanics, foundation engineering and engineering geology principles and practices. This warranty is in lieu of all other warranties either expressed or implied. The recommendations submitted in this report are based upon information obtained from our review of published geotechnical data, site reconnaissance, subsurface exploration, laboratory testing and appropriate analyses. Unanticipated soil conditions are frequently encountered and cannot be fully determined by drilling and sampling test borings, and may require that additional expenditures be made during the construction phase of the project to obtain a properly built project. It is recommended that you establish some contingency fund to accommodate these extra costs if they become necessary.

This report has been prepared in order to aid in the evaluation of this project. In the event any changes in the proposed development concept or location of the facilities are planned, our conclusions and recommendations should not be considered valid unless the changes are reviewed and our conclusions modified or approved in writing by us. It is your responsibility to ensure that our recommendations are made available to your Project Architect, Project Engineer and Contractor.



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
2364 Technology Drive, Hayward, CA 94545, (415) 732-9660
3041 Hook Avenue, Pleasant Hill, CA 94523, (415) 932-1177

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

FIGURE NO. 1

REV NO.

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

Purcell, Rhoades & Associates
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 08/01/88
Date Received: 08/01/88
Date Analyzed: 08/02/88
Date Reported: 08/04/88

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

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8080040	C-6	1.0	360
8080041	C-7	1.0	960
8080042	C-8 Composite	1.0	1400
8080043	S-7	1.0	N.D.
8080044	S-8	1.0	140
8080045	S-9	1.0	N.D.
8080046	S-10	1.0	18

Method of Analysis: EPA 3550/8015

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

Purcell, Rhoades & Associates
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 07/28/88
Date Received: 07/28/88
Date Analyzed: 07/29/88
Date Reported: 08/01/88

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

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8072350	S-1	1.0	9.6
8072351	S-2	1.0	3300
8072352	S-3	1.0	10
8072353	S-4	1.0	1600
8072354	S-5	1.0	20
8072355	S-6	1.0	22
8072356	C-1	1.0	3100
8072357	C-2	1.0	3100
8072358	C-3	1.0	100
8072359	C-4	1.0	1300
8072360	C-5	1.0	3400

Method of Analysis: EPA 3550/8015

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

Purcell, Rhoades & Associates
2504 Technology Drive
Hayward, CA 94545
Attn: Pam Morrill

Date Sampled: 08/11/88
Date Received: 08/11/88
Date Extracted: 08/12/88
Date Reported: 08/19/88

Project: #4774-01, Cruise America, McGuire & Hester

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description Water	Detection Limit mg/L	Petroleum Oil mg/L
8081092	MW-4	1.0	2300

Method of Analysis: 418.1

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

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

(11)

APPENDIX F

Subsurface Consultants, Inc., Report
November 10, 1988

[illegible]
[illegible]

November 10, 1988
SCI 468.001

Mr. Perry Peterson
McGuire and Hester
796 66th Avenue
Oakland, California 94621

Analytical Test Results
Aerating Soils
McGuire & Hester Facility
796 66th Avenue
Oakland, California

Dear Mr. Peterson,

This letter transmits the results of analytical tests performed on samples of aerating soil at the referenced site. Presently, approximately 1000 cubic yards of soil have been spread out in an approximate 170-foot square area in the northwest corner of the site. Subsurface Consultants, Inc. (SCI) was retained to obtain and analyze samples of the aerating soils.

Sampling and Analytical Testing

SCI collected samples of the aerating soils on October 17, 1988. The samples were obtained by scraping approximately 4 to 6 inches of soil away from the surface and driving a pre-cleaned, brass sample liner into the soil with a rubber mallet. The ends of the tubes were capped with Teflon and plastic caps. The caps were sealed with plastic tape. The samples were refrigerated on-site in an ice chest, and remained so until delivery to the analytical laboratory.

The samples were transmitted along with appropriate chain-of-custody documents to Curtis & Tompkins, Ltd., a laboratory certified by the California Department of Health Services to conduct hazardous waste and water testing. The samples were analyzed for total petroleum hydrocarbons using EPA Modified Method 8015. Upon extracting the samples, the laboratory visually noted that all the samples appeared to contain oil and grease. For this reason, an oil and grease analysis (Standard Method 503E) was additionally conducted on Sample 3. Sample 3

appeared to contain the most oil and grease. The results of the analyses are summarized in the following table. Laboratory test reports and chain-of-custody documents are attached.

Sample Designation	Sample Location[1]	TPH[2] (mg/kg)[4]	TOG[3] (mg/kg)
1	Southeast Quadrant	100	NA
2	Northeast Quadrant	200	NA
3	Northwest Quadrant	270	2600
4	Southwest Quadrant	410	NA
5	Southwest Quadrant (Surface Soil)	25	NA[5]

---

1 Samples were obtained from near the center of the quadrant indicated.
2 TPH = Total petroleum hydrocarbons
3 TOG = Total oil and grease
4 mg/kg = parts per million = ppm
5 NA = not analyzed

Conclusions

The test results indicate that on the date sampled, the aerating soils contained 100 to 410 ppm of petroleum hydrocarbons, as diesel. In addition, Sample 3 contained 2600 ppm of oil and grease. It is likely that the other samples also contain appreciable quantities of oil and grease.

The analytical results suggest that additional study may be warranted at the site to address the oil and grease issue. In addition, soil aeration may not be an appropriate method of treatment, given the presence of oil and grease.

If you have any questions regarding the analytical results, or our conclusions, please call.

Yours very truly,

Subsurface Consultants, Inc.

James P. Bowers
President
Geotechnical Engineer 157 (expires 3/31/91)

JNA:JPB:clh

Attachments: Analytical Test Reports
Chain-of-Custody Documents

Curtis & Tompkins, Ltd., Analytical Laboratories Since 1878
2323 Fifth Street Berkeley CA 94710 Phone (415) 486-0900

LABORATORY NUMBER: 15971
CLIENT: SUBSURFACE CONSULTANTS
JOB #: 468.001
LOCATION: 796 - 66TH AVENUE

DATE RECEIVED: 10-17-88
DATE ANALYZED: 10-18-88
DATE REPORTED: 10-19-88

Total Petroleum Hydrocarbons in Soils & Wastes
EPA 8015 (Modified)
Extraction Method: EPA 3550

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)
15971-1	1	ND(10)	ND(10)	ND(10)	100 *
15971-2	2	ND(10)	ND(10)	200	ND(10)
15971-3	3	ND(10)	ND(10)	270	ND(10)
15971-4	4	ND(10)	ND(10)	ND(10)	410 *
15971-5	5-SURFACE	ND(10)	ND(10)	ND(10)	25 *

NOTE: All samples contained unidentifiable oil not quanitfiable by GC.

* Fingerprint pattern does not match Hydrocarbon Standard. Quantitation based on largest peaks within C12-C24 boiling range.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	14
Spike: % Recovery	86

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street, Berkeley, CA 94710. Phone (415) 486-0900

LAB NUMBER: 15971-3
CLIENT: SUBSURFACE CONSULTANTS
JOB #: 468.001
LOCATION: 796 - 66TH AVENUE

DATE RECEIVED: 10-17-88
DATE ANALYZED: 10-20-88
DATE REPORTED: 10-25-88

Method Reference: O&G: Oil and Grease, SMWW 503 A

LAB ID	CLIENT ID	O&G (mg/Kg)
15971-3	3	2,600

LABORATORY DIRECTOR

Subsurface Consultants

CHAIN OF CUSTODY RECORD
& ANALYTICAL TEST REQUEST

Project Name: 796 - 66TH AVENUE

SCI Job Number: 468.01

Project Contact at SCI: JEFF ALEXANDER

Sampled By: JEFF ALEXANDER

Analytical Laboratory: CURTIS & TOMPKINS

Analytical Turnaround: 24-48 HOUR **

Sample ID	Sample Type[1]	Container Type[2]	Sampling Date	Hold	Analysis	Analytical Method
1	S	T	10/17/88		TPH	
2	S	T			TPH	
3	S	T			TPH	
4	S	T			TPH	
5-SURFACE	S	T			TPH	

* * * * * *

Released by: [signature] Date: 10/17/88

Released by Courier: _____ Date: _____

Received by Laboratory: [signature] Date: 10/17/88

Relinquished by Laboratory: _____ Date: _____

Received by: _____ Date: _____

[1] Sample Type: W = water, S = soil, O = other (specify)
[2] Container Type: V = VOA, P = plastic, G = glass, T = brass tube, O = other (specify)

Notes to Laboratory:
-Notify SCI if there are any anomalous peaks on GC or other scans
-Questions/clarifications...contact SCI at (415) 268-0461

APPENDIX G

Certified Analytical Reports
Field Sampling Reports
Chain of Custody Documentation

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 *(415) 783-6960*

TAL

DATE: 11/29/88

LOG NO.: 6684

DATE SAMPLED: 11/21/88

DATE RECEIVED: 11/21/88

CUSTOMER: Aqua Terra Technologies

REQUESTER: Chris French

PROJECT: No. 892, 66th Avenue

Sample Type: Soil

Method and Constituent	Units	SS1 Concentration	SS1 Detection Limit	SS2 Concentration	SS2 Detection Limit
DHS Method:					
Total Petroleum Hydrocarbons as Diesel	ug/kg	1,200,000	3,000	1,200,000	3,000
Standard Method 503E, Hydrocarbons:					
Oil and Grease	ug/kg	1,700,000	10,000	1,900,000	10,000

Method and Constituent	Units	SS3 Concentration	SS3 Detection Limit	SS4 Concentration	SS4 Detection Limit
DHS Method:					
Total Petroleum Hydrocarbons as Diesel	ug/kg	870,000	3,000	910,000	3,000
Standard Method 503E, Hydrocarbons:					
Oil and Grease	ug/kg	1,300,000	10,000	1,200,000	10,000

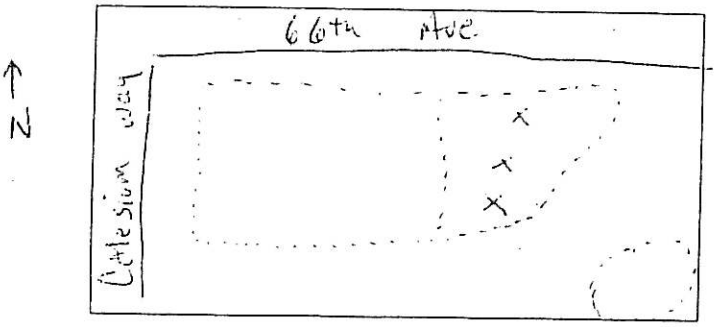
Hugh R. McLean
Supervisory Chemist

HRM:mln

ATT

ENVIRONMENTAL SAMPLE COLLECTION RECORD

Site Plan:



Date: 11-21-88 Time: 4:40 p Job No: 892

Sample ID: SS 3 Location: Oakland

Sampling Procedure: Collected soil in plastic bucket from three different locations, mixed soil to form a composite sample. Samples collected below surface layer

Water Level: _____ pH: _____

Depth to bottom of well: _____ Salinity: _____

Well Purge Volume: _____ Turbidity: _____

Purge Water Fate: _____ Organic Vapor: _____

Sampling Equipment: ~~[illegible]~~ 3 gallon plastic bucket, trowel, wide mouth jar

Equipment Cleaning Procedures: TSP scrub, rinse, air dry

Sampling Handling/Storage: kept cool

Sample Collected By: Brad Bennett

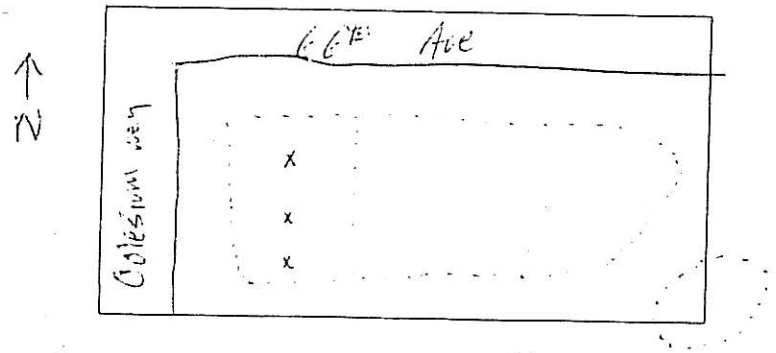
Signature: B J Bennett Title: Staff Scientist

Aqua Terra Technologies
Consulting Engineers & Scientists

ATT

ENVIRONMENTAL SAMPLE COLLECTION RECORD

Site Plan:



Date: 11-21-88 Time: 4:30 p Job No: 897-

Sample ID: SS-1 Location: Oakland

Sampling Procedure: Collected soil in plastic bucket from three locations, mixed to form composite sample. Samples collected below surface layer

Water Level: _____ pH: _____

Depth to bottom of well: _____ Salinity: _____

Well Purge Volume: _____ Turbidity: _____

Purge Water Fate: _____ Organic Vapor: _____

Sampling Equipment: 3 gal bucket, trowel, wide mouth jar

Equipment Cleaning Procedures: TSP wash & rinse, air dry

Sampling Handling/Storage: kept cool

Sample Collected By: Brad Bennett

Signature: B/ Bennett Title: Staff Scientist

Aqua Terra Technologies
Consulting Engineers & Scientists

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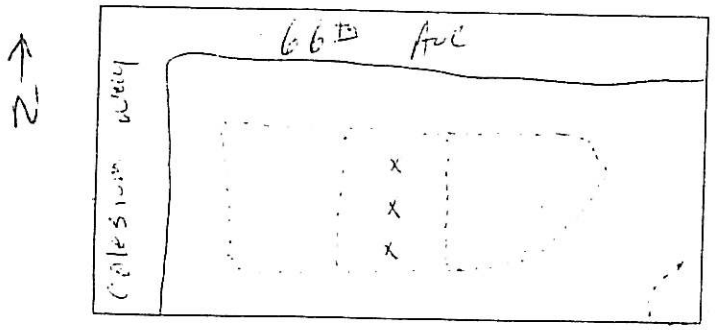
ENVIRONMENTAL SAMPLE COLLECTION RECORD

Site Plan:



Date: 11-21-88 Time: 4:55 p Job No: 577

Sample ID: SS-2 Location: Oakland

Sampling Procedure: Collected soil in plastic bucket from three different locations, mixed soil to form composite sample Samples collected below surface.

Water Level: _____ pH: _____

Depth to bottom of well: _____ Salinity: _____

Well Purge Volume: _____ Turbidity: _____

Purge Water Fate: _____ Organic Vapor: _____

Sampling Equipment: 3 gallon plastic bucket, trowel, wide mouth jar

Equipment Cleaning Procedures: TSP Wash and rinse, air dry

Sampling Handling/Storage: kept cool

Sample Collected By: Brad Bennett

Signature: [signature] Title: Staff Scientist

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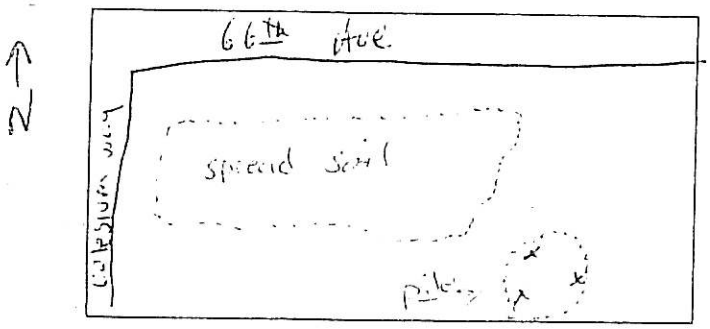
ENVIRONMENTAL SAMPLE COLLECTION RECORD

Site Plan:



Date: 11-21-88 Time: 4:35p Job No: 872

Sample ID: SS-4 Location: Oakland

Sampling Procedure: Collected soil from three different locations midway up the pile of soil, Samples were mixed in a bucket to form a composite soil sample.

Water Level: _____ pH: _____

Depth to bottom of well: _____ Salinity: _____

Well Purge Volume: _____ Turbidity: _____

Purge Water Fate: _____ Organic Vapor: _____

Sampling Equipment: ~~TSP scrub, rinse~~ 5 gallon plastic bucket, trowel, wide mouth jar.

Equipment Cleaning Procedures: TSP scrub, rinse, air dry

Sampling Handling/Storage: kept cool

Sample Collected By: Brad Bennett

Signature: B J Bennett Title: Staff Scientist

Aqua Terra Technologies
Consulting Engineers & Scientists

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Aqua Terra Technologies
Consulting Engineers & Scientists

2950 Buskirk Avenue, Suite 120
Walnut Creek, CA 94596
415 934-4884

ATT

CHAIN OF SAMPLE CUSTODY RECORD

Collector: Brad Bennet Date Sampled: 11-21-88 Time: 4:30 p

Location of Sampling: 6th Ave

Project Number: 292 Survey Number: —

Sample Type: Soil

Container Type and Condition: wide mouth - cold

Contract Laboratory Record/Name: TAL

Sample ID	Field Information
551 → 554	wide mouth jar w/ teflon lid

Analysis Requested: TPH as Diesel
Total oil and Grease

Results Needed By: 1 week turnaround

Contact and results to be sent to: Chris French

Travel Blank: ☐ Yes ☐ No Travel Blank to be Analyzed Separately: ☐ Yes ☐ No

Duplicate Samples: ☐ Yes ☒ No Duplicates to be Analyzed Separately: ☐ Yes ☒ No

Cleaning Blank: ☐ Yes ☒ No Cleaning Blank to be Analyzed Separately: ☐ Yes ☒ No

Background Soil Sample: ☐ Yes ☒ No Background Soil Sample to be Analyzed Separately: ☐ Yes ☒ No

Chain of Custody:

1. B. Bennet — Field Personnel — 11-21-88 Date
2. Courier — Date
3. [signature] — Lab — 11/21/88 5:10 pm Date

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

CERTIFICATION OF COMPLIANCE
FOR UNDERGROUND STORAGE TANK INSTALLATION

FORM C

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM

I. SITE LOCATION

STREET 796 66TH AVE

CITY Oakland COUNTY ALAMEDA.

II. INSTALLATION (mark all that apply):

- [X] The installer has been certified by the tank and piping manufacturers.
- [X] The installation has been inspected and certified by a registered professional engineer.
- [X] The installation has been inspected and approved by the implementing agency.
- [X] All work listed on the manufacturer's installation checklist has been completed.
- [X] The installation Contractor has been certified or licensed by the Contractors State License Board.
- [ ] Another method was used as allowed by the implementing agency. (Please specify.)

10,000 + 500 TRUSCO TANKS
INSTALLED AT SAME TIME. NOV - 1989.

III. OATH I certify that the information provided is true to the best of my belief and knowledge.

Tank Owner/Agent Cruise America. Date 3.2.93

Print Name Scott Cunningham Phone (510) 639-7125

Address 796 66TH AVE OAKLAND CA 94621

LOCAL AGENCY USE ONLY

STATE TANK I.D. #	COUNTY #	JURISDICTION #	FACILITY #	TANK #
	01	000	000278	000002